

# **PRE-EMPT**

**(PRE-EVENT MESSAGE PREPARATION FOR TERRORISM)**

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## **FORMATIVE RESEARCH AND EVALUATION OF BOTULISM MESSAGES & MATERIALS**

### **Year 2 Findings**

Prepared for:

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<b>I. PROJECT OVERVIEW</b> .....	5
<b>II. METHODOLOGY</b> .....	8
A. Data Collection .....	8
B. Human Subjects Protocol .....	10
1. Protocol development and IRB submission .....	10
2. Study Groups .....	10
3. Role of Participants .....	10
4. Inclusion and exclusion criteria .....	12
5. Participant recruitment .....	13
6. Focus Group and Interview Procedures .....	13
C. Data Coding and Analysis .....	14
1. Coding of Data .....	14
2. Analysis of Data .....	15
<b>III. RESULTS</b> .....	15
A. Demographics .....	15
1. Focus Groups .....	15
2. Cognitive Response Testing .....	16
B. Focus Group Findings .....	19
1. Pre-Event Messaging – Radio Clip .....	19
<i>a. Comprehension</i> .....	19
<i>b. Emotional Response</i> .....	20
<i>c. Actions</i> .....	20
<i>d. Credibility</i> .....	22
<i>e. General Response to Radio Messages</i> .....	23
<i>f. Questions Raised</i> .....	24
2. Response to Hypothetical Attack – Television Clip .....	25
<i>a. Comprehension</i> .....	26
<i>b. Emotional Response</i> .....	27
<i>c. Actions</i> .....	28
<i>d. Credibility</i> .....	29
<i>e. General Response to Radio Messages</i> .....	31
<i>f. Questions Raised</i> .....	33

3. Materials Pre-testing – Fact Sheets .....	34
<i>a. Comprehension</i> .....	34
<i>b. Emotional Response</i> .....	37
<i>c. Actions</i> .....	38
<i>d. Credibility</i> .....	38
<i>e. General Response to Radio Messages</i> .....	39
<i>f. Questions Raised</i> .....	40
4. Material Preferences.....	41
C. Cognitive Response Testing .....	42
1. Concepts and Terms.....	42
<i>a. Concepts and Terms around Definition of Botulism</i> .....	42
<i>b. Terrorist Transmission of Botulism</i> .....	43
<i>c. Contagiousness of Botulism</i> .....	44
<i>d. Symptoms of Botulism</i> .....	44
<i>e. Exposure to Botulism</i> .....	45
<i>f. Safety Precautions</i> .....	45
2. Emotional Response.....	46
3. Response and Actions to Exposure or Symptom Recognition .....	48
4. Photo Preferences and Suggestions.....	49
5. Needs Clarification & Recommendations .....	50
<i>a. Needs Clarification</i> .....	50
<i>b. Recommendation and Comments</i> .....	55
<b>IV. DISCUSSION</b> .....	59
A. General Discussion .....	59
B. Study Limitations.....	60
1. Issues of Coding Reliability.....	61
2. Issues of Validity .....	62

<b>V. RECOMMENDATIONS</b> .....	63
A. Overall Conceptual Clarifications .....	63
B. Special Considerations for Fact Sheets .....	64
C. Special Considerations for Radio .....	65
D. Special Considerations for Television .....	66
<b>VI. REFERENCES</b> .....	67
<b>VII. APPENDICES</b> .....	69
A. Botulism Creative Brief .....	69
B. Pre-tested Botulism Materials	
1. Fact Sheet .....	77
2. Radio Script .....	80
3. Web Script.....	82
C. Coding Guides	
1. Focus Groups .....	89
2. Cognitive Testing.....	97
D. Individual Focus Group Topline Reports .....	105
E. Individual Cognitive Testing Group Transcripts .....	134

## I. PROJECT OVERVIEW

The emerging global threat of terrorism has stimulated much activity and resource mobilization within the public health community over the past three years, as terrorist acts can have a direct and often serious impact on the physical and mental health of the general population. One concern has been to assure that the health care system has the capacity to respond in the case of a terrorist event. Establishing drug stockpiles, emergency system improvements, and health provider and first responder training have thus proliferated at national, state and local levels. Another concern has been the preparation of communications plans and materials for the general public. The very real threat of terrorist action requires the design, development, and dissemination of technically accurate and timely information.

The Centers for Disease Control and Prevention, in concert with the Association of Schools of Public Health (ASPH) Bioterrorism Council, responded to the need for terrorist event protocols by supporting the “Pre-Event Message Development Project” (PEMD). This project provided funding in the fall of 2002 to four primary schools of public health (Saint Louis University, University of Alabama-Birmingham, University of California at Los Angeles, and the University of Oklahoma), along with several partnering schools. The overall project goal was to learn how to best communicate critical information related to what audiences *want* in addition to providing information that the research team (CDC and the ASPH Bioterrorism Council) find *necessary* to know. 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 bioterrorism events for the general population, using well designed formative research to define, craft, and pre-test crisis communications messages.

What evolved through a participatory and collaborative process was the opportunity to do research on a topic that was groundbreaking and strengthened by the degree findings, which could be generalized through standardized methods across institutions and samples of persons from culturally and geographically diverse backgrounds. Initially, the teams debated whether it would be more useful and efficient to focus on generic “all-hazards” prevention issues and messages—to be used to educate the public prior to an event—or to focus the research on different types of agents, creating warning systems that could be used before, during, and after an

intentional attack. We decided to do agent-specific research, as our perception was that other researchers were conducting research on “all-hazards” prevention. This is based on literature that 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 regard to saving lives, reducing unnecessary service utilization, facilitating relief efforts, and reducing anxiety among the general public.

Thus each University team was charged with assessing public response to one of the following agents that represented a specific type of threat. These were an infectious agent (plague), a toxin (botulism), a chemical agent (VX), and a radiological agent (dirty bomb). The basic idea was that we would be able to get sufficient information from qualitative formative research to be able to construct prototypes of messages for each of these different types of agents that would be important to communicate to the general public if an event happened. 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 audience-testing of existing informational materials and messages. Findings from Year 1 can be found in 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 Year 1 were used to craft the messages and materials that made up our initial project activities. Specifically we knew from Year 1 that most persons in the general public had little knowledge about the specific agents we were discussing. 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. There was a clear “hierarchy of resort” voiced as regard to 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 in terms of the framing and organization of messages. Specifically we 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. Translated this means 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), we took Year 1 findings and through an iterative process created sets of messages for each agent. We created four types of message materials: 1) radio scripts, 2) television storyboards 3) fact sheets 4) more in-depth web-based materials. The first task for all of the four University teams was to write basic message materials for video and radio scripts, a longer web page, and a two-page fact sheet. Content was reviewed CDC Subject Matter Experts (January – February). We then all 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. These 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. In addition, radio production occurred in June and concurrently fact sheets were finalized and formatted in a standardized manner. Thus we 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 each of the reports: the challenge we found in creating materials such as these is to make them effective and credible tools for communication

balanced with concerns about scientific validity and accuracy. We did not test longer web page materials due to time and technical constraints.

In retrospect the approach we have taken has proven to be highly informative and efficient, as it has provided a rich and multilayered research database that can be used to help craft both agent specific and all hazards preparedness messages. That is, even though we were focused on specific agents, much of the information is also relevant to all hazards preparedness. Information about what persons understand in terms of infectious or toxic agents, chemicals or radiological events and what to do about them not only applies to other similar agents, there was also much information gleaned about information seeking in times of a crisis or disaster. We found cultural differences in response to disasters, varying 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 disasters preparedness such as sheltering in place, quarantine, isolation, prophylaxis, immunization, handling food and water, decontamination, coping and stress reduction, and information seeking.

The following sections describe in depth the methods used to test those materials as well as human protection assurances followed. Then each of the participating University will present their unique findings.

## **II. METHODOLOGY**

### **C. 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 regarding audience response to message materials, as well as 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 a 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. However, each material was 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 Appendix B).

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 Appendix C).

Forty-three 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, or by a stenographer. 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.

## **B. Human Subjects Protocol**

### **1. 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 the guidelines of their own review board for submission. After submission, each institution provided an IRB approval letter to the funding agency.

### **2. 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).

### **3. 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.

A total of 46 focus groups were conducted as part of the overall Pre-Event Message Project. Table 1 details the division of focus groups by population group, agent, and school.

**Table 1. Radio/TV/Web Content Focus Group Testing**

<b>Agent Type</b>					
	<b><u>Bio-Plague</u></b>	<b><u>Bio-Bot</u></b>	<b><u>Radiological</u></b>	<b><u>Chemical</u></b>	<b><u>Total</u></b>
<b>Urban African American</b>	SLU (1) UAB (1)	SLU (1)	SLU (1) UAB (2)	SLU (1), UAB (1)	8
<b>Rural African American</b>	SLU (1)	UAB (1)	UAB (1)	SLU (1)	4
<b>Urban Hispanic</b>	UAB (1)	UCLA (1)	UOK (1) UAB (1)	UOK (1) UAB (1)	6
<b>Rural Hispanic</b>	UOK (1)	UOK (1)	UOK (1)	UOK (1)	4
<b>Asian Urban</b>	UCLA (1)	UCLA (1)	UCLA (1)	UCLA (1)	4
<b>English 2<sup>nd</sup> Language</b>	UCLA (1)	UCLA (1)	ULCA (1)	UCLA (1)	4
<b>Urban White</b>	SLU (1)	UCLA (1)	UAB (3), UOK (1)	UCLA (1)	7
<b>Rural White</b>	SLU (1)	SLU (1)	UAB (2)	SLU (1)	5
<b>Native American</b>	UOK (1)	UOK (1)	UOK (1)	UOK (1)	4
<b><u>Total</u></b>	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 details the division of cognitive interviews by population group, agent, and school.

**Table 2. Fact Sheet Content Cognitive Testing**

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

#### **4. 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. 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.

### **5. 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.

### **6. 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 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.

## **C. DATA CODING AND ANALYSIS**

### **1. 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 Appendix H). 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).

## **2. 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 which could be analyzed across focus groups (Morse, 1994). Thematic analysis is a process that encodes qualitative information; therefore themes are 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 Appendix E) 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 Appendix F).

## **III. RESULTS**

### **A. Demographics**

#### **1. Focus Groups**

In the botulism group sample (n=93), ages ranged from 20 to 73 years, with a mean age of approximately 42 years. Twenty-four percent of the focus group participants were male and 76% were female. Almost half of the participants, 46%, were married or living with a partner. Thirty-seven percent reported being single; and 15% divorced or separated. A majority of the sample, 61%, reported having children.

African Americans, Asians, and Caucasians made up more than half of sample. The sample was also comprised of Hispanics, 32%, and American Indians, 11%. The majority of participants, 73%, spoke English in their homes. Sixteen percent reported Spanish as their primary language

at home. The other participants reported speaking another language or a combination of English and another language at home.

Ninety-three percent of participants had a high school education or better, with 45% reporting having completed a college or graduate degree. Sixty-eight percent of the sample reported being currently employed. Approximately half of the sample, 51%, reported a family income for 2003 of less than \$40,000.

The demographic characteristics for the botulism groups were very similar to the groups for the overall project. Table 3 presents the demographic data distributions for both the botulism subsample and the project sample.

## **2. Cognitive Response Testing**

Twenty seven individuals were interviewed for the cognitive review testing. The ages ranged from 21 to 67 years, with a mean age of approximately 36 years. Nineteen percent of the focus group participants were male and 81% were female. Almost half of the participants, 48%, were married, living with a partner, divorced, or widowed. Another 48% of the sample was single. . A little over half of the sample, 56%, reported having children.

African Americans, Asians, and Caucasians made up more than half of sample. The sample was also comprised of Hispanics, 26%, and American Indians, 11%. The majority of participants, 81%, spoke English in their homes.

Eighty-nine percent of participants had a high school education or better, with 52% reporting having completed a college or graduate degree. Sixty-seven percent of the sample reported being currently employed. Half of the sample, 50%, reported a family income for 2003 of less than \$40,000.

Table 4 presents the demographic data distributions for the cognitive response testing sample.



**Table 3. Demographic characteristics of Focus Group participants: Botulism versus All groups**

Characteristic	Category	All groups (N=175)	Botulism groups (N=93)
Age	Range	20 – 76 years	20 – 73 years
	Mean / SD	41.88 / 15.51	41.71 / 15.11
	Missing	1%	1%
Sex	Male	25%	24%
	Female	74%	76%
	Missing	-	-
Education	Less than high school	1%	2%
	Some high school	3%	4%
	High school diploma or GED	11%	16%
	Some college	29%	32%
	College degree	37%	30%
	Graduate degree	19%	15%
	Missing	-	-
Ethnicity/race	African American/Black	10%	17%
	American Indian/Alaska Native	6%	11%
	Asian/Pacific Islander	38%	16%
	Caucasian/White	22%	23%
	Latino/Hispanic	22%	32%
	Other	1%	-
	Missing	.6%	1%
Language in home	English	59%	73%
	Spanish	10%	16%
	Other	30%	10%
	Missing	1%	1%
Marital status	Single	39%	37%
	Married or living with partner	43%	46%
	Divorced or separated	13%	15%
	Widowed	3%	1%
	Missing	1%	1%
Children	Yes	55%	61%
	No	43%	38%
	Missing	2%	1%
Currently Employed	Yes	60%	68%
	No	37%	32%
	Missing	3%	3%
Family income	Less than \$10,000	9%	7%
	\$10,000-\$19,999	18%	12%
	\$20,000-\$29,999	17%	20%
	\$30,000-\$39,999	13%	12%
	\$40,000-\$49,999	10%	11%
	\$50,000-\$59,999	5%	7%
	\$60,000-\$69,999	5%	4%
	\$70,000-\$79,999	5%	4%
	\$80,000-\$89,999	2%	2%
	\$90,000-\$99,999	2%	2%
	\$100,000 or more	7%	9%
	Missing	9%	11%

**Table 4. Demographic characteristics of Botulism Cognitive Testing Participants**

Characteristic	Category	All groups (N=27)
Age	Range	21 – 67 years
	Mean / SD	35.65 / 14.74
	Missing	4%
Sex	Male	19%
	Female	81%
	Missing	-
Education	Less than high school	7%
	Some high school	4%
	High school diploma or GED	15%
	Some college	22%
	College degree	33%
	Graduate degree	19%
Ethnicity/race	Missing	-
	African American/Black	30%
	American Indian/Alaska Native	11%
	Asian/Pacific Islander	11%
	Caucasian/White	22%
	Latino/Hispanic	26%
Language in home	Other	-
	Missing	-
	English	81%
	Spanish	7%
	Bilingual/English and Other	7%
Marital status	Other	4%
	Missing	-
	Single	48%
	Married or living with partner	33%
	Divorced or separated	11%
Children	Widowed	4%
	Missing	4%
	Yes	56%
Currently Employed	No	41%
	Yes	67%
	Missing	7%
Family income	No	26%
	Missing	7%
	Less than \$10,000	6%
	\$10,000-\$19,999	22%
	\$20,000-\$29,999	11%
	\$30,000-\$39,999	11%
	\$40,000-\$49,999	15%
	\$50,000-\$59,999	7%
	\$60,000-\$69,999	4%
	\$70,000-\$79,999	7%
	\$80,000-\$89,999	4%
\$90,000-\$99,999	7%	
\$100,000 or more	-	
Missing	4%	

## **B. Focus Group Findings**

### **1. Pre-Event Messaging – Radio Clip**

Focus group interviews for botulism followed a format where a scenario that outlined the beginning of a possible outbreak was read and then the rollout of the radio clips and focus group discussion followed. The initial scenario comprised the following:

You wake up about 7 am on a Tuesday and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The president and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning an attack in {Los Angeles}. Officials suspect that the attack may involve a biological weapon.

A week later, early on a Monday afternoon, you turn on the radio and hear that 15 people in {Los Angeles} have presented at local emergency rooms and doctors' offices with symptoms resembling botulism. As you listen to the radio further, you hear the following clip. (*Play radio clip – to see text of clip see Appendix*)

#### ***a. Comprehension***

At this point, the discussion centered on what participants had heard in the scenario and on the radio clips. The clearest set of messages heard was the description of symptoms of botulism. This was followed by reports of information about medicine or an “antidote”, the importance of seeking treatment, heating foods and boiling water, and that there was a hotline and a website that could be accessed for more information. Fewer persons processed facts about transmission and incubation time for the symptoms, although for many, the fact that it could be spread through the air, or through surface contact was new information. Finally for some persons, this was the first time they had heard about botulism. Following are some quotations about comprehension:

*“What the symptoms were, who to call, and what to do if you thought you had it. And then the preparation of the stuff.” (African American)*

*Moderator: “What parts of the messages were clear?”*

*Respondent 1: “The symptoms”*

*Respondent 2: “The number to call”*

*Respondent 3: “What to do”*

*Respondent 4: “The instructions”*

*Respondent 5: “[R]egarding safety, how people get it, what sources are contaminated” (Rural Hispanic)*

*“The most important part for me was that they kind of told you what to do to prevent it. At least that was a little information on how you can prevent it. That would be helpful.” (Urban Asian American)*

*“Well, I was not aware, had never heard of the symptoms before. I had never heard of the word botulism.” (Rural African American)*

In general, despite stated disbelief among respondents that this type of event could be happening, the main messages for the radio clip were transmitted.

### ***b. Emotional Response***

The radio clips elicited many negative emotions. Respondents noted that listening to it made them feel nervous, anxious, scared, vulnerable, concerned for their children, worried, tense, uneasy, stressed, resigned, shocked and confused. On the positive side, once the official information had been released, people said that the information reassured them that the situation was under control and that officials were working to solve it. A minority of persons believed that this type of information could foment a panic, a common misperception about disasters and warning systems. For example one said:

*“There's going to be a mass panic if you heard that. If I heard that, I'm going to freak out. (Urban African American)*

### ***c. Actions***

When asked about whether they would take recommended actions, most participants said that if the source of the information was credible, they would try. Actions fell into two categories: a) instrumental actions to increase safety and assure survival such as boiling water, cooking food, not letting children eat and drink possibly contaminated food, and not going to the store and b) seeking out more information via television, the internet, or through local authorities.

The other main type of response can be characterized as affective and had to do with sharing information, assuring others and getting re-assured, making sure that others were informed and safe from harm. Here persons said they would call relatives, call the doctor, call the emergency room, and go to the emergency room. For example, one respondent said:

*“I think I would call my relatives – the people that I thought may not get this information and don’t listen to a radio or television. I would probably call them, and give them a warning”. (American Indian)*

At the same time many persons pointed out the potential barriers to taking the actions recommended, that might inhibit actions. They mentioned crowded hospitals, jammed phone lines, lack of belief in the information given, information missed, lack of access to computers, and no cooking thermometers. As one participant said:

Another problem mentioned that would create a barrier to action would be confusion about symptoms, because the symptoms mentioned were similar to many other conditions. As participants said:

*“But that could be from a lot of different things, ...so you'd have to have more than one symptom.” (Rural White)*

*“Not to mention some of those symptoms are for other conditions. Some people could be having a stroke with those symptoms. Botulism is serious, but having a stroke is more serious.” (Urban African American)*

Most of the respondents expressed confidence in their ability to take some actions. However a substantial minority were uneasy about their ability to do anything that was or might be suggested. This was attributed in part to lack of specific information conveyed in the radio clip as there was not enough information about what to do. It might also be interpreted as lack of credibility vis-à-vis the clip. On the other hand some persons lacked the confidence to comply because of their own personal situation. Persons who were disadvantaged, lived in rural areas, or did not have the language skills were more likely to feel this way. Following are examples of this kind of response.

*“I’m not sure that I’m that confident on what the proper procedures are in case there is an alert. I’m aware of it and I know that I’m aware of the symptoms and I’m aware of what I’m supposed to do with food and everything but that that still within me it is a little bit of doubt.” (Rural African American)*

*“I live in a very rural area and I’m thirty miles from one hospital, forty miles from this other hospital and my concern is how I’m going to get there in the first place?” (Rural African American)*

*“I have a little child. I don’t know what could I do.” (ESL)*

#### ***d. Credibility***

Focus group participants were split on the credibility of radio clips pre-tested. For some respondents the radio clips were fine, while for others the radio clips were not seen as particularly credible sources of information. On the positive side, persons said that the clips sounded professional, gave out important information, and they mentioned credible sources such as the Centers for Disease Control.

On the negative side persons suggested that this was not something they had expected to hear on the radio, there was not alert system to warn the listener that this was coming, the voice of the narrator was not convincing, and the style and tone was not urgent enough for the subject matter. Following are some of these responses:

*“To me it sounds like just a health warning, commercial or something, like you see on TV.” (American Indian)*

*“It sounds like it would have blended in with the weather report, so I wouldn't have paid any attention to it.” (Urban African American)*

*“I certainly thought his tone of voice was um, it reminded me of a movie.” (Urban Latino)*

There were numerous suggestions about how to improve the credibility of the radio clips. These suggestions fell into three categories. First persons suggested that any type of warning announcement needed to be distinguished from the everyday “noise” of the media to get people’s attention. Suggestions were to attach the announcement to some sort of recognizable warning system, make it part of a breaking news report or a special bulletin, or have it simultaneously broadcast on all stations at once. Quotes about this include:

*“Number one, state from the very beginning that this isn't a joke, that this is real.” (Urban African American)*

*“The message didn't have like a sound – a beep, beep, beep –or that sound for an issues or warnings, you know?” (American Indian)*

The second suggestion was to have the tone or style of delivery much more urgent, serious and authoritative. However it could not be a panicked delivery. Comments to this effect were:

*“I think it is important that it does not sound too panicky. I think that it is important that I hear it in a level voice telling me clear instructions.” (Urban Asian)*

*“To me it didn’t sound real urgent. And I think if they would present it, even with the beeping sound, you know, it just makes you...it just gives you that reaction that hey, this is urgent, I better listen to this.” (American Indian)*

*“It didn’t impress how serious the issue was. It really didn’t say...don’t go or don’t leave where you are at, or your quarantine, or anything such as that.” (American Indian)*

A third set of suggestions made to increase credibility of the radio clip was to have an announcer who was an official of something clearly identified.

*“Or even during the announcement it should say “This is from the office of home security or the office of the Vice President of the United States.” (Urban Asian)*

#### ***e. General Response to Radio Messages***

Focus group participants voiced divergent views about the usefulness and quality of the radio clips pre-tested. A number of respondents had positive things to say such as the announcer sounded professional, the voice was calm, and the information was good. There was a general acknowledgment that for some persons in some situations the radio was an important means of communication, especially for persons commuting to work. As well, many suggested that in a short spot such as this, only the essential information could be included, and given this, the clips were relatively informative and easy to understand.

*“I think maybe his tone of voice, I think he was very professional and he was very clear which I like because you could understand every word that he said. He was very easy to understand.” (Urban Hispanic)*

*“It makes you aware of what’s going on, so if we do need more information it did give you places to contact, so overall it was good for awareness, it was good so that we know what’s going on.” (Rural Hispanic)*

However there were also many criticisms of the radio materials. First and foremost, it was suggested that there was not enough information made available. There was not enough specificity about the symptoms, disease consequences or what to do. As noted:

*“They didn’t really say if it was contagious or not.” (Rural Hispanic)*

*“Did they ever mention whether this disease is fatal? It might make a difference is to how you’d react to what’s going on.” (American Indian)*

*“Symptoms are kind of vague.” (Urban White)*

*“Like I’m not sure I would know how to heat all my food to 135 degrees or are there certain foods that you wouldn’t have to do...I would be wondering do I have to heat everything.” (Urban White)*

Then there was also a lack of locally relevant information that would need to be included in a real broadcast that would make it relevant enough for people to listen to. Again as noted:

*“There’s nothing local or specific. I think you should have a local number.” (Rural White)*

*“Aside from the incubation period there was not mentions of where one might have been exposed.” (Urban White)*

For many, the radio clip format was simply too fast for them to absorb all the information conveyed. As well the language used was hard to follow. This was especially true for disadvantaged populations, who remarked that the announcer needed to slow down and to repeat important information.

*“Well just in my opinion I had to listen real close. I mean he talked pretty fast for our neck of the woods.” (American Indian)*

*“... give some kind of lead into it where you give people time to grab a piece of paper or a pencil.” (Rural White)*

*“The phone numbers -- the phone numbers were really fast.” (Rural White)*

*“I think they should have mentioned the site and the phone number more than once.” (Urban African American)*

*“...the vocabulary is too hard to understand.” (ESL)*

### ***f. Questions Raised***

The radio clip seemed to raise questions in at least three different domains. First persons wanted to know information that was immediate and linked to their own actions and survival. Questions raised of this nature include the following:

- Where is outbreak located?
- What happened to make them think that we might have been exposed to it?



- Who has it?
- Where it was located?
- Should we evacuate?
- What foods need to be heated and how long?
- How long to do things suggested?

A second set of questions has to do with the meaning of the event, and include questions about the origins, etiology, and transmission and health consequences of the threat and can include such things as:

- How is botulism transmitted?
- Is it contagious?
- How does one get it?
- Is it like a food poisoning?
- Why do you have to wait until after you got it? Why can't you just get the antidote first?
- How would they know that you got it if they don't take some kind of test?

A final set of questions raised has to do with being assured by asking what the authorities know and are doing about the outbreak. This includes such questions as?

- Who would be notified first?
- Do doctors know about this?
- What are the authorities were doing about it?
- Was it a terrorist attack?

These findings show that radio messages were not able to cover all information desired by the audience in a hypothetical crisis risk communications situation, but it can cover some of the information needed. More interestingly, the sets of questions persons were concerned about fell into the same message domains as those we identified in Year 1 and that were built into the communications message and media prototypes we pre-tested in Year 2. These were messages that address survival of the receivers of this information, messages that speak to the meaning of the event in terms of biological and public health significance, and messages that assure that there is an organized social response to the events.

## **2. Response to Hypothetical Attack – Television Clip**

To introduce the video materials to focus group participants, the scenario about a botulism outbreak started in the first part of the focus group interview was continued, with slightly more information added. The following scenario was read to participants, after which a television clip was shown, followed by the group discussion.

Later that same day, you turn on your TV to find that a local government official has issued a statement. She confirms that there has been a deliberate release of a biological agent in {Los Angeles} and the agent has been confirmed to be the one that causes botulism. It was believed to have been released at a restaurant, in the food. So far, there are 30 presumed cases, however more people in {Los Angeles} are potentially infected. Local health workers and emergency personnel are working to contain the problem by shutting down the restaurant, figuring out who was there, and calling for the potentially infected to seek medical treatment. After the local officials announcement you see the following television clip: (*Play TV clip– to see text of clip see Appendix*):

### ***a. Comprehension***

During the three minute video presentation a number of topics were covered that had already been touched on by the radio clips, so that respondents were already sensitized to the subject matter. Audience comprehension of the major points of the video attest to the power of visual presentation, as participants had no difficulty recalling the major themes of the video.

Themes that participants were most likely to mention were about the medical consequences of ingestion of the *botulinum toxin*, including symptoms, the antidote, incubation period and whether it was contagious. The next set of issues recalled were those of treatment, including what it was, where to go, and the fact that hospitals have the antitoxin. Preventive actions stressed also were well represented in participant comments as well as fact that there was a hotline and website address communicated.

The clearest information conveyed was what the symptoms looked like, the nature of botulism, and special instructions regarding food and water use and preparation. As one respondent remarked:

*“It’s real important to boil the water and everything with the food. Even to bathe you have to boil the water. Clothes that you’re used to buying everything it has to be boiled.”* (ESL)

While level of recall of information was high, there was much information concerning botulism that was unclear to participants, particularly those whose language skills might have been lower than average. That is for the video release, while participants seemed more comfortable with the subject matter, they also had more issues with how the subject matter was presented. Many focus group participants for example commented about their confusion about whether botulism is

contagious. While the video said it was not contagious, there were passages that suggested that persons could be exposed to the toxin if they touched contaminated clothing of other persons. These descriptions were confusing for viewers as the following comments show:

*“The confusing part is they say it’s not contagious but when they show that it’s in the water and it’s in the air.” (ESL)*

*“The first thing they said it was not contagious but yet the others when they passed everything that with the clothes. So that’s confusing because if I know my baby has it, are you telling me I can’t grab him?” (ESL)*

*“It’s not contagious, but contagious is contamination by touching, that’s the definition of the word contagious, like you can’t touch their skin or their clothes, you can’t breathe the same air, that’s a contradiction in itself.” (Rural Hispanic)*

Other concepts that proved difficult to convey in a video format were transmission and curability. Transmission was confusing because of the notion that the toxin can be aerosolized. This suggested to some that it was airborne and infectious. For others the issue was the multiple routes of transmission. In the words of one respondent:

*“They didn’t say where to stay away from, you know, don’t leave and go near this area, or you know. To me, it didn’t tell me not where to go – where not to be - in case those toxins were there.” (American Indian)*

The concept of curability was also not clear. Materials suggest that the antidote is a treatment which is interpreted by some as a “cure”. As one respondent remarked:

*“...they mentioned that there was no cure. And right after that they said if treated on time there’s a full recovery. So it’s somewhat contradictory.” (Urban Latino)*

Clearly words and their meanings need to be clarified. Finally persons felt that the symptoms described were not unique to botulism poisoning, and therefore there might be some ambiguity when actually determining that a person was suffering from this condition.

### ***b. Emotional response***

Persons viewing the television clip felt similar negative emotions as they did for radio, but they were less vocal than for the radio clips. Emotions described were anxiety, fear, cautiousness, alarm, helplessness, and denial. Pictures of children made respondents at once attentive and also

fearful. As in the earlier example with the radio clip, hearing explicit instructions of what to do seemed to counter negative emotions stirred up and helped persons feel less anxious, more confident, and more empowered. As some of the respondents said:

*“It was good to hear that type of information you know, what got to the end was the website.” (ESL)*

*“It’s scary but at the same time it’s more security because you know what’s going on to your kids or to yourself.” (ESL).*

*“.....you do feel somewhat empowered.” (Urban White)*

### ***c. Actions***

As in the response to the radio clip, actions were divided between those had to do with family obligations and communications, or affective responses, and those that were more instrumental in nature. Persons seemed to latch on to the issue of boiling water and using bottled water as something that was straightforward and easy to do. They also would seek out more information, shelter in place, and most said they would be on alert for more updates. There was some ambivalence expressed about boiling all foods, the issue being at what point this becomes no longer necessary or possible.

Most persons expressed confidence that they could carry out the actions suggested especially if it would save their lives. As one person said:

*“But if this is what you think is going to save your life, you do those things. So I’m very confident I could do those things. ...I don’t know if I can get it to 185 degrees, but I could get so close to it.” (Urban African American)*

As well some suggested that seeing it acted out on television helped them to feel more confident about doing the actions suggested.

*“I don’t know, just seeing it on TV I felt a little more confident than I did by hearing it on the radio.” (American Indian)*

However others seemed to need a stronger message convincing them of the utility and relevancy of carrying out the actions. They were not convinced that what was suggested was linked to their survival.

*“I would have to reach a point very strong anxiety and a very strong feeling that I was in immediate danger to start taking those kind of precautions.” (Urban White)*

*“For me when I heard it, it was kind of tedious, I think it could be done for the housewife, but if you have a 9-5 job it’s going to be tiresome and tedious. You need help. There has to be some other kind of way that you can actually prevent it.” (ESL)*

There were also many who suggested barriers to carrying out the action. This included having too much water to boil, not having food thermometers, fear that the website might crash or that phone lines would be jammed if this type of event really occurred. Another concern that surfaced was the fear of being charged money for visiting the emergency room, especially if one did not have health insurance. Most of all, persons were not convinced that actions suggested would keep them safe if there was an airborne release of the botulism toxin.

#### ***d. Credibility***

Audiences were split about the overall credibility of the television clip in its current format for conveying important information about a terrorist event. On the positive side respondents felt that this was the type of information that they would like to get from TV. Some persons also thought the spokesperson was quite credible and enhanced the television clip. Some comments on this are:

*“She ....knew what she was talking about...spoke clearly.” (Urban Asian)*

*“...the real impact to me was the manner in which the woman spoke and how her modulated voice, and how she had this strict serious look, and it was she wasn’t creating anxiety in you, so you could hear her message.” (American Indian)*

Others thought that the spokesperson was not credible and that she was to some extent a distraction from the main message. Credibility of the spokesperson could also be improved. Many suggested that the spokesperson was too calm, not assertive enough and too positive in her demeanor to convey the urgency of the situation. Another critique was that there were too many visuals going on at once so it was hard to focus on the main message. For example:

*“Just having her on screen the whole time or for the majority of it, that was distracting especially in the beginning where she was like in the hospital room and then there were sort of laying over the type of the message to her to the left-hand side of her on the screen, that was all very...just too much information, too much going on. It would have been fine if it was just a blue screen with the specific facts that I needed to know. Get rid of all that other stuff.” (Urban White)*

*“...you really do have to have either a sound...an emergency broadcast system type of sound or something. Something about it needs to stand out.” (Urban White)*

*“I didn’t think that she was a real doctor.” (Urban White)*

*“I would like to see a government official.” (Urban Asian)*

*“Use a physician maybe someone who is well known, so whatever they are saying you are trusting.” (Urban White)*

As in previous exercises, it was the more educated and acculturated groups of respondents who were the most critical of the television materials. The issue for most was how serious the broadcast was. As the prototype was not exactly a news format, persons had some difficulty in trying to assess what it was. Thus a basic suggestion was this information needed to be embedded in the regular news or a news bulletin, so it would be clear how serious it was. So part of the issue of credibility had to do with the format itself, which at times seemed like the news, but also seemed to many like an infomercial. As participants said:

*“It seems like there needed to be something in there -- because if I came in the middle of it, I wouldn't know that it was actually a real thing that was out there. ....periodically through the announcement, for them to say, ‘This is serious.’” (Urban African American)*

*“This is more or less about the styling of the commercial.” (Urban White)*

*“It didn’t seem like there was something life threatening going on. It looks like she was doing an infomercial.” (Urban White)*

*“It is not an alert announcement.” (Urban Asian)*

*“A compelling case has not been made.” (Urban Hispanic)*

*“If I did not hear the introductory that you told me and I just saw that on TV I would just think it was some informational whatever and not pay attention.” (Urban Asian)*

Many suggested ways to make the television videos more credible including repeating the spots over and over, having a disclaimer that this was not an infomercial, using an emergency sound, and making the enactments more serious.

***e. General Response to Television Messages***

Despite criticisms of some of the elements of the television clips generally the response was positive to television materials. Most appreciated especially with low literacy audiences were the depictions of what to do. There was recognition that an image depicting suggested actions was more memorable than words alone. Thus there were a number of comments comparing the television clips to the radio clips. Some comments to this effect are:

*“I mean they were showing actually scenes.”*  
*Moderator: “And are you saying that that was good?”*  
*Female: “Yeah.” (American Indian)*

*“I think it was very good.” (Urban African American)*

*“I thought it was a better presentation than the radio.” (Urban Asian)*

*“It gave a lot more information than the radio announcement did.” (Urban African American)*

*“The details about food preparation were a little better than in the radio.”*  
*(Urban White)*

*“I thought the graphics did a really good job of explaining the things that should be done.” (Rural Hispanic)*

The greatest ambivalence regard the quality of the television clips was in regards to the enactments of the symptoms, and the sequences of actions that could be taken if someone demonstrated the symptoms. Positive comments about the enactments included the following:

*“I thought it was good that they showed the symptoms because then that way you would have a picture of it in your mind.” (Urban White)*

*“What they do at the hospital once you get there, what to expect, like you might be in a respirator, for me that was important information that was clear.” (Rural Hispanic)*

*“Like on the radio spot when they said droopy eyes, I thought it meant eyes like this (demonstrates) but on the T.V. spot when they said droopy eyes, now it makes sense.” (Rural Hispanic)*

*“Yeah the symptoms are the ones that scared me, the paralysis part got my attention there.” (ESL)*

*“They showed the reactions to the symptoms so that people recognize it easily from the image.” (Urban Asian)*

*“I think all of it...all of it was just to the point ...a young child could even watch this, and you know, by listening to it and seeing like the lady washed her face and you know, they could understand this better, and it would just kind of relate to all age groups.” (American Indian)*

However a large group of persons found the symptom enactments poorly done and not believable. This was not true for the enactments of preventive actions and treatment response which were viewed positively. The outcome is that symptoms, if depicted at all, should be animated, not live shots. Following are some of the comments about this.

*“...the girl who was paralyzed, it made me want to laugh.” (Urban Latino)*

*“A lot of the examples visually of people with symptoms were kind of comical.” (Urban White)*

*“Too dramatic.” (Urban White)*

*“I thought the enactment of the symptoms if acted a little more professionally would have been fine.” (Urban Latino)*

Another set of comments had to do with the video trying to give too much information in too short a time. Some people had difficulty following all the visuals and processing information at the same time.

*“Wonderful information, but too much to absorb after it’s has been determined, that should be educational that we know ahead of time, because see that’s a whole lot right there to try to absorb and you trying not to panic.” ( Rural African American)*

Suggestions about how to improve the video included making it more locally relevant, having fewer distracting visuals, having a shorter website address, repeating the information a lot,



having a stronger more urgent tone, as well as some reminder systems that this was an emergency broadcast. Close captioning was also suggested. Finally an important critique was that there was not enough diversity in the video. As persons noted:

*“I’m sure they have a Hispanic person...I was just trying to think in my mind that I do drama and acting. How would you do it for the Native Americans and the Native peoples, like in the rural settings, desert settings, and city settings?”  
(American Indian)*

*“I would also like to see with the local numbers that they would have in language for Vietnamese for this number and for Chinese you go to this number.” (Urban Asian)*

#### ***f. Questions Raised***

Presenting a great deal of information about health for an intentionally caused botulism outbreak in a three-minute video exposition evoked many more unanswered questions than could be addressed. Categories of questions raised were variants of those that were raised after the radio clip, with more emphasis on prevention and transmission than symptom recognition.

##### Questions that had to do with preventive actions were:

- Is bottled water safe, or is likely to have something in it?
- Do you burn your clothing, or wash it in hot water at 185 degrees or what?
- Is there a vaccination against this?
- Suppose it was coming from air..., how would we go about protecting ourselves?
- Should we stay inside?
- Once I boil the water, what's to keep it from getting back in there? What about showering with the boil water, if I take a shower in the water, is that in the sink?

##### Questions about treatment:

- Do we have enough respirators?
- If it can't be cured, but you can treat it, do you always have it?
- She said something earlier about if it's not curable, what does the antidote do?

##### Questions about transmission:

- And if it's airborne, if someone has it and breathes it out, why can't you get it if it's airborne?
- It can be passed through clothing, it sounds like? So then what do you do?
- So now if you get it on your clothes, it's got to get in your hair. So what do you do if it gets in your hair?
- Can you be a botulism carrier, after you get it?

Questions about agency response:

- What is the CDC?
- What is the government doing to protect the infrastructure?
- Will the news broadcasts be more detailed?

**3. Materials Pre-Testing – Fact Sheets**

The final set of materials reviewed were fact sheets about botulism. As in previous sections, a short scenario prefaced the distribution of fact sheets and audience discussion of them.

Following is the scenario read to participants.

After the initial reports, local officials release information with recommendations for steps you can take to protect yourself from botulism. These materials will be available on the Internet as well as printed copies at local organizations. (*Instruct participants to remove botulism fact sheet from their folders and read through - to see text of fact sheet see Appendix*) (*Start focus group discussion*)

***a. Comprehension***

Based on the focus group discussion, audience comprehension of fact sheets displayed a much more informed and developed understanding of a botulism outbreak than previous responses to radio and video materials. By the time the sheets were handed out most persons had processed the basic information and concerns: at this point many persons were at once more knowledgeable and more critical of messages. This may be in part due to the sequential nature of the materials testing where the fact sheet materials were the last in the series to be pre-tested. It may also be due to the more comprehensive treatment that is possible with written materials.

The major ideas recalled were the definition of botulism, its symptoms, where to go to be treated, the importance of early treatment, and the recovery process. Also cited were how botulism can be used in terrorism, there is no vaccine, what to do to keep you safe, and who to call. Finally specific actions taken to keep oneself, ones family and pets safe were also recalled.

Despite increased knowledge about this condition, there were still a number of areas of confusion and ambiguity for participants in response to the written materials. Areas that were difficult to explain in radio and television scripts became more confusing by the time the information was on a fact sheet. Terms used such as “no cure”, “no vaccine”, and yet “recovery is complete if treated” seemed to create more confusion than clarity, as the concepts seem to be contradictory.

The first main area of confusion was the issue of contagion. The botulinum toxin is typically ingested. However if it is distributed through an aerosolized delivery method, it is conceivable that it can contaminate skin and surfaces, and a person could come in contact with it by touching other person or their clothing or objects that have been contaminated. Due to lack of information about aerosolized botulinum toxin, it is unclear whether it can be breathed in. These ambiguities in the “science” of the use of botulism in a terrorist scenario produced causing a great deal of confusion for respondents who could not quite fathom why it was called non contagious, if it could be caught by touching other people or distributed through the air. Some comments to this effect were:

*“The fact that it says that you can’t contract it from other person. But it says it can be spread from touching of the skin and clothes and other surfaces is kind of contradicting.” (ESL)*

*“...right here where it's saying this disease is not contagious, and I could get it from breathing. These toxins can't be spread by touching skin, clothes, surface. So it's a contradiction.” (Urban African American)*

*“It says you cannot get it from breathing the same air as the infected person, but you can get it from touching.” (Rural African American)*

*“What I’m saying is that it is an illness, can you release an illness in the air, or do you release a toxin?” (Rural Hispanic)*

*“The same about it being airborne and not contagious, I don't get that part.” (Urban African American)*

This gets back to a more basic confusion about the nature of botulism. It became apparent in analysis of the data that persons did not realize that botulism was caused by a poison rather than bacteria. Why? In analysis of findings it becomes clear that many persons do not know what a toxin is. Based on CDC input we had taken out many of the references in the materials to botulism being as type of food poisoning, which was the emphasis in the original materials tested in Year 1. Taking out references to poison as the mechanism of illness causation created a great deal of misperception about what botulism really was. Many thought of it as a bacterium. For example:

*“I think about the bleach – the very last...I don’t remember that being on the TV about killing the bacteria on the surfaces with bleach.” (Urban African American)*

*“How the bacteria can be killed with household bleach?” (Urban African American)*

*“And if there is a timeframe for when the bacteria dies out in a certain period of time or if it’s undetermined or not.” (ESL)*

This misperception leads right to the other point of confusion: the issue about curability. Essentially it was claimed in the fact sheet that while there was an anti-toxin, it was not a cure. However if treated early enough recovery could be complete. These concepts proved to be quite difficult to communicate, as there already was confusion about the nature of the disease: persons thought of the disease as infectious, and similar in nature to a virus or bacterial infection.

*“What is confusing to me it says about this antitoxin, maybe given. And it says it’s not a cure, but recovery can be complete. So what is the difference between a cure and recovery?” (American Indian)*

*“I guess I can’t get past the point that it’s saying that you have an antidote for it, but it’s not curable.” (Urban African American)*

*“And it say down here that recovery can be complete. If the person gets the right medical treatment right away. And at the top it says there’s no cure.” (Rural African American)*

*“...again I think that would be confusing...just the word cure could be confusing for and I think that could be clarified.” (Urban Hispanic)*

Finally it was never clear to persons reading the materials exactly what the outcome of treated botulism is. To many the recovery process was not clear. This may again be a reflection of experience with other more chronic illness or injuries. The notion of paralysis may make persons think about stroke or spinal cord injuries where there is long term disability. In the words of respondents:

*“Then it like leaves you in doubt because if you keep on reading it, you would be like, okay, up here they say it’s an illness. All illnesses can be treated. But then it goes on to say, “You can get this antitoxin, but you’ll still have it.” If it’s not treated within 24 hours, it ain’t said you’re going to die, but you’re going to die, because this is what this is implying. ... But it’s not good because it’s not telling me the outcome.” (Urban African American)*

*“I think you’ve got to keep it simple. Say if you’ve got these symptoms within 24 hours go to the hospital. You’ll be given an antitoxin. If this is untreated it will lead to more fatal... die. But if you talk about that you’ll be on a ventilator for a day, a month, am I going to walk again? I’ve got paralysis now to me I don’t*

*know anything if I'm paralyzed am I Christopher Reeve for the rest of my life? I mean I think that might be a little alarming.” (Urban White)*

Thus botulism poisoning needs to be differentiated from more typical illnesses and injuries that persons encounter, where in fact recovery is not complete and persons have lingering effects and disabilities.

***b. Emotional response***

Two types of emotions were noted in response to the fact sheet: emotions that an actual event would evoke and emotions the flier itself evoked. In regard to emotional responses to a terrorist event, a few persons expressed a positive view that they could cope better with such an eventuality in light of the materials presented. However a large majority seemed to lack some confidence as regards dealing with an actual botulism outbreak, even though they had the information, because they were still somewhat confused as to what to do, especially if there was “no cure”. Some responses were:

*“You have more control over the information, it’s like you have it here.” (Rural Hispanic)*

*“Right now I feel that I’ll be not ready but I’ll have an idea of what to do.” (ESL)*

*“I don’t feel too confident because they are telling me that it is air anyways, what am I going to do? You’re going to be breathing air.” (Rural Hispanic)*

*“Well the first page, you know, it gives you...it empowers you because you know the symptoms and what to do if it’s untreated. But then on the second page, you know, there’s no cure. It’s not in contagious but yet you can spread it by touching the skin and so forth. You know, it’s all informative yes, but it’s contradictory in a way.” (American Indian)*

The other response was to suggest that there was too much information to absorb. For example:

*“...it was a lot and sort of overwhelming.” (Urban Latino)*

*“It’s more information than I can do something with.” (Urban White)*

### **c. Actions**

There were two basic types of views expressed about actions suggested by the fact sheet. On the one hand persons expressed that they would find it easy to comply with directions given. For example:

*“If it's a life or death situation, then I'm going to follow it to a ‘T’.” (Urban African American)*

*“I think that if I needed to I could boil everything...if it is a real threat you not going to care that you have an assignment the next day and you are going to boil your food...I would. Definitely the bleach that you put in...that is pretty easy...heating stuff in bleach is pretty simple.” (Urban Latino)*

In contrast the other perspective was that there was not enough information given and persons would double check with others before doing anything.

*“Not confident. What this would make me want to do is to call the nearest infectious disease specialist I knew and get it from a physician because there's so much left out. And this thing about the household bleach mixed with water. I wrote here: kids don't try this at home. I could just see people dunking their food in bleach.” (Urban White)*

### **d. Credibility**

Most persons queried felt that some adjustments to the fact sheets could make it credible. First and foremost it needed to be in a format that looked “official” such as a pamphlet or flier. Then it needed identifiers such as logos, letterheads, etc. If it was distributed to many different types of places or agencies it would be more credible. Finally it was suggested that if it were short and to the point it would be more credible. For example:

*“I was under the assumption that it would be presented in a different manner with some headings, titles, bolding, and color. Is that a reasonable assumption?” (Urban White)*

*“There's nothing that says what this is really for. And without some graphics or something at the top, people would probably pitch this.” (Urban African American)*

***e. General response to fact sheet messages.***

Despite the confusion expressed by some about what was communicated in the fact sheet, many persons expressed positive views about what was presented and how. Moreover there were some participants who preferred a print format over radio and TV, as it was less ephemeral and more easily reviewed.

*“If there were a threat I would read the whole thing three times.” (Urban Latino)*

*“Reading this for me got my attention way more than watching.” (Urban White)*

*“The thing I like about the printed material is that I was able to go back and double check...with TV, once it’s gone, it’s gone.” (American Indian)*

*“Seeing it in print makes it more...more real.” (American Indian)*

*“Still, on a scale of 1 to 10, I would give it about a 6 or 7.” (Urban African American)*

*“I actually like the language of it. It seems that you have a lot of information but yet is not too complicated.” (Urban Latino)*

On the flip side there was some criticism. Mainly person suggested that they were many disincentives to read it, mainly linked to its length and lack of pictures.

*“I also think that it is really long and repetitive and if it could be done on one sheet of paper rather than two.” (Urban Latino)*

*“It kind of leaves me lacking something. When I watched the video, I felt like I found out all I needed to know right there.” (American Indian)*

*“It seems like a lot of information.” (Urban Latino)*

*“When I am handed a paper on the street or anywhere...it is very rare that I get to the second paragraph.” (Urban Asian)*

*“How you prevent it and where you are going...rather than all these words...” (Urban Asian)*

There were many recommendations for improvement of the fact sheets. In regards to the content participants suggested simplifying the presentation, prioritizing the information, including essential information. In regards to formats participants suggested graphics.

Participants also discussed many dissemination points for the materials in their respective communities including the police department, city hall, grocery stores, the post office, hospitals, pharmacies, nail shops, hairdressers, laundry mats, fire department, local churches, and paycheck stubs. There was also some skepticism that people would actually find it on the internet.

Respondents said:

*“In the black community, the church is the best source for getting out information.” (Rural African American)*

*“They need some stickers, the magnets to call 911.” (Urban African American)*

*“Internet? Just put it on TV. Because I'm not going to nobody's internet trying to find it.” (Rural African American)*

*“I would put it on TV and put some pamphlets out on it. I wouldn't go to the internet just to look for it.” (Urban African American)*

#### ***f. Questions raised***

As for all of the materials pre-tested, the fact sheets raised as many questions as were resolved. At this point however the questions asked for more refinement and qualifications in the information. The types of questions at this point fell into two categories: 1) those of survival and 2) those of meaning. Survival questions included:

- So what is the difference between a cure and recovery?
- For children, are these symptoms identical?
- The antitoxin – is the supply limited?
- If it's in the air, you can't get away from it right?
- I wanted to know if there was a terrorist attack of botulism how soon would we know it in order to start our treatments. If we know what to do and we have an attack how soon would we know to start doing treatment?
- It says that there's no cure for botulism so if you take a vaccine, do you have to keep treatment for the rest of your life?
- If you have slurred speech, how would you report your symptoms?
- If you got blurry vision, how can you drive by yourself?
- When is it safe to get out of the house?



- Where would they have you staying if you aren't to have contact with people?
- After you boil the food or the water or cook the food, can you put it in a container and refrigerate it, or will you have to constantly, every time you eat it or drink it, would you have to boil it again?
- How long do you boil the water or whatever? Can you keep it stored? How long before you would have to either do it over again or ditch it, or how long is it good for?
- One of the things...the person that has botulism...his clothes may be contaminated...so does he decontaminate...just throw it in the wash or burn it all or...is there a special washing method?

Meaning questions included:

- How does the terrorist get it...what does he do...is it just a little microdot that he throws in the water, how does it get in the air?
- So...has there been any known cases of this situation? Or is this made up?
- I start thinking can you develop botulism in the laboratory? Can you buy it on eBay or something?
- How does botulism resolve if it doesn't kill the host?
- How many days or how soon will you be having the final paralysis... after the blurred vision?
- How long would it be in the air once it is released?
- And would they do the antitoxin for people that don't have symptoms?

#### **4. Material Preferences**

In regards to which materials were preferred most persons interviewed said they liked the television the best, as it was it was clear, dramatic, memorable and accessible. Many admitted that in comparison to the fact sheets it left out many important details. Many liked news formats and would prefer that the information be incorporated into news broadcasts. As persons said:

*“I think that television is accessible. I think it is safe to say regardless of socioeconomic status most families have at least one television in the house and that most Americans watch television for a certain number of hours each day.” (Urban Latino)*

*“I think the best media is TV...most people are watching TV...7:00 at night.” (Urban Asian)*

*“You go to TV and then possibly radio...friends and family...newspaper but all of that might take a day or so.” (Urban Asian)*

Some people did prefer the fact sheet and most participants liked the depth of information on the fact sheets even though they were confused by some of the concepts presented. As noted:

*“I actually prefer the fact sheet, because I can go back and look at it later. The television, once it's gone, you just hold it in the short-term memory and forget about it.” (Urban African American)*

*“I would say that if I had to pick one I would choose the handout if it had all the changes that we just talked about.” (Urban Latino)*

*“I mean, the TV was better than the radio, but the fact sheet was better than both of them because you can carry this around.” (Urban African American)*

Radio was liked least, however for some this would be an access point, and it was also pointed out that it was important for persons who were driving or when there was a power outage. Finally, most persons were interested in the Internet but a sizable minority does not have access yet. As most households acquire internet access, this will no doubt be the most efficient means of sending out more detailed information about what to do in the event of a terrorist attack.

## **B. Cognitive Response Testing**

### **1. Concepts and Terms**

After reading the passages provided, participants were asked questions related to the concepts and terms surrounding a) botulism as a disease; b) terrorist transmission of botulism; c) contagiousness of botulism; d) symptoms of botulism; e) exposure to botulism; and f) safety precautions related to botulism.

#### ***a. Definition of Botulism***

From the text introducing of the disease, the two most frequent key concepts that participants mentioned were that 1) botulism is a serious disease and 2) to seek medical attention. Some participants mentioned paralysis as an outcome of the disease, and others attempted to describe the process by which the disease affects a body. Most participants were able to correctly identify how an individual could become ill with botulism, the exception being rural Hispanics.

*Moderator: "So what is this paragraph telling you?"*

*Respondent: "...botulism is a fungus or something that will grow in a warmer environment, and if you think you've been exposed to it then you need to seek medical treatment." (Rural White)*

*Moderator: "Now we're going to review your impressions about section A. So what is this paragraph telling you?"*

*Respondent: "...That there's a risk for botulism. Botulism is a serious illness, that it's a bacteria...caused illness and that it causes nervous system impairment and impairment of the musculature so you become paralyzed. And it tells you to get attention if you have it." (ESL)*

*Moderator: "So how can a person become ill with botulism?"*

*Respondent: "Well it's a toxic poison, you know anything that has to do with poison, there is danger in that the only thing I don't know is, if it will come, I know it's a germ, but I don't know if its is something that you might eat or drink..." (Rural Hispanic)*

Participants were asked to distinguish between toxin and bacteria after reading the introduction to botulism. Although some participants replied that a toxin is a product of bacteria, other participants were unable to grasp these concepts.

*Respondent: "Well the toxin comes from the bacteria. They're like...the toxin can't exist without bacteria." (Urban Asian)*

*"A bacteria you can I believe treat it more than a toxin; a toxin can be fatal." (Urban Hispanic)*

### ***b. Terrorist Transmission of Botulism***

Most participants understood that the passage discussed using botulism as a weapon, and that the disease could be spread through the air, in food, or in water. Some respondents seemed confused with the reference to the bomb.

*Moderator: "So what does this section tell you?"*

*Respondent: "Telling about botulism as used as a weapon like in the everyday stuff like the water to drink and it can come in a bomb." (Urban Asian)*

*Moderator: "What is this section telling you?"*

*Respondent: "It's telling me, number one, that they would not use botulism as a bomb to spread any kind of toxic diseases to people. Because I think most likely it's not going to work. It's just like a very small amount I believe of botulism can make you sick. So if they had this huge bomb, there's no way it's going to kill people." (Urban Hispanic)*

### **c. Contagiousness of Botulism**

When asked about questions about the concept of contagiousness, some people did not understand what contagious meant. Though some participants exhibited confusion around the concept of contagious, most people did understand how botulism could be spread and cited “touching” as a means of spreading the disease.

*Moderator: “What is this section C telling you?”*

*Respondent: “How botulism can be passed on from one person to another. In other words, it’s contagious. I mean whether it’s contagious or not, and it basically tells you it’s not contagious by just breathing air with someone else; however it’s contagious via touch if somebody is infected and you touch them, you can become infected by touching them.”(ESL)*

*Moderator: “And from what you see in this paragraph, how can botulism be spread?”*

*Respondent: “It can be spread through direct contact. You actually have to come in contact with the bacteria and it seems like it’s not airborne. So if you touch anything that has the bacteria on it you’ll get it on you.” (Urban Hispanic)*

*Moderator: “The word contagious, what does that mean to you?”*

*Respondent: “If the disease is spreadable or not.” (Urban White)*

*“Contagious, that it is not like the cold or the flu, contagious is you get, like the virus, AIDS, you can be with a person together, but if you don’t have any relations with them you just don’t become infected.” (Rural Hispanic)*

### **d. Symptoms of Botulism**

Participants understood that the text contained a description of the symptoms of botulism. Comprehension of the terms paralysis and torso, however, varied across the participants; more participants could define ‘torso’ than ‘paralysis’.

*Respondent: “It’s explaining the symptoms, then I guess what can happen if untreated.” (Urban White)*

*Moderator: “What does torso mean?”*

*Respondent: “It’s part of my body.” (Urban Hispanic)*

### ***e. Exposure to Botulism***

Participants generally seem familiar with exposure concepts and most stated that the exposure segment was telling them to seek medical care if they exhibit symptoms. Most participants could also identify symptoms that would let them know they had botulism. Those in rural areas and for who English is a second language had a more difficult time grasping the meaning of exposure.

*Moderator: "What does it mean to be exposed?"*

*Respondent: "If you have the poison in your body." (Rural American Indian)*

*Moderator: "How do you know you have botulism?"*

*Respondent: "By some of the symptoms: the blurred vision, the swelling...also, you just need to be checked because if you have unknown symptoms and you're not sure...go to the medical facility and tell them you have been exposed and you're not sure if it's botulism and ask them to check you for that." (Rural African American)*

*Moderator: "What is this section telling you?"*

*Respondent: "Okay, it's saying that if you feel you have symptoms, see a doctor right away. If you don't know where to go there are agencies that can tell you exactly where to go. Umm, you may not actually; some of the symptoms may not be physically shown, but if you feel like you have it you can go to the doctor anyway. The sooner that it is detected the better chance that you will come through." (Urban African American)*

### ***f. Safety Precautions***

From the description of safety precautions, respondents most often cited boiling liquids and cooking foods for five minutes as the steps to take to prevent botulism exposure. Respondents also stated these two concepts in response to how to make food and drinks safe. Fewer respondents made reference to the concepts of cooking food to an internal temperature of 185° or to using a mixture of bleach and water to clean infected surfaces.

When prompted to answer questions about the bleach mixture, a few provided information on how to create the mixture, but many just responded that the mixture is used to clean surfaces.

*Moderator: "What is this section telling you?"*

*Respondent: "It's telling you how you can prevent having botulism in your food and in your drinks. It's telling you that you should cook your food at least 5 minutes. That you should boil your water or milk. I think that is what that lady was talking about, okay first for eating and drinking. Botulism can be anywhere where food is placed, so you have to be careful where you fix food. It tells you how to clean to prevent it..." (Urban African American)*

*Moderator: "So what is this section telling you here?"*

*Respondent: "It's telling me that you can contaminate food and if you think it is contaminated, you can get rid of it by cooking it and the water you can add bleach to get rid of it." (Urban Asian)*

*Moderator: "Based on the passage you've just read, in your own words please tell me how you can make food safe before eating it?"*

*Respondent: "Yeah, like cooking it at a certain temperature and maybe um, and cook it like five minutes longer to make sure all the poison is dead." (Urban African American)*

*Moderator: "Just describe how you would make food and drinks safe."*

*Respondent: "Um, you need to cook it thoroughly, which will release the inside of the temperature of 195 and to boil everything that you're going to drink."*

*Respondent: "Most likely I would have to boil all my liquids that I'm drinking, just to be on the safe side. Make sure everything is very clean and also to make sure I cook my food at a certain temperature, and I would have a thermometer there and check it out and stuff like that. And also just to use bleach, it's a good thing to kill off the bacteria but make sure I don't get it close to my food because that could be toxic." (Urban Hispanic)*

## **2. Emotional Response**

Participants were asked about their emotional response to text sections about exposure, symptoms and transmission, which are believed to have the potential to create anxiety or worry among audiences. Participants were concerned about a) transmission and detecting transmission routes and possibility of use in a deliberate terrorist attack, b) symptoms and exposure recognition, and c) ability to seek and/or pay for medical care (especially among ESL participants).

First, participants raised concern over not knowing how botulism is transmitted and how fast it can be transmitted in a populated area. Others raised concern about transmission during a deliberate terrorist attack.

*Moderator: "Is there a way we can make the paragraph less scary for you?"*

*Respondent: "Yes, by really saying that people can't get all of it and that it shouldn't be easily spread." (Urban African American)*

*“What is a very small amount [of toxin that can make you sick]? What about those postal workers? I am going to open up a mail slot and then botulism?” It really doesn’t say how it is spread?” (Urban White)*

*Respondent: “I never knew that people thought it could be used in a bomb. That was surprising. Also that it is destroyed by heat.”*

*Moderator: “So you felt a little alarmed?”*

*Respondent: “Yes” (Urban Asian)*

For most participants, this symptom proved to be the most fear provoking. Participants fear was mainly due to the onset of paralysis. Participants also raised concern about how to detect symptoms and exposure. The main cause of concern was how exposure could be detected in the absence of recognizable symptoms. Other issues were how to detect symptoms that seemed similar to other common symptoms from other illnesses (such as the flu); for some participants recognizing symptoms in children proved to be worrisome.

*“It’s scary...because you can’t move and you’ll be paralyzed.” (Urban Asian)*

*“I’m scared individually. Like before, I didn’t really know what’s going to happen to you if you get toxin, but now there is more details and I’m getting a picture. Then I’m scared.” (Urban Asian)*

*“My question here is how would they know they’ve been exposed if they don’t have symptoms. Might cause a panic.” (Urban Caucasian)*

*“I teach first graders so you got a lot open sores, you got a lot of vomiting and blood. So they have the flu but you have to say wait a minute it may be more serious than that.” (Urban African American)*

*“I have that all the time, mainly because I’m Asian and English is not my first language. If I’m trying to say something and take too fast it will do that [slur speech]. I have trouble swallowing, it really hurts and it’s not botulism.” (Urban Asian)*

*“The symptoms to me sound similar to symptoms of other disease, it was it’s kind of common, like the dry mouth, and the blurred vision, or the weakness, fatigue and stuff was similar to a type of cold or taking certain types of medicines bring about some time.” (Rural African American)*

*“You could be walking into a restaurant that was attacked. And you’d walk out and you wouldn’t even know it until a few hours later or a day later when people start getting sick and dying. That’s concerning to me because you’re not going to get that warning or you’re not going to know right away.” (Urban Latino)*

One of the main concerns raised by ESL populations after reading the text was inability to seek medical care right away, as advised by the fact sheet. Participants voiced concern about not having regular doctors where they could seek care and inability to afford the medical costs of such visits. They recommended making available other sources (at free or reduced cost) for people to refer to in the case they needed to seek medical care for symptoms or to check for potential exposures.

*“[L]ook for help in other locations because it’s so hard. It’s too much money anywhere. It’s like offer more options besides the doctor because it’s too much money.” (ESL)*

Overall, despite some concern and fear raised among participants, the majority were happy to receive information.

*“It’s just enlightenment to learn more about botulism. It doesn’t make me feel uncomfortable or anything like that, but it does make me open my head a little bit more with what is going on.” (Urban African American)*

*“I want more information...because the more I know the better I can protect myself.” (Urban White)*

*“Well of course, just the thought of somebody doing that is scary to anybody but it’s not going to scare me to the point where I’m not going to go anywhere anymore.” (Native American)*

### **3. Response and Actions to Exposure or Symptom Recognition**

Participants were asked about their behavioral intent in case of exposure or symptom recognition. Most participants stated that they would seek medical care from a doctor or local hospital if they believed to have been exposed or were showing symptoms for Botulism. Some participants mentioned contacting their health department, although a few did not know who their local health department is and where it is located. Others assumed that a special location will be made available for persons to refer to in case of a botulism event. Among ESL respondents there was some concern about inability to seek medical care due to cost. For these participants, it was especially important to locate a low cost or free clinic where they can seek medical care in case of exposure. Few participants stated that they would not seek medical care



until symptoms were manifested (although exact reasons for why they would not seek care if in doubt of exposure were not given).

*“Just seek medical help as soon as possible” (Rural Hispanic)*

*“I’d probably go directly to the hospital. I know it says in here you should seek medical care from a family doctor, but I think you should probably go to the nearest emergency room just in case.” (Urban Asian)*

*“If I thought I were exposed I would probably not seek medical help until I started exhibiting symptoms of botulism.” (Urban Asian)*

#### **4. Photo Preferences and Suggestions**

Photos were selected and placed under section texts about symptoms and treatment, to better enhance comprehension of these concepts. Participants were asked what each specific photo was showing them and to rate the photos on which one they liked.

Almost all participants recognized Photo 1 as describing a person with droopy eyes, although some perceived the picture to depict a person who is “sleepy”, “tired”, or “drunk”. For Photo 2, there was a more varied response. Most participants believe the photo to depict a person who is having “difficulty swallowing” or has “dry mouth”. Other responses included “inability to move”, “hurting from the disease”, “paralysis of the mouth”, “not able to relax his facial muscles”, “tasting something bad”, and “whole face has just been paralyzed”. In selecting their photo of choice, participants were split. Those that preferred Photo1 did so because it was a close-up and clearly demonstrated what it was intended to illustrate: droopy eyes. Photo 2, on the other hand, portrayed several themes at once and for this reason was somewhat confusing to some participants. Those that did prefer Photo 2 did so because it better depicted the person and conveyed themes such as pain, uneasiness, and paralysis of the face. Some participants believed that the pictures complemented each other and should be placed side by side.

Photo 1: Symptoms



Photo 2: Symptoms



There were two photos presented to participants to represent treatment for botulism. All participants correctly identified Photo 3 as a type of medicine or anti-toxin for botulism and Photo 4 as a depiction of a botulism patient on a ventilator being treated by medical staff. Some participants were not able to read what the text on the treatment box (Photo 3). Most participants preferred Photo 4 to Photo 3 because it was more descriptive of a person getting treated for botulism.

Photo 3: Treatment



Photo 4: Treatment



## **5. Needs Clarification and Recommendations**

### ***a. Needs Clarification***

#### **Exposure**

In terms of botulism exposure, there were some concerns about mortality and survivability.

*“The only part [of concern] was what are your chances of survival. I don’t remember them saying anything about like the mortality.” (Urban White)*

*“‘The better your chances are of surviving this disease’ implies that you could actually die from this. You don’t expect that. If I’m the only one how would they know that I am sick? That makes me wonder. This can only happen in times of war from some terrorist country. It needs to be more clear.” (Urban Asian)*

Other noted that specific information regarding treatment needs to be provided on the materials. Specifically, some respondents wanted more information both in terms of the local health officials whom would be in charge of relaying information in the event of an attack, as well the specific treatment options available in their areas.

*“I don’t like how it says local health officials will announce where to go for medical care. If I’m reading this it should say where I should go. Call this number. What if I don’t catch that newscast?” (Urban White)*

*“I was thinking of under served communities, that there are no local hospitals. Is this information that I’d hear on the news, like how would they tell me this?”*

*“Some people don’t have [a personal physician] or some people don’t understand what that means so maybe just adding your family doctor or at a near by clinic.” (Urban Latino)*

*“Then it says here that it will be announced, but then it goes revealing that thing if the information is not available, [that] you need to go to the hospital. So I’m little confused.”(Urban Asian)*

There were questions on the self-diagnosis of symptoms following exposure.

*“Lucky I didn’t get it, but how do you even know that you were even exposed in the first place?” (Urban Asian)*

*“[W]hat’s unclear to me is if you think that you have been exposed but yet I’m not experiencing any symptoms it is advised that you seek medical care. I would need to know that botulism can exist without symptoms occurring. [According to] these handouts, we would experience symptoms if we were exposed to the toxin, so are there cases where we cannot experience any symptoms and yet have been exposed to the toxin? That’s unclear to me.” (ESL)*

One respondent commented on the uncertainty of public health officials having enough anti-toxin to treat mass amounts of people in the event of a terrorist event, and therefore questioned materials which would urge individuals to seek medical care.

*“It’s just would they have enough if everybody was rushing out to get one?” (Urban Asian)*

## Food and Water

Many respondents requested more detailed instructions for preparing food, boiling water, and prevention practices. Others noted that specific items were mentioned regarding prevention practices (e.g. milk), yet other common food items were not detailed, leaving respondents to wonder if these items don't require preventative attention as well.

*"I like how they give you the exact measurements. Cook your food for at least five minutes. Tell me how hot, how long I should boil." (Urban White)*

*"Yes why specifically milk and not say orange juice same thing specifically. What makes milk different?" (Urban Asian)*

In terms of prevention, many respondents wanted more information on the type of bleach to use. Others were not clear on boiling procedures for water safety.

*"I was wondering what type of bleach are they talking about? Is that bleach for your clothes? I guess they need to put the type of bleach because that bleach on your clothes and bleach on your hair are [not] the same [types] of bleach." (Urban Asian)*

*"I was wondering what if you boil the water and then it cool off, then you drink it, you [would burn yourself]. Common sense yes, but I don't know." (Urban Asian)*

*"Well yes and then if I put the bleach and wipe that down, is that going to work, or is there a certain amount of time the bleach has to stay on?" (Urban Latino)*

*"This section is telling me how to destroy the botulism toxin from foods and drinks by boiling it, or bringing it to heat for a minimum of 5 minutes [to] at least 85 degrees. What is body temperature? Oh, it's Celsius we're talking about?" (ESL)*

*"The only thing that got me confused was to put part on Clorox, the food you are going to eat, that got me a little confused, but if they announced to do this, I am the type of a person that I listen and I just go ahead and do, I obey." (Rural Hispanic)*

Some respondents felt that the prevention guidelines were too extreme and would not be widely adopted by the general public.

*“I think it would be helpful if you put, if you think your food might have been exposed or if you hear a warning about possible exposure then these are the things you should look for. But to in general it’s good practice to do things like wash the surfaces and maybe cook the meat, or boiling anything before you drink it, I mean if it’s for no reason. If it just seems like a kind of extreme daily practice.” (Urban Latino)*

*“Don’t drink water from ice cubes unless you boiled it first, I know what you’re trying to say, it’s extreme but it’s weird. So say make ice cubes only from boiled water; but don’t drink water from ice cube unless you’ve melted it down and boiled it first. That’s literally what’s been said there.” (Urban Latino)*

There were some concerns as to when to enact prevention practices.

*Respondent: “I’m not going to boil my milk right now and water. Is it if there’s a breakout or something like that, is that what this is saying right now? It’s not telling me this is an event; this is what you should do. I mean I’m not going to go home right now and start taking out my ice cubes and boiling them.”*

*Moderator: “So it’s a difference between precautionary measures in general or in the event of an outbreak?”*

*Respondent: “Yes.” (Urban Latino)*

Some felt that advising the public to seek medical attention when they suspect botulism exposure contradicts the idea of quarantine.

*“If somebody [contagious with] botulism, that means that as soon as they walk into the hospital and touch surfaces and papers, they’re going to put other people at risk of exposure, which seems highly incompatible with the goal of trying to limit the exposure of people. So my suggestion would be to actually tell people to stay put and have medical attention come to their environment rather than them coming out and spreading it around. How long do people have to actually go to the hospital without endangering everybody else around them, basically?” (ESL)*

### General Symptoms

Many respondents were unclear as to the concept of “paralysis” and they different manifestation that it would take in the case of botulism exposure. Some respondents wanted a more specific timeframe from botulism exposure to paralysis.

*“It can say like, you’ll be paralyzed in like a few hours of getting the toxic. So give a time frame like that. And how long it lasts, is it permanent until you get medical help?” (Urban Asian)*

There were some concerns that the symptoms which botulism exposure can cause are similar to other common, less severe, ailments.

*“[T]here are a lot of things that can give you these things. I guess you could add at the end if you have trouble of seeing signs and on top of [other common symptoms], there is a high possibility that you may have botulism.”*

*“Yes, cause the symptoms to me sound similar to symptoms of other diseases or, it was that it’s kind of common, like the dry mouth, and the blurred vision, or the weakness, fatigue and stuff was similar to a type of cold or taking certain types of medicines.” (Rural African American)*

*“I don't get this section because how can be unless it's something like pollution. I mean if you put in the air or like on the telephone that's what I can understand stuff like that how does it work like that. If it's in the air, the air, it's already unhealthy air, polluted air, this would be not from the cars. So I don't understand. If it's this you going to put in air, it's already polluted.” (ESL)*

Ethnic misinterpretations of information presented in the materials were a concern of one respondent.

*“‘Untreated’ is not very understandable to Hispanics. Um . . . probably, you need to use the words ‘if not treated’”. (Rural Hispanic)*

In response to the description of the possible delivery of botulism via a bomb in a terrorist event, one respondent noted that this type of delivery vehicle was not conducive to the spread of botulism based on the scientific description of the bacteria in the materials. As such, the respondent felt that the “bomb” reference raised a sense of unnecessary fear.

*“It is a little bit confusing. I don’t know what the degree of how I should be feeling is. It’s doesn’t explain whether botulism is easily created. It says they can create the toxin from the bacteria that produces it. Can anybody get the bacteria? Could I go to the store? I mean mold grows on everything. Could I make it that way? At the bottom it says, “Although some people may believe it a bomb will probably not be used to spread the toxin. Botulism toxin is destroyed by heat, so the heat caused by a bomb would destroy the toxin. Should that make me feel better? If it probably will not be used why don’t they just say a bomb could not be used to spread the toxin and this is why. They seem to say that a bomb could still be used.” (Urban White)*

Some respondents were unclear as to the specific requirements necessary to destroy botulism bacteria.

*“Botulism toxin is destroyed by heat. How much heat?” (Urban White)*

*“I guess because of botulism people don’t really know a whole lot about it. I thought it was the heat that made it thrive, and it doesn’t appear to destroy it.” (Urban Latino)*

Likewise, even with medical treatment, some respondents were not clear if toxin exposure could be “cured”.

*“Then it says the antitoxin won’t cure it. Still there is a question that if the antitoxin can’t cure me. What do I do?” (Urban White)*

*“But I guess that I don’t know how my body cures it, does it just rest, do I have to be in a hospital for so many months?” (Urban Latino)*

*“One thing I would suggest is just to explain the defense mechanism, rids the body, the poison, the body, that sometimes people might not know what defense mechanisms are.” (Rural African American)*

Regarding the photographs used in the materials, many respondents found them to be difficult to decipher or of limited use.

*“Why are they showing it to me when it’s just in a box, I mean I can’t go out and buy it... photo two, I don’t know why you’re showing me that; it’s just kind of like a little drama. I think you could do without the pictures.” (Urban Latino)*

*Re Photo #1: “Too small. I can’t read it.” (ESL)*

*Maybe. We have medications to help your body get rid of the toxin instead of saying this is an anti-toxin. The toxin part doesn’t help much. (Urban Asian)*

*“The pictures are confusing.” (Rural African American)*

## ***b. Recommendation and Comments***

### Tone

Respondents commented on the tone of the materials, noting that there is the potential for creating an unnecessary sense of fear. Comments included the following:

*“[I]f I were reading this and didn’t have a background in food sciences and human nutrition, I would be concerned that I could just get botulism every 5 minutes, [that] I should stay at the doctor.” (Rural African American)*

*“There are people that are really paranoid. I know of one that drinks bleach because the insides are dirty. So they read this and who knows what they would do.” (Urban Asian)*

There were suggestions that the materials should be reassuring, emphasizing the availability of medical treatments.

*“[There should be] some reassurance that something is being done...Especially for people that are not interested in science at all.” (Urban Latino)*

*“Well, they are very hard sentences . . . a little bit too strong for the public, because you think when you seek help, you’re hoping there is a cure. Here, the sentence says there is no cure for botulism.” (Rural Hispanic)*

*“Because if you do get it and you seek medical attention you can get better.” (Rural White)*

*“The more you know the safer you feel.” (Urban White)*

Others wanted an emphasis on the idea that a terrorist attack using a toxic agent would not necessarily result in exposure to the toxin.

*“I would just say it is not probable that a bomb will be used because the [explosion] of the bomb will destroy the toxins.” (Urban Latino)*

### Readability

Respondents noted that certain words and phrases may not be understood by the general public and may require a more extensive explanation. Others suggested keep the explanation of terms and phrases simple in order to increase comprehension.

*“To me it was easy to understand because I have a medical background so I kind of know the [this] already. But if I weren’t a medical person, I think the first paragraph would be confusing to me [b]ecause they use big words [such as] toxins and bacteria. People get confused by those kind of words.” (Urban White)*

*“Maybe talking [more] about the toxin and how other people are contaminated.” (Urban Asian)*



Some of the respondents wanted more information on the timeline of events from exposure to treatment. Furthermore, many asked for more specific information regarding the products to be used for preventative measures.

*“The timeline that would be the key thing. How long can I wait, you know if I don’t know what it is...?” (Urban Latino)*

*“[W]here you introduce [the use of] bleach, people might get poisoned with bleach. Because, they might not dilute it and use it as is to try to clean or sterilize what they’re going to eat, and that could be dangerous.” (Rural Hispanic)*

In terms the grammatical presentation of information, there were a few suggestions:

*“I think it should be a little more straightforward, the language.” (Urban Latino)*

*“[W]hen you bold a sentence, people know that’s important.” (Urban Latino)*

### Content

Some of the respondents questioned the “science” behind the information presented in the materials. Others noted that terms used in the materials, in terms of their context, differed from their own sense of their meanings.

*“The antitoxin does not “cure” the disease.” (Urban Asian)*

*“Actually, it should be “botulinum.” That’s the correct...spelling.” (Rural Hispanic)*

*“Probably, if you use the word “contaminated,” it would be much better than ‘exposed.’ That might be another one of those words where you – just does not come out meaning the right thing or comes out means something else.” (Rural Hispanic)*

Others noted that the threat of toxic agents needed to be emphasized.

*“I think people see a lot of air pollution, as everything is toxic.” (Urban Latino)*

Some though specific information needs to be provided regarding local medical services availability in the case of a bioterrorism event.

*“Like local officials will announce where to go for medical care. I think that’s fine but it should be something else, like where else you can go when [there is an attack]? I don’t know who my local health provider, I just moved to this area, and now I’m sick. Is there like a website I can go to or a particular, some other way to get the information I need?” (Rural African American)*

*Re Botulism Exposure: “I would say [include] something a little more urgent, like call 911.” (Urban Latino)*

In terms of the extent of information provided, some respondents asked that contact information be included on the materials for sites offering further explanations of the Bioterrorism terms and treatments.

*“I don’t think it quite under scores how one can be affected by botulism because...the problem with having botulism is that you can have respiratory failure because the muscles in your respiratory system fail from the paralysis. I need to get more information on botulism and toxin...Like at the end, if you want to know more about it a number they could call if they have questions, a number they could call if they thought they had been exposed and want to know the best place to go.” (Urban Asian)*

### General Comments

Some of the respondents noted that their knowledge of terms and concepts presented in the materials was broadened due to the information presented.

*“Actually I should mention I didn’t know that botulism would be destroyed by heat, so I learned something in this particular paragraph.” (ESL)*

*“The concern is that I was not aware of the fact that it was by touch, because normally a toxin will remain what it is and damage the one person, but I didn’t think a toxin could be carried from one person to another. I had no idea that was possible.” (ESL)*

*“[I] think it’s a good thing to get this out. Even if it’s just like printing a little book or something to get out to people, like in areas and churches or whatever, you know. This is good.” (Rural African American)*

Some of the respondents felt that the photographs used in the materials were did not convey enough information.

*“I thought seeing the anti-toxin...I don't know that was kind of-- it was just a box.” (Native American)*

## IV. DISCUSSION

### A. General Discussion

The creation and pre-testing of botulism materials in Year 2 is a classic object lesson in the difficulty of adhering to current “scientific” knowledge in risk communications, yet use concepts and terms that the lay public can understand. That is while the media we used (videos, radio clips and fact sheets) all seemed acceptable, the content for botulism considered literally as an agent for terrorism proved more difficult to describe. That is in Year 1 when we described botulism as food poisoning, it was quite easy for persons to understand it, as they already have a platform for understanding the concept of food borne illness, food poisoning or poisoning more generally from such things as ingestion of poisons, insect bites or snake bites. Poison gets into one’s system and shuts it down. Thus the concept of an anti-toxin that stops the spread of the poison was quite clear to people.

In Year 2, based on CDC input, we de-emphasized the food poisoning aspect in our material and shifted to describing it as potentially carried through the air. This was based on suggestions by CDC subject matter experts that in a bioterrorism scenario the botulinum toxin could be aerosolized and distributed through airborne means. What was unclear in this scenario was whether the toxin is still ingested through the digestive tract by being a contaminant of food and water, or whether it could be contracted through breathing. More problematic from a communications standpoint, we stopped referring to botulism as a form of “food poisoning” and mainly relied on the word “toxin”. This omission led to many conceptual difficulties that persons had with our materials in Year 2. Many persons in the lay public do not know that a toxin is a poison. Many thought that a toxin was like a germ or bacteria. Hence the use of the term airborne to describe possible distribution channels led many to think that it was like a contagious, infectious disease. This was compounded by the description of the treatment in which an anti-toxin was delivered as “not a cure”.

The solution really is to go back to use of the word poison and how it could be transmitted or its effects mitigated in a way that resonates with people’s knowledge and experience. If described as a poison, then persons can understand how botulism is spread, how it gets into the body, how it

attacks the central nervous system causing the visible symptoms of paralysis and slurred speech. These facts then feed into explaining how the botulism anti-toxin works to stop the spread of the poison. Using these terms and analogies may also help to clarify the issue of contagiousness: i.e. it is not spread through other person's excretions of mucus or saliva. Rather it is spread by ingesting the toxin (or poison) itself which could be lodged on (not in) another person's skin or clothing. This sounds simple but these types of conceptual and logical maps are part and parcel of "translating" science into lay terms, known in learning theory as "meta cognitions", or having a framework to associate new information.

Finally in regards to the treatment we erred on the side of being too literal. Saying there is "no cure" means to many persons just that : if you get the condition it is hopeless. Therefore it is better to stress that a person can completely recover from botulism poisoning if they get treated in time rather than split hairs about whether it is called a cure or a treatment.

As in many qualitative exercises, how to discuss and explain botulism was actually suggested in the discussion by members of the audience. It becomes clear that reference to poisoning becomes the key in explaining botulism to the general public. In the words of one participant

*There's an antitoxin that can be given if you come down with it, with the poison in your system. (Rural African American )*

So our experience suggests that a great deal of attention needs to be paid to terms and concepts used. Unless mechanisms of disease transmission and treatment are expressed in simple terms using analogies and word associations, persons will become confused. The mechanism needs to be "tied together" as a whole rather than communicated in fragmented factoids in the manner we have currently adopted. Also if the mechanisms of transmission are not clear or speculative, as is the case with aerosolized botulism, it's probably better not to give it too much attention or discussion time in the materials presentation.

## **B. Study Limitations**

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).

### **1. 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.

## **2. 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.

## V. RECOMMENDATIONS

### A. Overall Conceptual Clarifications

#### 1. Defining terms, simplifying language

- Consider complimentary language when describing botulism treatment. Subjects were confused by descriptions of “no cure” and “no vaccines” for botulinum exposure paired with descriptions of “anti-toxin” and “recovery”.
- Clarify the definition of “paralysis”. The notion of paralysis suggested to some a condition similar to stroke or spinal cord injuries, where there is long term disability. This may be a reflection of experience with other more chronic illness or injuries.
- Clarify the difference between a “toxin” and a “bacterium”. The fact that the botulism bacterium produces botulinum toxin was confusing to many subjects.
- Subjects asked for bulleted points, bolding of important information, and references for further information not provided in the materials.
- Differentiate between the terms “exposure” and “illness”. Subjects were unclear of the fact that with the potential for agent exposure over a large geographic area, exposure potential does not actually mean acquisition and illness of the agent.

#### 2. Contagiousness

- There was a great deal of confusion for respondents who could not quite fathom why botulism was described as being “non-contagious”, yet it could be contracted by touching other people or distributed through the air. The science is unclear as to the aerosolized possibility of a botulism attack. The fact sheets needs to emphasize that while this is unlikely, is it a possibility. Furthermore, the definition of contagious needs to be clarified. Subjects often define “contagious” in terms of personal experience with viral infections, i.e. spreading a cold. The idea that contaminated clothing could be “contagious” was unclear to many individuals and needed to be clarified.

### **3. Safety Precautions**

- Detail type of bleach to use
- Note that bleach should only be used on surfaces, not put on food or in liquids.

### **4. Survival Clarification/Curability**

- Differentiate cure from recover
- Detail effects of toxin on children vs. adults
- Provide a timeline, possibly through graphics, detailing from exposure to symptom onset to treatment to recovery
- Clarify boiling procedures: Boiling time, storage of safe liquids, and types of liquids to boil (some subjects asked why only water was mentioned for prevention). Detail that water needs to be cooled before drinking it, assure that water does not need to be boiled more than once unless there has been a chance of re-exposure.

### **5. Event Possibility**

- Subjects wanted for information on how an agent could be acquired by a terrorist, how large of a “dose” was required, and more specific information on the exposure window, i.e. how long would they be at risk.
- Subjects were also unclear on the use of a bomb as a means of introduction of an agent. Many felt that the description of botulism being killed by heat contradicted the use of a bomb.

## **B. Special Considerations for Fact Sheet**

### **1. Medical Treatment**

- One of the main concerns raised by ESL populations after reading the text was inability to seek medical care right away, as advised by the fact sheet. Participants voiced concern about not having regular doctors where they could seek care and inability to afford the medical costs of such visits. They recommended making available other sources (at free or reduced cost) for people to refer to in the case they needed to seek medical care for symptoms or to check for potential exposures.



- Provide more detailed information regarding health officials who would be in charge of relaying information in the event of an attack. Some respondents indicated that in the event of an attack, there will be the potential for conflicting information. Therefore, many indicated that they wanted to know a specific individual or agency responsible for providing accurate information, as well the specific treatment options available in local areas.

## **2. Dissemination**

- Dissemination points for fact sheets suggested by subjects included the following: the police department, city hall, grocery stores, the post office, hospitals, pharmacies, nail shops, hairdressers, laundry mats, fire department, local churches, and paycheck stubs.

## **3. Styling**

- Need most important information first
- Bullets on top and then get into fact sheet
- Photos need to be specific and relate more specifically to symptoms and treatment. Many felt that the photo of the anti-toxin box was meaningless, yet found the patient on a respirator receiving treatment as more informative. Likewise, the close-up photo of the “droopy eyes” indicated a specific symptom, however, the photo detailing the patient’s entire face elicited some confusion.
- Provide contact information on the materials for sites offering further explanations of the Bioterrorism terms and treatments.

## **C. Special Considerations for Radio**

### **1. Comprehension**

- Provide needed information first: a) where outbreak is located, b) how to assess personal exposure, c) what action steps individuals need to follow.
- Provide contact information and other sources to obtain more information.
- Messages need to be repeated in order to increase comprehension.
- Announcement should unfold at a slow pace.

## **2. Credibility**

- Use tone which is urgent, serious, and authoritative.
- Use alert system or warning announcement, such as a tone or a recognizable trigger that emergency message will be airing.
- Make message part of a breaking new report or special bulletin
- Broadcast simultaneously on all stations at once

## **D. Special Considerations for Television**

### **1. Comprehension**

- Too many graphics; may be competing with comprehension of key messages.
- Use the word “treatment” rather than cure. Do not need to state that there is no cure as it confuses comprehension about treatment.
- Distinguish symptoms to botulism poisoning to other diseases (such as stroke).
- Provide clear direction as to when action steps should be taken, what exact action steps should be taken, and when actions can be discontinued (for example, when can one stop boiling their food and water)

### **2. Credibility**

- Spokesperson used should act in an urgent and assertive manner.
- Use of a physician or someone well-known as a spokesperson will increase credibility of the messages.
- The format of the broadcast needs to be in familiar to audiences (such as news, or special report).
- Suggestion to embed the messages into a news bulletin.
- Messages need to be repeated.
- Enhancements and reenactments should be animated in order to better convey seriousness and urgency.

- Use of an emergency sound prior to airing the messages will alert importance of listening and viewing the message.
- Use of reminder system that message is an emergency broadcast.

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## Botulism Creative Brief –11/22/04

### 1. Target Audience(s)

General public audience: Persons living throughout the U.S. directly exposed or potentially exposed to *C.Botulinum* who will be reached through various channels: radio, television, internet, interpersonal or person-to-person communication)

Note: This creative brief focuses on general populations who could be exposed to the toxin. It does not address infant botulism or wound botulism.

### 2. Objective(s)/Key messages

*To help individuals (who are not health professionals) recognize their own perceived risks, understand symptoms and symptom recognition:*

- SYMPTOM RECOGNITION FOR CHILDREN AND ADULTS: To assure that persons are knowledgeable about symptoms of botulism toxicity that may present as dryness of the mouth, inability to focus eyes, blurring vision, facial paralysis, respiratory distress, increasing paralysis in upper body.
- SYMPTOM RECOGNITION FOR INFANTS: To assure that parents of young children are knowledgeable about botulism symptoms in infants that include poor feeding, decreased muscle control, constipation, diminished crying and suckling responses/respiratory distress.
- DISEASE PATHOPHYSIOLOGY & PROGRESSION: To inform that the botulism toxin attacks the central nervous system, therefore the person with botulism poisoning is affected by progressive neurological paralysis from the head down through the body so that first the head and neck are paralyzed and then other bodily functions related to the trunk/torso are affected. Fatality is caused by eventual paralysis of the lungs and/or heart.
- PERCEIVED THREAT & ACTION STEPS: To define immediate actions of seeking emergency medical care and to stress the severity of botulism toxicity. Botulism toxin is one of the most deadly substances known to man, even in very small amounts. Individuals need to be informed that lack of action or treatment can lead to death of exposed individual. Current mortality rate is 5% among those treated. Much higher among those not treated. Persons should not hesitate to seek emergency care for fear of disease communicability (see Transmission section).

## Botulism Creative Brief –11/22/04

*Individuals are assured of medical treatment efficacy and outcomes:*

- **TREATMENT GOAL:** To explain that goal of medical treatment is to stop the progression of paralysis by halting the spread of the toxin (poison) in the body so that bodily systems do not stop functioning. To clarify that treatment of this condition (which is similar to poisoning) concerns stopping the spread of the toxin (poison) in the body rather than destroying a bacteria or a virus (such as is done with antibiotics). It should also be stressed that once the spread of the toxin (poison) is halted, the body's own recovery system will be enabled to clear the body of the toxin and its impact.
- **MEANS OF TREATMENT:** To describe administration of botulism antitoxin to stop pathology progression and the placement of patient intensive care to support vital bodily functions such as breathing. To describe the treatment setting in the hospital, including putting patients with this condition on a ventilator to help them breathe.
- **TIMING OF TREATMENT:** To stress the importance of receiving immediate treatment right after exposure and/or symptom recognition.
- **DIAGNOSIS:** To explain that extensive medical testing is required to rule out other diagnoses.
- **AVAILABILITY OF TREATMENT:** To assure that there is sufficient botulism antitoxin available at most tertiary care hospitals. To suggest that (if possible) persons check with their local health department to find information about which local hospitals are prepared to handle an emergency outbreak of botulism.
- **RECOVERY:** To describe recovery as slow and taking many weeks. However, recovery can also be complete if a person receives prompt and appropriate medical treatment.

*Individuals understand how botulism is transmitted:*

- **MODES OF TRANSMISSION:** To understand different modes of transmission, such as ingestion of contaminated food and water; ingestion of the toxin after surface or clothing contact; the potential of an air-borne (or aerosolized) means of transmission in an intentional outbreak. Also, to stress that botulism is not communicable from person-to-person as it is most often found in food or water that have been contaminated.

## **Botulism Creative Brief –11/22/04**

- **EXPOSURE:** To teach persons that they can contract botulism if they eat contaminated food or water, or inhaling/ingesting the toxin through air that contains *botulism toxin*.
- **SERIOUSNESS:** To teach persons that even ingesting a small amount of botulism toxin can cause a person to become ill. Therefore suspect foods or water should not be “tested” by tasting.
- **DOSE RESPONSE TIME:** To convey the notion that persons exhibit symptoms 12 – 36 hours after ingestion.

*Individuals can take safety precautions to prevent exposure and illness or to prevent naturally occurring botulism:*

- **PREVENTIVE ACTIONS:** To describe the major preventive actions that can be taken. These will differ depending on source of the botulism event and the degree to which specific populations are affected. Following are a few generic messages: a) persons should boil all food and water to 167 degrees Fahrenheit (80 degrees Centigrade) before eating or drinking; 2) avoid unfamiliar or unopened food; 3) avoid canned foods with bulging lids or those with offensive odors; 4) avoid eating at public restaurants or cafeterias in the affected areas; 5) use boiled water for showers, baths, and general hygiene (such as brushing teeth or washing face); 6) tune into local and national news and television stations for updated information; and 7) in cases of suspected exposure, seek immediate medical care.

*Individuals are able to identify appropriate channels for obtaining information about the condition in a timely manner*

- **INFORMATION CHANNELS:** Messages should specifically identify where persons can obtain more in-depth information about botulism. Specific channels can include national, state, and local hotline numbers, addresses for websites, locations for printed or downloadable fact sheets, contact telephone numbers or websites for local health departments, contact telephone numbers for appropriate first responders. The general population should also be made aware that in the event of a botulism outbreak, the emergency alert system and/or local and national news channels will cover the event.

# Botulism Creative Brief –11/22/04

## ***Individuals are able to understand specific terminology related to botulism.***

The following are key terms that need to be clarified during messaging:

“CONTAGIOUS”: To clarify transmission through ingestion versus person-to-person contact.

“TOXIN” AND “ANTI-TOXIN”: To clarify that toxin is similar to a poison and anti-toxin stops the spread of the toxin. Also, to clarify that an anti-toxin is not a cure for the toxin, but only stops the progression.

“CURE”: To clarify that treatment only stops the progression of the toxin; it does not kill or destroy the biological agent.

“VENTILATOR”: To clarify the difference between a ventilator and a respirator. A ventilator sustains breathing whereas a respirator protects a person from breathing contaminated air.

### **3. Communication Obstacles**

#### **Obstacles – Comprehension (concepts, literacy, and language)**

- Botulism is rare: persons who have no medical training are unlikely to be familiar with this agent; therefore, remembering symptoms or how it is transmitted without reminders is unlikely.
- Many symptoms for botulism are similar to symptoms for other conditions. The most important distinguishing symptoms are facial paralysis, slurred speech and droopy eyelids. Symptoms may be confused with many other illnesses including Myasthenia Gravis, stroke, Guillain Barre syndrome, bacterial and chemical food poisoning, chemical intoxication, tick paralysis, allergic reaction to medication, poliomyelitis, diphtheria and mental illness.
- Difficulty in understanding concepts and/or terms such as contagiousness and cure.
- Low literacy rates in target populations.
- Lack of priming to understand preparedness concepts.
- Language differences.



# Botulism Creative Brief –11/22/04

## **Obstacles – Carrying out recommended actions**

- Actions taken by individuals may counter needs of epidemiological investigations; not all foods should be discarded prior to completion of an outbreak investigation.
- Persons most at risk for not carrying out recommendations are more likely to be isolated, poor, low literate, non-native speakers, and disadvantaged in terms of acculturation (especially in the understanding of emergency response systems).
- Recommended actions may run counter to natural inclinations and other priorities (such as retrieving children from school; not leaving pets; going home immediately after work, etc.)
- Persons may not be prepared with proper equipment, such as supply of food thermometers, battery operated radio, etc.
- Persons need repeated and consistent messages across different channels and sources in order to reinforce compliance.

## **Obstacles – Receptivity (credibility of threat and source of message)**

- Messages need to convey urgency to be taken seriously.
- Emergency messages may need to be associated with some symbolic or tone systems (e.g. a buzzer, alert sound, beep, etc.) in order to suggest an alert.
- Messages need to be consistent across different channels.
- Sources need to be genuine to convey credibility.

## **Obstacles – Accessing and disseminating information**

- Lack of access to internet may disallow pertinent and detailed information to be accessed; information that may not be conveyed through other channels (such as news or other broadcast media.)
- Persons at work or commuting may not access messages in a timely manner if disseminated through broadcast media.
- Interpersonal communications are still important channels for disseminating information. To ensure that messages conveyed are accurate, news or other broadcast media need to repeat messages which are simple and actionable.

## **Botulism Creative Brief –11/22/04**

- Hotline phone numbers, website addresses, or other contact information need to be simple and need to be constantly placed on some parts of broadcast message. In addition, acronyms that are meaningful and easily remembered need to be utilized.

### **4. Key Promise**

Most persons recover fully from botulism toxicity if symptoms are recognized, medical care is promptly sought, the correct diagnosis is made, and treatment is received. Taking protective actions at individual and household levels can minimize risk of exposure for all household members.

### **5. Support Statements/Reasons Why**

- Botulism can be transmitted through food, water or air.
- Botulism is caused by a toxin, which is typically ingested through the mouth.
- Botulism left untreated can be fatal.
- Botulism is not communicable from one person to another.
- There are concrete things people can do to protect themselves.
- Protective actions are not complex or costly.
- If there is an outbreak, there are systems in place (public health, medical) that will identify the source of the outbreak as well as diagnose and treat suspected cases.
- There is sufficient botulism antitoxin nationally to treat persons in either naturally occurring or larger outbreak circumstances.

### **6. Tone**

Informational tone must not be too fast paced to account for lack of familiarity with the issue as well as to address the needs of lower literacy persons. Use journalistic or documentary realism formats; serious with a sense of urgency. Fact sheets or television bites and b-roles should have shots or pictures of families, parents, children, young adults, and elderly to stress that this can affect anyone and to emphasize the 'protect your family' theme. Realism should be interspersed with cut-aways to animated graphic depictions of the toxin and its impact on the body.

# Botulism Creative Brief –11/22/04

These can also be used in printed materials by the use of graphic illustrations of the toxin and how it impacts the body. Also graphic depictions of symptoms in adults, children, and young infants, can be animated for use in video. Animated graphics should be realistic. The bulk of the bites and b-roles should be action shots with persons modeling behaviors. Avoid too many 'talking heads'.

## **6. Media**

Fact sheets, television bites and b-roles, radio news releases, interactive multimedia for a website, and/or text messages for telecommunications.

## **7. Visual Depictions (mainly for the bites and b-roles)**

*Diverse populations*

*Families with young children*

*Elderly*

*Pets*

*Different environmental contexts (people at work, on the road, etc.)*

*Healthcare providers*

*Experts – outbreak EIS officers*

*Animated Graphics with disease progression and symptoms portrayed*

*Hospital intensive care units*

*Modeling behaviors for recommended actions*

## **8. Creative Considerations**

The first part of the presentation, whether print, video, radio or multimedia, needs to stress the symptoms, the treatment, and the urgency of actions to save lives.

Graphics (either print or animated) should be used to depict disease progression and symptoms. For the video, there is a need to interface families, individuals with medical backdrops, and action in the medical sphere (laboratory tests/ bottles of anti-toxin/ respirators/ supportive care). Do not start with too many definitions, categories, or qualifying statements (typical scientific lead-in), as this information is not the most important message for impacted populations. Stress that (most often) this is a food borne disease and the likelihood of catastrophic spread is low if persons stop eating and drinking foods suspected of being contaminated.

Stress the long recovery time and need for support of stricken persons. Then cut to depictions of typical sources of botulism. Stress actions that prevent the illness both

## Botulism Creative Brief –11/22/04

pre-outbreak and post-outbreak (such as cooking and boiling food to specific temperatures). Don't dwell too much on correct canning as this could be a time vacuum for getting the most important messages out.

End with depictions of outbreak investigations (lab workers, white coats, EIS officers) to assure that botulism cases are closely monitored by the CDC and local and state health departments.

Additional Considerations for Broadcast Media:

- Symptom re-enactment was not viable for television. It is better to do a medical animation or a graphic list.
- In addition to traditional broadcast media (e.g. radio and television), newer telecommunications technologies allow for text and verbal messaging on a number of outlets. For example, in California, the Amber Alert System (child abduction) provides electronic text messages on marquees by the side of the freeway to alert drivers. As well, electronic text messages can be broadcast over cell phones, email, and broadcast and cable television channels. Voicemail messages can also be broadcast through both landline and cell phone lines. These types of transmissions can be disseminated through organizational or commercial list serves.
- If messages are to be broadcast, simul-casting (or having multiple stations broadcast at once), is preferable. If this does not happen, it can a) create confusion, b) credibility may be compromised, c) message may lead to inaction.
- All broadcast messages on television need to be close captioned.
- Spokespersons need to represent some authority; if possible, representatives of local or national health agencies should be featured.
- Visual depictions of behaviors recommended to prevent or treat botulism are very important as they convey information through modeling.

Messages need to be in English, Spanish and other languages.

**NOTE:** *All creative Briefs **must** be accompanied by a page summarizing the background situation.*

# BOTULISM

- Botulism is a serious illness that is caused by eating or drinking contaminated foods or liquids.
- Botulinum is the toxin (poison) that causes botulism.
- If it gets into your body, Botulinum toxin affects the body's nervous system-- the system directed by the brain to control body functions, such as movement and breathing.
- Symptoms of botulism include upper body paralysis.
- If untreated botulism can be fatal.
- Getting treatment within 24 hours of symptom onset increases a person's chances of full recovery.

**Toxin:** A poisonous substance that is produced by living cells or organisms (such as bacteria) that is capable of causing disease when introduced into the body

**Anyone with symptoms of botulism should immediately seek medical care from a local hospital.**

## EXPOSURE

### How could botulinum toxin be used as a weapon?

- A terrorist could use botulinum toxin as a weapon by putting it in food or water.
- A very small amount of the toxin can make you very sick.
- Botulism will probably not be recognized until people start having symptoms.
- Symptoms could take from **several hours to several days** to begin to occur.
- You could be exposed and not know it for **up to 6 or 8 days**.

### What are the symptoms for botulism?

Botulinum toxin attacks the nerves and makes muscles weak and hard to move. This is called paralysis. The paralysis affects the head first, then moves down to the arms and legs.

### Symptoms of include:

- Blurry vision
- Droopy eyelids
- Slurred speech
- Trouble swallowing
- Dry mouth

**Paralysis:** Loss or impairment of the ability to move a body part

People with botulism feel weak, and find it hard to move their muscles. Seeing, speaking, swallowing and breathing become hard, and some people may have nausea or a stomach ache.

If untreated, these symptoms will usually get worse and lead to:

- increased muscle weakness
- paralyzed arms, legs, trunk, and lungs

### Is botulism contagious?

**Botulism is NOT contagious.** You cannot get it from breathing the same air as an infected person. Botulism toxin can, however, be spread by touching skin, clothes, surfaces, utensils or other household objects with the toxin in or on them.

## TREATMENT

**Treatment must begin within 24 hours after symptoms appear. If not treated early enough, botulism can be fatal.**

- If you have symptoms, you should see a doctor right away. The earlier you receive medical treatment, the better your chances of surviving this disease.
- Local health officials will announce where to go for medical care. If this information is not available, **anyone with symptoms for botulism should seek medical care at a local hospital.**
- Since botulism is not contagious, **do not hesitate to seek medical care.**

### What is the treatment for botulism?

- A person with the illness can get medical care to help the body survive. For example, they might need help breathing and will be put on a ventilator (breathing machine) until they can breathe on their own.
- Sometimes, a botulism antitoxin (medicine) may be given to counteract the effect of the toxin (poison) in the body.
- The antitoxin can decrease the amount of time that a ventilator is needed. The antitoxin might also decrease the time that a person is paralyzed.
- Recovery can be complete if the person gets the right medical treatment right away.

**Antitoxin:** An animal or human serum containing antitoxins. It is used in medicine to prevent or treat diseases caused by the action of biological toxins, such as tetanus, botulism, and diphtheria

### Where can I get treatment?

In the case of an outbreak, local health officials will announce where to go for medical care. If this information is not available, anyone with symptoms of botulism exposure should **seek medical care at a local hospital.**

# PREVENTION

## **Is there a vaccine for botulism?**

There is no vaccine for botulism.

## **How do I keep my food and drinks safe?**

Botulism toxin can be found in food and drink, but the toxin can be destroyed by heat. Cook foods so that the inside food temperature is at least 185° Fahrenheit (85° Celsius) for 5 minutes. Boil all liquids, including water, and milk, for 5 minutes before drinking them (cool before consuming). If you are still worried about a food item, do not eat it!

Botulinum toxin on any surface where food is placed can be killed with household bleach mixed with water (1 part bleach/10 parts water). Be careful with bleach, as it is also a poison if ingested and should not be introduced into food or drinks.

## **For more information about botulism, contact:**

- The Center for Disease Control's website at [www.bt.cdc.gov/agent/botulism/index.asp](http://www.bt.cdc.gov/agent/botulism/index.asp)
- Your local hospital
- Your city or county health department
- The CDC Public Response Hotline: 1-888-246-2675
- The Emergency Broadcast System on television and radio
-

## Botulism radio spots - REVISED

### **45 seconds**

*This is an important health announcement from the CDC. Please listen carefully and have a paper and pen ready to write down information.*

Botulism is a serious disease caused by a toxin that attacks the nervous system. You can be exposed to the botulinum toxin through eating or drinking contaminated foods or liquids.

Botulism can be deadly. Watch for these symptoms: droopy eyelids, blurry vision, slurred speech, trouble swallowing, trouble breathing, and paralysis or difficulty moving your body.

Symptoms can appear from 6 hours to 2 weeks after exposure to the botulism toxin. If you think you have been exposed to botulism toxin, seek medical care immediately to receive treatment.

To prevent exposure, heat all foods to 185 degrees and boil all liquids.

Find out more about botulism by visiting the CDC website: [www.cdc.gov](http://www.cdc.gov) or call the Outbreak Hotline at (xxx) xxx-xxxx.

### **30 seconds**

*This is a health announcement from the CDC.*

Botulism is a disease caused by a toxin that attacks the nervous system. You can be exposed to the botulinum toxin through eating or drinking contaminated foods or liquids.

Botulism can be deadly. Watch for these symptoms: droopy eyelids, blurry vision, slurred speech, trouble swallowing, trouble breathing, and paralysis or difficulty moving your body.

Symptoms can appear from 6 hours to 2 weeks after exposure. Seek medical care immediately to receive treatment.

To prevent exposure, heat all foods to 185 degrees and boil all liquids.

Find out more about botulism by visiting the CDC website: [www.cdc.gov](http://www.cdc.gov) or call the Outbreak Hotline at (xxx) xxx-xxxx.



**15 seconds**

Botulism can be deadly. Seek medical care if you have droopy eyelids, blurry vision, slurred speech, trouble swallowing, or trouble breathing.

Heat all foods and boil all liquids to prevent exposure.

Find out more about botulism by visiting the CDC website: [www.cdc.gov](http://www.cdc.gov) or call the Outbreak Hotline at (xxx) xxx-xxxx.

**Recommendations for Radio Script:***Delivery*

- Alert listeners that an important public health announcement is being aired – mention agency to increase credibility
- Inform listeners that they may want paper and a pen to write down important information
- Slow down the pace when reading the script, particularly for the phone numbers and website
- Narrator should read in a more urgent/serious tone

*Content*

- Add more information about symptoms and disease consequences
  - Is disease fatal?
  - Is disease contagious?
  - More specific symptoms
- Add local information
  - Where could one have been exposed?
  - Add local phone number
- Clarify what actions to take

# BOTULISM (webscript)

**Threat Area:** Botulism

**Target Audience:** Public

**Intro Paragraphs:**

The information on this website talks about botulism as a terrorist weapon. The questions and answers below will tell you more about botulism, and what you can do to protect yourself and those around you.

- Botulinum is a **toxin** (poison) that can make you seriously ill, much like a severe case of food poisoning.
- Commonly known as Botulism, this condition is a severe poisoning caused by ingestion of substances that contain *botulinum toxin*.
- Botulinum toxin affects the body's nervous system-- the system directed by the brain to control body functions, such as movement and breathing.
- Botulism can be fatal, but getting treatment right away increases a person's chances to fully recover from the illness.
- A terrorist could use this toxin as a weapon by putting it in food or water.

**Toxin:** A poisonous substance that is produced by living cells or organisms (such as bacteria) that is capable of causing disease when introduced into the body

**Anyone with symptoms of botulism should immediately seek medical care from a local hospital.**

## General Information

## Transmission

### How is botulism spread?

In the case of a terrorist botulism attack, it is most likely that the toxin will be spread through water or food.

A dirty bomb will probably not be used to spread the toxin. The botulism toxin is killed by heat, so the heat caused by a bomb would kill the toxin.

### How far does botulism spread from where it's released?

Until the method of release is known, it will be hard to know how far the toxin will spread. The most important thing for you to do is to watch yourself for unusual physical symptoms.

You probably won't be restricted from contact with other people, but you may be asked to stay somewhere until authorities find out more information.

## EXPOSURE

The botulinum toxin is produced by bacteria (germs) that can be found in soil. Naturally occurring types of botulism include foodborne, wound, and infant botulism. For more information on these types of botulism, see [link](#).

### How could botulinum toxin be used as a weapon?

- A terrorist could use botulinum toxin as a weapon by putting it in food or water.
- A very small amount of the toxin can make you very sick.
- Botulism will probably not be recognized until people start having symptoms.
- Symptoms could take from **several hours to several days** to begin to occur.
- You could be exposed and not know it for **up to 6 or 8 days**.

### What are the symptoms?

Botulinum toxin attacks the nerves and makes muscles weak and hard to move. This is called paralysis. The paralysis affects the head first, it then moves down to the arms and legs.

People with botulism feel weak, and find it hard to move their muscles. Seeing, speaking, swallowing and breathing become hard, and some people may have nausea or a stomach ache.

**Paralysis:** Loss or impairment of the ability to move a body part

Symptoms of botulism include:

- blurry vision
- droopy eyelids
- slurred speech
- trouble swallowing
- dry mouth

If untreated, these symptoms will usually get worse and lead to:

- increased muscle weakness
- paralyzed arms, legs, trunk, and lungs

**Treatment must begin within 24 hours after symptoms appear.** If not treated early enough, botulism can be fatal.

### What do I do if I have symptoms?

If you have these symptoms, you should **see a doctor right away**. The earlier you recognize the symptoms, and the earlier you receive medical treatment, the better your chances of surviving this disease.

### Is botulism contagious?

**Botulism is NOT contagious.** You cannot get it from breathing the same air as an infected person. Botulism toxin can, however, be spread by touching skin, clothes, surfaces, utensils or other household objects with the toxin in or on them.

## TREATMENT

**Treatment must begin within 24 hours after symptoms appear. If not treated early enough, botulism can be fatal.**

- If you have symptoms, you should see a doctor right away. The earlier you receive medical treatment, the better your chances of surviving this disease.
- Local health officials will announce where to go for medical care. If this information is not available, **anyone with symptoms for botulism should seek medical care at a local hospital.**
- Since botulism is not contagious, **do not hesitate to seek medical care.**

### What is the treatment for botulism?

- A person with the illness can get medical care to help the body survive. For example, they might need help breathing and will be put on a ventilator (breathing machine) until they can breathe on their own.

**Antitoxin:** An animal or human serum containing antitoxins. It is used in medicine to prevent or treat diseases caused by the action of biological toxins, such as tetanus, botulism, and diphtheria

- Sometimes, a botulism antitoxin (medicine) may be given to counteract the effect of the toxin (poison) in the body.
- The antitoxin can decrease the amount of time that a ventilator is needed. The antitoxin might also decrease the time that a person is paralyzed.
- Recovery can be complete if the person gets the right medical treatment right away.

### **Where can I get treatment?**

In the case of an outbreak, local health officials will announce where to go for medical care. If this information is not available, anyone with symptoms of botulism exposure should **seek medical care at a local hospital**.

### **Does botulism affect different people differently?**

People with HIV, cancer, or other health problems are not more likely to get botulism than healthy people. But, people in a weakened condition or with breathing problems may become sicker more quickly than other people.

## **PREVENTION**

- If there is a release of botulism toxin or a botulism outbreak occurs, health officials will tell you how to protect yourselves and those around you. Following their instructions will help to keep you safe.
- If the toxin has been released, there will be information on the television or radio. There may also be a local hotline number to call.
- It may take some time for officials to figure out the source of exposure. When more information comes, they will be able to give you more detailed advice. Keep checking for updated information.

### **Is there a vaccine for botulism?**

There is no vaccine for botulism.

### **How do I keep my food and drinks safe?**

Botulism toxin can be found in food and drink, but the toxin can be destroyed by heat. Cook foods so that the inside food temperature is at least 185° Fahrenheit (85° Celsius) for 5 minutes. Boil all liquids, including water, and milk, for 5 minutes before drinking them (cool before consuming). If you are still worried about a food item, do not eat it!

Botulinum toxin on any surface where food is placed can be killed with household bleach mixed with water (1 part bleach/10 parts water). Be careful with bleach, as it is also a poison if ingested and should not be introduced into food or drinks.

## Other Questions

### **How will the system respond to a botulism attack?**

Public health, law enforcement, and hospitals will work together to:

- Identify the source of the toxin
- Notify people who may have been exposed
- Make treatment available

These partners are working together now, developing plans to respond to attacks using biological weapons such as botulism toxin.

### **Has botulism been used as a terrorist weapon before?**

Over the past 50 years, many countries have worked to make botulism into a weapon. In the 1990s, a cult tried to spread the toxin through the air in Japan. They did not succeed, but it's hard to know how advanced other terrorist efforts are right now.

## For more information about botulism, contact:

- The Center for Disease Control's website at [www.bt.cdc.gov/agent/botulism/index.asp](http://www.bt.cdc.gov/agent/botulism/index.asp)
- Your local hospital
- Your city or county health department
- The CDC Public Response Hotline: 1-888-246-2675
- The Emergency Broadcast System on television and radio

## Photos



(botulism bacteria)

[http://www.cdc.gov/ncidod/aip/images/botulinum\\_germ1.jpg](http://www.cdc.gov/ncidod/aip/images/botulinum_germ1.jpg)



(symptom: droopy eyelids)



(symptom: dry mouth)

<http://www.phppo.cdc.gov/phtn/botulism/symptoms/symptoms.asp>



(antitoxin medicine)

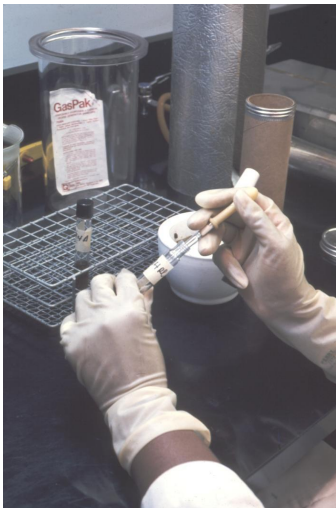


(patient on breathing machine)

<http://www.phppo.cdc.gov/phtn/botulism/treatment/treatment.asp>



(six-week old baby with botulism)  
<http://phil.cdc.gov/Phil/detail.asp?id=1935>



(lab testing for botulism)  
<http://phil.cdc.gov/Phil/detail.asp?id=3529>



## Focus Group Discussion Guide

### Botulism Information Materials Pre-Test

#### Introduction

Hi, my name is \_\_\_\_\_ and I work for UCLA. Thank you for helping us. Before we begin, 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"

Before we look at the materials, I'd like to review something with you. (*Nonverbal notetaker will distribute the "informed" consent document.*) This document 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 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 audio taped. 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.

Possible benefits of participating in our discussion include:

- Being better informed about bioterrorism threats.
- Having increased confidence in your ability to make an informed decision about bioterrorist 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 bioterrorism attack.

Please take a minute to fill out the demographic form. We're not asking for your name, answering is voluntary, and you can refuse to answer any questions and still participate in the discussion group. Does anyone have questions? We're going to start recording now. (*Nonverbal notetaker will start the audiotape recording.*)

#### Guidelines

Please try to talk one at a time. 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 plague. 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, a botulism expert from the UCLA Center for Public Health and Disasters 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 do so. We will also give you some information to take with you.

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 a botulism expert will be available at the end of the discussion to answer them.”)

### **Icebreaker/introductions**

Let’s go around the room and please introduce yourself by saying your first name only [and title, department, etc.] and sharing one of your favorite hobbies.

### **SCENARIO ROLLOUT and Materials Testing**

We have asked you here today to walk you through a made up story about what might happen if a {biological} weapon were used right here in {Los Angeles}. There are three parts to the story. After each part, we’ll talk about your reactions and thoughts. I will read the story out loud. Please remember that what I’m telling you is made up. This is not happening now, and we hope it will never happen.

#### **Part One: Non-Specific Agent & Symptoms**

You wake up about 7 am on a Tuesday and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The president and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning an attack in {Los Angeles}. Officials suspect that the attack may involve a biological weapon.

A week later, early on a Monday afternoon, you turn on the radio and hear that 15 people in {Los Angeles} have presented at local emergency rooms and doctors’ offices with symptoms resembling botulism. As you listen to the radio further, you hear the following clips:

*[Play radio Slip]*

*(After radio clip)*

Now I’d like to ask you some questions about the radio.

#### **Comprehension:**

- What were the 2 or 3 most important points in the clips?

- What information in the clip was new to you?
- What parts of the messages were clear? What parts of the clip were unclear?
- What parts were difficult to understand? What didn't make sense when you heard it the first time?
- What questions do you still have?  
Prompts (if needed): About the nature of the threat, about symptoms of botulism illness, etc.

### ***Emotional Response:***

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

### ***Actions***

- How confident are you that the actions recommended in the clip will keep you safe? (Efficacy)
  - PROBE (if needed): Why or why not?
- How confident are you that you can carry out the recommendations in these clips? (efficacy)
  - PROBE (if needed): Why or why not?
- Which of the recommendations do you intend to follow? Which recommendations do you not intend to follow? (intention)

### ***Channel Appropriateness***

- Is this the kind of information you would like to get from the radio?
- What additional information would you want to hear on the radio?
- What might be a better medium to get this information to you?
- Where else would you look for additional information?
  - Why would you look to these other places?

### ***Response to the materials***

- What was your overall impression of the clip? (overall impression.)
- What grabbed your attention? (appeal)
  - What did you like?
  - What didn't you like?
- How believable is the information in the clip? (credibility)
  - How believable is the spokesperson in the clips?
- Given these events what information was useful to you? (relevance)
- Do you have any recommendations to make this clip better or more useful to you?

### ***Part Two- Specific Agent + Symptoms + Response***

Later that same day, you turn on your TV to find that a local government official has issued a statement. She confirms that there has been a deliberate release of a biological agent in {Los Angeles} and the agent has been confirmed to be the one that causes botulism. It was believed to have been released at a restaurant, in the food. So far, there are 30 presumed cases, however more people in {Los Angeles} are potentially infected. Local health workers and emergency personnel are working to contain the problem by shutting down the restaurant, figuring out who was there, and calling for the potentially infected to seek medical treatment. After the local officials announcement you see the following television clip:

*(Play TV slip)*

*(After TV clip)*

Now I'd like to ask you some questions about the TV clip only.

### ***Comprehension:***

- What were the 2 or 3 most important points in the clip?
- What information in the clip was new to you?
- What parts of the messages were clear? What parts of the clip were unclear?
- What parts were 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 symptoms of botulism, etc.

### ***Emotional Response:***

- How does this clip make you feel?

*Prompts (if needed):*

*Repeat for each emotion mentioned*

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

### ***Actions***

- How confident are you that the actions recommended in the clip will keep you safe? (Efficacy)
  - PROBE (if needed): Why or why not?
- How confident are you that you can carry out the recommendations in the clip? (efficacy)
  - PROBE (if needed): Why or why not?
- Which of the recommendations do you intend to follow? What recommendations do you not intend to 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 medium to get this information to you?
- Where else would you look for additional information?
  - Why would you look to these other places?

### ***Response to the materials***

- What was your overall impression of the clip? (overall impression.)
- What grabbed your attention? (appeal)
  - What did you like?
  - What didn't you like?
- How believable is the information in the clip? (credibility)
  - How believable are the people in the clip?

- Given these events what information was useful to you? (relevance)
- Do you have any recommendations to make this clip better or more useful to you?

### Part Three- Release of Print Information

After the initial reports, local officials release information with recommendations for steps you can take to protect yourself from botulism. These materials will be available on the Internet as well as printed copies at local organizations.

*Instruct participants to remove botulism fact sheet from their folders.)* Take about 10 minutes to look at the fact sheet, and feel free to write down questions, comments, and concerns. When you're finished, please turn over the paper just to indicate that you're done reading. Do you have any questions?

Please give us your honest thoughts, feelings and responses to this fact sheet. Again, please keep in mind that there are no right or wrong answers; we are just looking for your reactions.

Now I'd like to ask you some questions about the fact sheets

#### ***Comprehension:***

- What were the 2 or 3 most important points in the fact sheet?
- What information in the fact sheet was new to you?
- What parts of the fact sheets were clear? What parts of the fact sheets were unclear?
- What parts were difficult to understand? What didn't make sense the first time you read it?
- What questions do you still have?  
Prompts (if needed): About the nature of the threat, about symptoms of botulism, etc.

#### ***Emotional Response:***

- How does this fact sheet make you feel?  
*Prompts (if needed):*  
*Repeat for each emotion mentioned*
  - What about the fact sheet makes you feel (emotion)?
  - How could we change the fact sheet to make it less/ more (emotion)?

### *Actions*

- How confident are you that the actions recommended in the fact sheet will keep you safe? (Efficacy)
  - PROBE (if needed): Why or why not?
- How confident are you that you can carry out the recommendations in the fact sheets? (Efficacy)
  - PROBE (if needed): Why or why not?
- Which of the recommendations do you intend to follow? Which recommendations do you not intend to follow? (Intention)

### *Channel Appropriateness*

- Is this the kind of information you would like to get from the internet or other places where you may pick up fact sheets?
- What additional information would you want to read in the fact sheet?
- What might be a better medium to get this information to you?
- Where else would you look for additional information?
  - Why would you look to these other places?

### *Response to the materials*

- What was your overall impression of the fact sheet? (Overall impression.)
- What grabbed your attention? (Appeal)
  - What did you like?
  - What didn't you like?
- How believable is the information in the fact sheets? (Credibility)
- Given 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 media presented- radio, TV, and print.

### **Preferred channels for terrorism information dissemination:**

- Did you find the information from the radio, television, or print more helpful? Why or why not?
- What sources would you have most likely turned to during the described crisis?
  - *Where would you turn to first?*
  - *Would you go to another form of media after the first?*

### **Conclusion**

Now I'd like to introduce our botulism expert, XXX. S/He will answer your remaining questions. *(Botulism expert will answer questions while nonverbal notetaker distributes counseling resources botulism resources, and botulism info.)* Thank you for joining us today. We really appreciate you taking the time to meet with us.

Please leave the botulism fact sheet, but you can take the rest of the folder with you. You can leave at any time but don't forget to see (Nonverbal notetaker) to receive your \$20.

(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.")



Botulism

**CRT**

Booklet

## Section A

Please read the following:

**Botulism** is a serious illness. It is caused by a toxin (poison), which is produced by the bacteria (germ) *Clostridium Botulinum*. The bacteria produce spores that grow in favorable conditions. The spores release the toxin, which is too small to be seen by the naked eye. When a person breathes, eats, or drinks this toxin, they develop botulism and become sick.

The botulism toxin affects the body's nervous system and makes muscles weak and hard to move. This is called paralysis. Botulism can be fatal if it is not treated right away. If you think that you may have been exposed to botulism, seek medical care immediately.

## Section B

Please read the following:

If someone uses botulism as a weapon, they could create the toxin from the bacteria that produces it and then release it into the air or put it into food or water. When you breathe in air, eat food, or drink water that contains the toxin you will become ill. A very small amount of the toxin can make you very sick.

Although some people may believe it, a bomb will probably not be used to spread the toxin. The botulism toxin is destroyed by heat, so the heat caused by a bomb would destroy the toxin.

## Section C

Please read the following:

Botulism is NOT contagious like the cold or the flu. You cannot get it from breathing the same air as an infected person. Botulism toxin can be spread by touching other people's skin or clothes, or surfaces, utensils or other household objects with the toxin in them. If you do touch any person or any object that you suspect has been exposed to the toxin, seek medical care immediately.

## Section D

Please read the following:

Botulism toxin attacks the nerves and makes muscles weak and hard to move. This is called paralysis. The paralysis affects the head first, then moves down to the arms and legs.

People with botulism feel weak, and find it hard to move their muscles. Seeing, speaking, swallowing and breathing become hard, and some people may have nausea or a stomach ache.

Symptoms of botulism include:

- ❑ blurry vision
- ❑ droopy eyelids
- ❑ slurred speech
- ❑ trouble swallowing
- ❑ dry mouth

If untreated, these symptoms will usually get worse and lead to:

- ❑ increased muscle weakness
- ❑ paralyzed arms, legs, torso, chest, and/or lungs

Photo 1



Photo 2



## Section E

Please read the following:

If you have symptoms, you should see a doctor right away. The earlier you receive medical treatment, the better your chances of surviving this disease. Local health officials will announce where to go for medical care. If this information is not available, anyone with symptoms for botulism should seek medical care at a local hospital.

If you think that you have been exposed but are not experiencing any symptoms, it is advisable that you seek medical care from a family doctor as soon as possible.

## Section F

Please read the following:

There is no cure for botulism, but a person with the illness can get medical care to help the body survive. For example, they might need help breathing and will be put on a ventilator (breathing machine) until they can breathe on their own.

Sometimes, a botulism [antitoxin](#) (medicine) may be given. The antitoxin stops the poison from spreading to other parts of the body, most importantly the lungs and heart. If these organs are already infected, the antitoxin can decrease the amount of time that supportive machines, like a ventilator, are needed. The body must clear the poison with its own defenses, which may take several weeks. So the antitoxin might also decrease the time a person is paralyzed. But, the antitoxin DOES NOT cure the disease; the body's own defense mechanism rids the poison from the body over time.

Recovery from botulism is slow, and can take many weeks or months. However, recovery can be achieved if the person gets medical treatment right away; 95% of persons infected with botulism will survive if they receive treatment.

Photo 1



Photo 2



## Section G

Please read the following:

Botulism toxin can be found in food and drink, but the toxin can be destroyed by heat. Use a cooking thermometer available at most grocery stores to cook foods at the correct temperature. Foods should be cooked for at least 5 minutes, so that the inside food temperature is at least 185° Fahrenheit (85° Celsius). Boil all liquids, including water, and milk, for 5 minutes before drinking them. Don't drink the water from ice cubes unless you've boiled it first. If you are still worried about a food item, do not eat it!

Botulism bacteria on any surface where food is placed can be killed with 1 part household bleach mixed with 10 parts water (for example, 1 cup of bleach with 10 cups of water). Do not let bleach come into contact with food.



## UCLA FOCUS GROUP #1: TOPLINE REPORT

**Agent:** Botulism                      **Date:** August 16, 2004  
**Population:** Urban White              **Participants:** 12 (12 demographic forms turned in)

### DEMOGRAPHIC SUMMARY

- ♦ **Ethnicity:** Majority (10) Caucasian/White; 1 African-American; 1 Caucasian/White-African-American-American Indian/Alaska Native
- ♦ **Age:** Range between 24 and 51; average age 35; most frequent (4) age 28
- ♦ **Sex:** 9 female, 3 male
- ♦ **Language:** All speak English (only) at home
- ♦ **Education:** All college experienced; even split between some college, college degree and graduate degree (4 each)
- ♦ **Marital Status:** Majority (8) single
- ♦ **Children:** Majority (8) have no children; child age range 2-21; average age 9; no children older than 21
- ♦ **Employment:** Majority (11) working; 2 health care professionals
- ♦ **Family Income:** Varied; most frequent (3) income \$100,000 or more

### DETAILED CHARACTERISTICS

Characteristic	Category	N = 12	Mean
Age	Range	24-51	
	Mean	35	
Sex	Male	25%	
	Female	75%	
Education	Some college	33.3%	
	College degree	33.3%	
	Graduate degree	33.3%	
Ethnicity/race	Caucasian	83.33%	
	African American-Black	8.33%	
	Caucasian-White/ African American-Black/ American Indian-Alaska Native	8.33%	
Language in home	English	100%	
Marital status	Single	66.7%	
	Married or living with partner	16.7%	
	Divorced or separated	16.7%	
Children	Yes	33.3%	
	No	66.7%	
	Age Range	2-21	
	Mean Age	9	
Currently employed	Yes	92%	
	No	8%	
	Health Care Professional (in <b>bold</b> below)	17%	
Family income	Less than \$10,000	—	
	\$10,000 - \$19,999	—	
	\$20,000-\$29,999	8.3%	
	\$30,000-\$39,999	16.7%	
	\$40,000-\$49,999	8.3%	
	\$50,000-\$59,999	16.7%	
	\$60,000-\$69,999	8.3%	
	\$70,000-\$79,999	8.3%	
	\$80,000-\$89,999	8.3%	
	\$90,000-\$99,999	—	
	\$100,000 or more	25%	

**Occupations provided:** Administrative assistant (3), student (2), executive/entrepreneur, teacher; programmer/analyst, hospital administrator, **nursing, genetic counselor**, postdoc in cognitive psychology

### **SESSION OVERVIEW**

Though only a few people knew each other before the session, participants were comfortable and worked well together. They were courteous, regarding, and supportive to each other's points throughout. The moderator did a nice job of further putting the group at ease, and kept the session moving at a nice pace.

The two group dominants used humor and cynicism to punctuate their points; other participants did not respond adversely to this, and it did not seem to interfere with session goals. There was only one reserved person who needed to be prompted to participate and seemed to "check out" near the end of the session. The rest of the group was attentive and engaged throughout. Interchanges were common, and body language reflected that participants felt at ease with their own responses and that of other group participants. The room was a little stuffy; some participants occasionally fanned themselves.

### **SEGMENT 1 (RADIO)**

Participants paid attention as scenario was read and radio clip played. During the discussion, they paid attention to whoever was speaking. They looked thoughtful and as if they wanted to be clear during their responses, and the mood remained relaxed even when different opinions were offered.

- ◆ **Important Points:** Symptoms and how one can contract botulism was the most important point heard. Contact information was also mentioned.
- ◆ **New Information:** Symptoms, the fact that botulism is airborne, that it's got a cure, and its definition were mentioned as new information provided.
- ◆ **Clear/Unclear:** While participants heard and appreciated learning the symptoms, they felt they were somewhat vague and could be confused for other conditions. Clarity about exposure (where, how, when) was also mentioned:
  - "It was kind of surprising that you could get it by airborne. So that would either be alarming or would lead to some confusion."
  - "Personally, if I heard that, I wouldn't want to go to work or something. You didn't say continue on with your daily activities ...."
- ◆ **Emotional Response:** Participants were left feeling unassured about their chances of getting the disease because they didn't know the location of the outbreak or the time and spread rate of the disease.
- ◆ **Acting on Recommendations:** The group primarily spoke about being confused about food preparation (temperature and what exactly needs to be boiled).
- ◆ **Recommendations for Improvement:** They felt that the announcer's delivery should be more distinct from usual radio ads ("I would totally not hear that"), that the phone number too fast, the URL too long ("Get real"). But they thought the information was important and should be provided:
  - "I think I would want to hear it ...if it were brought to my attention in such a way that I was actually actively listening to it."

Other recommendations included timeframes for symptoms, specifics on the attack, and information on medical tests to determine if someone has contracted the disease.

### **SEGMENT 2 (TV)**

One person who arrived during the radio clip discussion began participating during this segment. Eyes were cast down or looking at the screen as scenario was read. Participants

adjusted their seating to watch the clip; they looked comfortable and attentive while viewing. There were chuckles during the title card and the depiction of a collapsed, convulsing man, and incredulous laughter as the lengthy website address was given.

After the video, there was an overall tone indicating that the group felt more informed (confident and assured, more so than after radio clip). Responses were quick and certain.

- ♦ **Important Points:** Symptoms (including timeframe), prevention, treatment were immediately mentioned as important points made. Participants' earlier questions about where to go/call and food preparation were also addressed.
- ♦ **New Information:** Hygiene procedures, exposure, transference, recovery information "made sense" and were "very specific."
- ♦ **Clear/Unclear:** Perhaps representing the visual learners in the group, one participant liked the use of "Ø" symbol in the clip:
  - "I was paying attention more to what was going on than in reading what she say saying. I just saw that 'Do not use' sign, and I'm like 'That's great,' I probably would use that idea."

When asked about the video's effectiveness and helpfulness in showing symptoms, the majority nodded in support of including them, although a discussion ensued about whether depictions of basic intuitive symptoms (e.g., shortness of breath) were necessary to include. Most participants agreed that they were a little "too dramatic," sometimes resulting in an unintentional humorous effect:

- "When [a depiction] is somewhat comical, it will tend to take your attention. I don't want to see [that happen] on an important announcement such as this .... It will be funny to [viewers] and they'll miss something that's important afterwards."

Some participants asked about further clarification for food items ("Am I not supposed to drink that certain milk or eat that certain food...?") and video purpose ("[[I]t seems like a general public announcement ... might be overkill." The group broke out in loud laughter when the moderator brought up the lengthy URL address.

- ♦ **Emotional Response:** Participants spoke about their appreciation of knowing such information is being prepared in case of an incident:
  - "[I'm] glad that there was being some type of information provided with some specifics even if it wasn't to my liking or delivered in the package [I] that wanted .... When you get those, even if you are irritated that you have to deal with this type of situation, you do feel somewhat empowered."

They felt the video "gave people some solutions" and provided "things that you need to watch out for," but it did not leave people with a firm "direction" of what to do next.

- ♦ **Acting on Recommendations:** While some participants felt that "the instructions were reasonable," some felt executing them would be "too much hassle." "Where would it stop?" asked one participant.
- ♦ **Recommendations for Improvement:** When the video clip was described as "too generic," participants laughed and nodded in agreement. They did not have an adverse response to the announcer, but felt that she looked "like she was doing an infomercial" and considered someone more official or recognizable as an alternative. Overall, they felt "It could have had a stronger tone," that there was "just too much information, too much going on," that there was "lack of diversity in people portrayed," and that an audio cue like the emergency broadcast system tone would be good to help the clip "stand out" because it "just really blends in with everything else."
- ♦ **Appropriateness for Medium:** When asked if information was appropriate for TV, where was quick and certain nodding in agreement: "You need that input."

*NOTE: Transcript referenced for this topline ended before the following print material segment; hereinafter, topline is based on nonverbal notetaker's notes (which captured some quotes) and team debriefing forms.*

### **SEGMENT 3 (PRINT)**

Participants spend time reading and studying the handout, some of them making notes on the pages as they read. They seemed to be reading the material carefully (taking it seriously). They nodded in agreement when sharing initial response to the material, making good eye contact with each other when responding and/or clarifying their points.

- ◆ **Clear/Unclear:** One participant felt the material “left a lot of questions,” and participants looked through the sheets supportively as he made his comments. By this time, the group was comfortable bonding through humor. They laughed over weak points in the material and supported points made by fellow members (“Doug made a good point I hadn’t thought of before”) to the extent there was a “them” versus “us” reference: “You guys never say that,” a participant stated in reference to public health information providers, and the others nodded.
- ◆ **Acting on Recommendations:** There was banter between the participants about skepticism over recommendations and action steps. When one participant expressed his skepticism at “waking up paralyzed,” another joked that it would be “because [he] didn’t boil” his water, referring to his earlier resistance to take such action. Another added that the skeptical participant could “dial the phone with [his] foot.” Later, a participant stated with certainty that she was “not confident” about acting on recommendations and others agreed.
- ◆ **Recommendations for Improvement:** When asked for suggestions of where material could be distributed, they nodded at each other’s suggestions.

### **PREFERRED CHANNELS**

When asked which medium would be most helpful to obtain information, everyone was comfortable when making their own comments or adding to someone else’s point. Preferred channels were proudly asserted. When one participant stated that the information should be provided using all three methods (radio, TV, print), there was nodding and laughing in agreement.

### **CONCLUSION/POST-SESSION**

Session ended on a relaxed, amicable note.

## UCLA FOCUS GROUP #3: TOPLINE REPORT

**Agent:** Botulism                      **Date:** August 18, 2004  
**Population:** Urban Latino            **Participants:** 7 (7 demographic forms turned in)

### DEMOGRAPHIC SUMMARY

- ♦ **Ethnicity:** All Latino/Hispanic; no other ethnicity identified
- ♦ **Age:** Range between 22 and 31; average age 25; most frequent (3) age 24
- ♦ **Sex:** 6 female, 1 male
- ♦ **Language:** Majority (5) speak English (only) at home, 1 English and Spanish; only 1 participant did not list English as an at-home language
- ♦ **Education:** Varied, ranging from high school diploma or GED to graduate degree
- ♦ **Marital Status:** 4 participants are single, 3 married
- ♦ **Children:** Only 1 participant has children, ages 2 and 4
- ♦ **Employment:** 4 participants are currently unemployed
- ♦ **Family Income:** All but one participant earned less than \$60,000; most frequent (3) income \$20,000-\$29,999

### DETAILED CHARACTERISTICS

Characteristic	Category	N = 7	Mean
Age	Range	22-31	
	Mean	25	
Sex	Male	14%	
	Female	86%	
Education	High school diploma or GED	14.3%	
	Some college	28.6%	
	College degree	28.6%	
	Graduate degree	28.6%	
Ethnicity/race	Latino/Hispanic	100%	
Language in home	English	71.4%	
	Spanish and English	14.2%	
	Spanish	14.2%	
Marital status	Single	57%	
	Married or living with partner	43%	
	Divorced or separated	—	
Children	Yes	14%	
	No	86%	
	Age Range	2-4	
	Mean Age	3	
Currently employed	Yes	43%	
	No	57%	
	Health Care Professional	14%	
	Health Care Professional – unknown (see <b>bold</b> below)	14%	
Family income	Less than \$10,000	14.3%	
	\$10,000 - \$19,999	—	
	\$20,000-\$29,999	42.9%	
	\$30,000-\$39,999	14.3%	
	\$40,000-\$49,999	—	
	\$50,000-\$59,999	14.3%	
	\$60,000-\$69,999	—	
	\$70,000-\$79,999	—	
	\$80,000-\$89,999	—	
	\$90,000-\$99,999	—	
	\$100,000 or more	14.3%	

**Occupations provided:** Administrative assistant, **certified nursing assistant**, **research associate** (not known if health-care related), graduate student/researcher/teacher's assistant, student

*NOTE: Transcript referenced for this topline started at the beginning of print material segment; therefore, before that segment, topline is based on nonverbal notetaker's notes (which captured some quotes) and team debriefing forms.*

### **SESSION OVERVIEW**

The two most timid of the group arrived first, and seemed to set the tone for the session. They sat quietly and had no discussion although they knew each other, and awaited instruction from team members. When everyone was present, the group looked ill-at-ease and did not engage in discussion more than was necessary. There was a serious and somber tone despite moderator's attempts to make participants comfortable. There was no humor or moment of levity during the session, which was very low energy. There was no camaraderie within the group, and body language reflected an interest to keep a distance from fellow participants. There was only one interchange among participants during the session, and few instances of supportive comments.

There were perhaps two missed opportunities to bring participants closer together, figuratively and physically: (1) The ice breaker question "What you do at UCLA?" seemed to polarize participants into different socioeconomic camps, and they seemed less comfortable with each other afterward; (2) the number of chairs in the room more than doubled the number of participants, resulting in some sitting in an outer row (distancing themselves) rather than at the meeting table.

### **SEGMENT 1 (RADIO)**

Body positions didn't budge going into the session. All eyes were on moderator during scenario reading. Eyes were cast down or fixed on a point during audio. Responses at beginning of discussion were made in low voices that seemed to grow increasingly less audible as sentences were finished.

There was slight laughter among group when discussing announcer's tone. The most reserved participants looked as if they were thinking and listening, but hesitant to give their opinions. Most participants remained still and the tone remained serious and somber as moderator's questions continued. Body language (crossed arms when speaking, scratching arm across chest with opposite hands, wiping nose when speaking) indicated that the most dominant participant was ill-at-ease when expanding in her opinion.

Despite introductory instruction to turn off all pagers and phones, a pager went off during this segment, but drew absolutely no response from the group (not a flinch). During the discussion, one of the two most reserved participants continued to lean forward, oddly clutching her purse and folder on her lap. People were so reserved and non-communal that it seemed exceptional to see one participant nodding in support of another, and then vice versa.

Group members lightly nodded in agreement that "online" would be a primary source for information. Everyone nodded after a participant stated that the radio clip "feels like another commercial." Participants agreed that the announcer "was very clear and professional." Nods of agreement did not seem to bring the group any closer together; they remained disconnected. The mood remained somber and unenergized going into next segment.

### **SEGMENT 2 (TV)**

During scenario reading, a participant looked somewhat bored; others' eyes were on the moderator. There was an ill-at-ease shifting in chairs as moderator cued the video. During the video clip, everyone's eyes stayed on the screen. Some participants softly chuckled to themselves when (lengthy) URL was provided.

There was a pregnant pause after the first question following the screening. A participant brought up the clip's unintentional comic moments (e.g., convulsion depictions on floor), which made other participants laugh lightly. When a participant expressed that the video went on "too long" and that it "dragged at the end," another smiled lightly to herself as if in agreement. Another participant stated that information in the clip wasn't clear enough for her to be able to communicate to her family members; others nodded in agreement, as if they could relate to what she said.

When asked about their feeling and/or emotions as a result of the video, participants remained silent. Asked if there was another way to "make it" (get the information out), a participant stated that there were "anxiety provoking" scenes ... that could be you," wagging her hands at the screen to emphasize her point.

The first interchange within the group occurred when one participant explained "I don't know who to contact," another chimed in "yeah," and then another added a comment to further the point. The interchange was very brief and the only one that this notetaker observed the entire session.

When asked if participants could do what was recommended in the video clip, a participant referred to the clips "unrealistic" information. "It needs to be more realistic to what's reasonable for people to carry out," she said. Another participant matter-of-factly stated that she "wouldn't have time to do those things." Still another admitted that she'd "need to feel a high level of anxiety" to carry out any action.

When asked if TV is the proper channel for this type of information, half of the room responded that it was. Some participants spoke about a feeling of "dissonance." One of the most reserved participants spoke of shortening the video down to three main points and "stick[ing] to that" he emphasized with his hands. Others explained that, for non-English speaking people, the video clip could be misinterpreted as a movie. Some participants chuckled at this point.

### **SEGMENT 3 (PRINT)**

Eyes were on moderator or cast down during scenario reading. The material was then distributed and participants were left to read through the two-page document. This is where participants gave the first clear indications of boredom and distraction. Most proceeded to read the document, but some didn't appear to be digesting it. One participant pulled out and looked through her day timer, then put it away, yawned and looked bored; another looked through the material somewhat quickly, but didn't tell the moderator that she had two of the same pages in her handout until the discussion began. Others were engaged in the activity.

At least one participant was confused by the fact that botulism was not "contagious" but that you could get it from "exposure." Similarly, it was suggested that distinction between treatment and a "cure" needed to be made:

- "Under the treatment for botulism it says there is no cure ... I think that would be confusing ... just the word 'cure' could be confusing.

Overall participants thought that the material provided a lot of information that was helpful in letting them know, among other things, when to seek treatment. A participant stated that, "if it's a real threat, you're going to do" what's instructed

- "What I like about it is that it tells you that it is botulism and also tells you what the symptoms are and it will answer questions."

Hospitals and drug store pharmacies were listed as places where the material should be available. Participants did offer that the format of the material could be improved and include "pictures or diagrams" for easier reading and digestion.

- "It took a while to go through ... someone may feel a little overwhelmed. I also thought a lot of things were important. Maybe it was the format."

- “I would tend to respond more to short statement.”
- “If there were a threat I would read the whole thing three times.”

They also suggested that the material include local phone numbers, and changes to the CDC website that could be implemented in case of an outbreak, to which other participants nodded in agreement.

- “They could have a big sign or something on the main page that directs you to that botulism stuff.”

Participants’ were left with differing overall impressions about the implication of the information:

- “I think [there is] something a little bit contradictory and a little bit alarming about it.... “Is botulism contagious?” ... the idea that you would have to sort of seclude yourself and contact local authorities ... you probably won’t be restricted from contact with other people but you may be asked to stay somewhere until authorities find out more information ... I think that is really alarming.”
- “Sometimes I would want to know what you should do ... even if it is a little alarming.”
- “I would rather know if I am going to infect some people that I care about ... that I should not be around them just to be safe ... I would rather know that rather than them trying to keep me calm by saying they are probably okay.”

They recognized the credibility of the information, but had varying tolerances for the amount of information provided:

- “It seems that you have a lot of information but yet [it] is not too complicated. I think that when you are communicating things about diseases and signs ... it can often be difficult to make it clear and simple, and I think it does a relatively good job of doing that.”
- “I am sorry ... I also think that it is really long and repetitive and if it could be done on one sheet of paper rather than two ... that would be great.”

### **PREFERRED CHANNELS**

Participants saw the value of the handout (“It is something [people] could hold onto and they have everything right in front of them ... if they need to refer back to it .... They will not be able to do that with a commercial or a radio broadcast.”) There were lots of nods in agreement that information should be translated. They also considered the “accessibility” of television for lower literacy populations:

- “[E]ven if my friends don’t understand, I can translate.”
- “[There] are some people who don’t speak perfect English but they understand enough ... it gets your message across and, even if you don’t understand what they are saying, they can see what the symptoms are and understand that.”

When a participant added that the “actors need to be more believable,” everyone smiled at some level. At this point, the body language of other participants indicated that they were waiting for the session to wrap up.

### **CONCLUSION/POST-SESSION**

When the moderator described the real and severe impact of exposure to botulism, everyone was alert and attentive. It was as if it was the first time they were really taking the disease and its effect seriously.

Most participants left very quickly, except for one who knew the moderator.



## UCLA FOCUS GROUP #5: TOPLINE REPORT

**Agent:** Botulism                      **Date:** August 24, 2004  
**Population:** ESL                      **Participants:** 13 (13 demographic forms turned in)

### DEMOGRAPHIC SUMMARY

- ◆ **Ethnicity:** All (13) Latino/Hispanic; no other ethnicity identified
- ◆ **Age:** Range between 20 and 47; average age 30
- ◆ **Sex:** 12 female; 1 male
- ◆ **Language:** Majority (6) speak Spanish in the home; 4 speak Spanish and English, 3 English
- ◆ **Education:** Limited education (no college degrees); majority (7) high school diploma or GED
- ◆ **Marital Status:** Majority (6) married, followed by single (5), then divorced or separated (2)
- ◆ **Children:** Nearly all (10) have children; age range between 1-30; average age 8
- ◆ **Employment:** Majority (7) unemployed; those working are in nonprofessional jobs
- ◆ **Family Income:** Provided data (9) reflects income under \$30,000; 4 missing information

### DETAILED CHARACTERISTICS

Characteristic	Category	N = 13	Mean
Age	Range	20-47	
	Mean	30	
Sex	Male	8%	
	Female	92%	
Education	Less than high school	8%	
	Some high school	23%	
	High school diploma or GED	54%	
	Some college	15%	
Ethnicity/race	Latino/Hispanic	100%	
Language in home	English	23%	
	Spanish and English	31%	
	Spanish	46%	
Marital status	Single	39%	
	Married or living with partner	46%	
	Divorced or separated	15%	
Children	Yes	77%	
	No	23%	
	Age Range	1-30	
	Mean Age	8	
Currently employed	Yes	38.5%	
	No	53.8%	
	Missing	7.7%	
	Health Care Professional	—	
Family income	Less than \$10,000	30.8%	
	\$10,000 - \$19,999	7.7%	
	\$20,000-\$29,999	30.8%	
	\$30,000-\$39,999	—	
	\$40,000-\$49,999	—	
	\$50,000-\$59,999	—	
	\$60,000-\$69,999	—	
	\$70,000-\$79,999	—	
	\$80,000-\$89,999	—	
	\$90,000-\$99,999	—	
	\$100,000 or more	—	
missing	30.8%		

**Occupations provided:** “prep”; cashier; care giver; service representative; student; sales person; food service; medical receptionist

## **SESSION OVERVIEW**

- ◆ The session was held at a nonprofit mother's education center in Central L.A.
- ◆ Most of the participants had children; they were extremely maternal. Throughout the session, they expressed concern about children's safety in the event of an incident.
- ◆ There were some language barriers that might have made some participants hesitate to speak up; they spoke when called upon.
- ◆ A few participants seemed quite comfortable with speaking, but no one dominated the conversation.
- ◆ The room was slightly warm. The lighting was dim. Participants sat on either side or one end of a very long table. This set up might have made the group feel more connected. Moderator stood on one end of the table.
- ◆ The group responded well to moderator, who made the women (only one man present) feel comfortable by asking them about their children during the ice breaker. It was clearly pleasurable for the women to speak about their children, families, and pets (there was lots of laughter and endearing comments made).

## **SEGMENT 1 (RADIO)**

The group watched the moderator while she read the scenario. When the discussion began, it was clear that some people were more comfortable speaking than others. Those that were shy looked away from the group or downward, and tilt their head when they spoke. Some participant initially looked uncomfortable and seemed distracted. Moderator did a commendable job of engaging everyone in the group by taking answers "around the table" and asking for hand counts in response to questions.

**Important Points:** Participants seemed to be recalling items in the clip as opposed to listing those they considered most important.

- ◆ "Heat, water, avoid exposure from the sun," began one participant.
- ◆ "The symptoms," "boil all foods," "a number for you to call" and a website were listed.

### **New Information:**

- ◆ When the moderator asked if anyone had heard of "botulism" before, no one responded. They were also unfamiliar with "CDC." Overall, they felt the vocabulary was hard to understand.

**Clear/Unclear:** There were a number of items that were unclear to the participants:

- ◆ Prompted by the moderator, a participant admitted that she didn't understand everything she heard "[b]ecause [the announcer] was going too fast," she said shyly.
- ◆ Another expressed that the clip was "not really too detailed." Besides, she pointed out, "What if you don't have access to a computer?"
- ◆ Someone noted that the symptoms were similar to those you'd get "if you had the common cold or flu."

### **Emotional Response:**

- ◆ A number of participants admitted feeling "scared" and "concerned." In the event of an incident, they would feel like they "have no idea of where to go or what's going to happen":
  - "I feel scared because ... if I had those symptoms I wouldn't know what it really was and I would just continue going and not really take care of myself not knowing what I was exposed to."
- ◆ Participants' fears worsened when considering their children:
  - "I have a little child. I don't know what I could do. Everything is contaminated ...."

- “I think I was scared too. I think really nervous. [The] first thing that came to my mind is my kids.”
- ♦ One participant offered an empowering point of view:
  - “I guess it makes me think on what action you should take against the situation.”
- ♦ When the moderator asked what would make the women less fearful, they responded:
  - “More detailed information on how to prevent [the disease] and how to take action  
....”
  - “[B]y specifying in the message if there is a cure ... to go to your nearest hospital [so as not to alarm] people.”

#### **Acting on Recommendations:**

- ♦ Only 3 of the 13 participants had access to the Internet. Instead, calling a phone number was discussed, but participants anticipated that everyone would be calling at the same time. “What are you afraid of if you’re calling,” the moderator asked. “That nobody’s going to answer,” a participant replied.
- ♦ By a show of hands, nearly everyone felt they could take a recommended action.
- ♦ Only some in the room felt they could identify the symptoms on themselves or their children. A participant asked for help her recognize symptoms in babies:
  - “[S]omething that would happen to babies who cannot explain to you if their feeling it or not.”

#### **Believability:**

- ♦ The majority nodded that the clip was believable.
- ♦ There were nods when asked if the pacing was too fast and about tone. A participant gestured with her hands as she explained that she felt that announcer was “pretty calm in explaining what was to happen if it’s a worldwide attempt for all the people and that’s pretty scary.” Another felt the announcer didn’t have the appropriate voice.
- ♦ A participant gestured in a circular motion while explaining her idea to have the information broadcast repeatedly:
  - “I guess for those kind of messages it’s always good to do it twice. For me when it first started, everything went blank. I guess I’m that kind of person if something happens and I catch one thing and the other one just flies over my head. So I guess it’s good to repeat ... that information.”

#### **Recommendations for Improvement:**

- ♦ Participants suggested more specific recommendations on how the disease spreads:
- ♦ Most nodded that they were familiar with the EBS tone, and that they would like it at the beginning of the clip.

#### **Overall Impression:**

- ♦ Participants began by stating that the clip was “bad news.” A woman categorized it with EBS messages that begin with a “beeping sound” that precedes their announcements:
  - “You’re expecting the worst to come, and a lot of people tend to get over-excited and nervous and they don’t know what to do. Instead of being calm they react in a totally different way and they don’t know how to rationalize what they’re going to be doing next.”
- ♦ Alternatively, while another woman admitted that the American public isn’t prepared for “stuff like this ... [y]ou should be aware that something could happen.” Another participant agreed:
  - “I think it was good information. So you have to be prepared for whatever is coming, good or bad.”

### **Effectiveness of Medium:**

- ◆ By a show of hands, “just a few” participants turned to the radio for this type of information. Alternatively, they suggested the TV, newspaper, internet, magazines, flyers, and posters.
- ◆ They suggested distributing the information in doctor’s offices, churches, support groups, supermarkets, laundromats, social services offices (“where there’s a lot of people”), and schools so “kids know too ... what to do.”

### **SEGMENT 2 (TV)**

The group listened with their eyes on the moderator during the scenario reading. Some girls adjusted their seats to see the video. While they watched, some took notes. There was an audible response during depictions of severe disease impact. Two of the participants had their hands over their mouths. The group laughed at the lengthy URL.

**Important Points:** Participants got more detail out of the video clip:

- “It’s not contagious.”
- “[Y]ou can catch it if you touch some ones skin,” which was “kind of scary.”
- “It’s real important to boil the water and everything ... food ... to bathe ... clothes ...everything ... has to be boiled.”
- “It doesn’t get cured but it could be helped or it might get worse.”
- “You can recover if you recognize the symptoms early on and seek help ....”

### **New Information:**

- ◆ What’s new in the video drew lots of nods as participants gave their impressions:
  - “What stuck out was the fact that you could still be around people [and] that you could only give [botulism] to them if you cough around them or if you share food with them ....”
  - “I think what really stuck out is they say it might be in your water source, and it might be released in the air, that you have to be careful because of that. At least they advise you that if you get treated in time you could recover from it ....”
  - “The thing that got my attention was how fast the symptoms could evolve. It could go from hours to two weeks ....”

In each of the above cases, participants concluded their statements by reiterating that the website URL needed to be more accessible (i.e., shortened).

- ◆ The extent to which water needed to be boiled, more symptoms, “How fast it can get to your system, “the medicine and how it can help,” were also listed as new information. These comments drew participant nods as well.

### **Clear/Unclear:**

- ◆ A participant didn’t understand how there was “no cure”:
  - “Why do they say there’s no cure? That means you’re going to die?”The group didn’t understand how there could be no cure but there could be treatment. This was brought up as a point of confusion a number of times.
- ◆ Someone asked about the fate of individuals who resist seeking treatment immediately because they have no insurance. “So what’s going to happen? Are they going to die because they don’t call quickly?”
- ◆ Someone was confused about botulism not being contagious yet being passed through clothes:
  - “So that’s confusing to me because if I know my baby has it, are you telling him I can’t grab him?”
  - A participant added, “[A]re we going to go around wearing gloves constantly? That’s a concern also.”

- ◆ Someone was confused about the convulsing man, because “other stuff [can] cause something like that. You wouldn’t be aware of what it actually is.”
- ◆ A participant wondered about going to the hospital if you have symptoms, “sitting there being contagious.”

### **Emotional Response:**

- ◆ A participant shook her head at seeing a little boy convulsing on the screen – “It stung me.” Another added, “Yeah the symptoms are the ones that scared me, the paralysis part. Got my attention there.”
- ◆ Various people spoke of realizing that they needed to “watch out for these symptoms, you never know when they can get us ....” Recognizing the need to do this made a participant feel, “[n]ot good because the first thing that comes to my mind is ... my son.”
- ◆ Furthering that point, another stated, “It certainly was an eye opener because you don’t expect to get this type of information very often and when you do hear it you tend to think about your surroundings and especially ... about your loved ones and how you are going to take care of them and how you are going to take care of yourself, especially in a situation which you have no control over.”
- ◆ Conversely, a participant spoke of the positive impact of the message:
  - “It made me feel like I want to be aware of the situation. I would like to have more knowledge on what else I can do, what other options do I have to try not to get the disease.”
- ◆ Another agreed: “I’m a cautious person to begin with, with my family and my surroundings so it kind of makes me wonder what do. I need to be more cautious of now with all this going on.”
- ◆ Ultimately, someone stated: “Actually in a way I feel better because now I know even more. A lot of things I didn’t know. Now I can be more prepared. And now I feel like I want to know more, what to do to prevent that. I feel better after I saw that.”

### **Acting on Recommendations:**

- ◆ A participant resisted the “tediousness” involved in food preparation. Interestingly, this statement drew nods:
  - “I think it could be done [if you’re a] housewife, but if you have a 9-5 job, it’s going to be tiresome and tedious. You need help. There has to be some other kind of way that you can actually prevent [the disease]. “
- ◆ On the recommendation to go to ER, a participant discussed how, “Most people don’t go to the ER because they’re afraid that their going to be charged so much money.” While she didn’t see herself going to hospital, she admitted that “you have to find a way if you have yourself in a dangerous situation.” As an alternative, treatment at a neighborhood or free clinic was suggested.

### **Believability:**

- ◆ When asked how confident they were that the recommendations could keep them safe, a participant spoke about the “phobia” that can develop from learning this type of information, and others nodded:
  - “My concern is maybe people developing a phobia with touching one another because there’s something that this other person might be contagious or what not. ... You have to reassure them that not everyone is going to have it.”
- ◆ There were lots of nods about the clip being believable.
- ◆ Awareness about the issue and prevention was brought up as the most relevant information.

### **Recommendations for Improvement:**

- ◆ Numerous participants brought up the lengthy URL. “If you were given that information through TV and you are doing it fast, it will be kind of hard for somebody to write all that down.”
- ◆ Identifying “where you can go and get specific treatment just for [the disease].”
- ◆ Including “[p]ictures of symptoms .... Show what happens after those initial symptoms come in” drew nods.

**Overall Impression:**

- ◆ Most agreed that they liked the female announcer (“She was very clear ... very calm,” “Very articulate). “As long as it’s clear, it doesn’t matter if it’s a man or a woman.”
- ◆ “It’s scary, but at the same time it’s more security because you know what’s going on to your kids or to yourself.”
- ◆ “I guess it’s not something you like but it’s something you have to know. And nobody likes to see it but it’s something you need to know.”

**Effectiveness of Medium:**

- ◆ In reference to TV being a good source for this information, the majority nodded.
- ◆ In consideration of a “better way” to communicate this information, TV and radio drew lots of nods; print material being offered in community centers was also suggested.

**SEGMENT 3 (PRINT)**

When the print material was distributed, one participant asked for it in Spanish. One participant left before the discussion began.

**Important Points:**

- ◆ “The fact that it says that you can’t contract it from other person. But it says it can be spread from touching of the skin and clothes and other surfaces is kind of contradicting.” Participants nodded in agreement about this point.
- ◆ “Treatment. Where to go to be treated.... Where to go for information.”

**New Information:**

- ◆ Cleaning with bleach.

**Clear/Unclear:**

- ◆ Participants were still uncertain about how to recognize someone who is “sick.”
- ◆ “[I]s it contagious through breastfeeding?”

**Emotional Response:**

- ◆ “Good because you are watching the video and you are reading it too. Whatever you missed on the video you are reading on the page.”

**Acting on Recommendations:**

- ◆ A participant felt that some of the preventative steps addressed for botulism should be done on a regular basis.

**Believability:** Not directly addressed.

**Recommendations for Improvement:**

- ◆ Overall, participants thought that the first page (about symptoms) was clear, but that the second page (covering cure and treatment) was confusing.
- ◆ Clarify boiling food vs. serving food at boiling temperatures.

- ◆ Addressing pets. “Whether they have to boil the water for them and whether [botulism] is contagious to the actual pet. “

**Overall Impression:**

- ◆ The majority of participants liked the material.
- ◆ Someone mentioned that it would be important to know what schools are doing for prevention.
- ◆ “I don’t like it, but it’s good information. There’s too many things that could happen.... Right now I feel that I’ll be not ready but I’ll have an idea of what to do.”

**Effectiveness of Medium:**

- ◆ A participant felt that print was particularly good for “elderly people that can’t get out and who don’t watch TV or something.”

**PREFERRED CHANNELS**

When asked which was most helpful, TV received the most nods, second was radio, and third was the handout and newspaper.

**CONCLUSION/POST-SESSION**

Participants were curious to know if scenarios presented were real, and if there had been a real outbreak. Overall, they felt good about being more informed and wanted more information. They were interested in takeaway material.

## UCLA FOCUS GROUP # 8: TOPLINE REPORT

**Agent:** Botulism                                      **Date:** August 30, 2004  
**Population:** Asian, Urban                            **Participants:** 15 (15 demographic forms completed)

### DEMOGRAPHIC SUMMARY

- ◆ **Ethnicity:** All (15) were Asian/Pacific Islander
- ◆ **Age:** Range between 21 and 67, average age 45
- ◆ **Sex:** 9 female, 6 males
- ◆ **Language:** Majority (11) speak English (no second language) in the home; other languages listed were Filipino, Vietnamese and French
- ◆ **Education:** All (15) have some college experience; majority (9) have a college degree
- ◆ **Marital Status:** 9 married or living with partner; 6 single
- ◆ **Children:** 7 have children; age range between 23-37 years old; average age 30
- ◆ **Employment:** Majority (10) currently employed, two are health care professionals (one retired)
- ◆ **Income:** Majority (4) \$100,000 or more; wide range from \$10,000 to \$100,000 or more

### DETAILED CHARACTERISTICS

Characteristic	Category	N = 15	Mean
Age	Range	21 - 67	
	Mean	45	
Sex	Male	40%	
	Female	60%	
Education	Some college	20%	
	College degree	60%	
	Graduate degree	20%	
Ethnicity/race	Asian / Pacific Islander	100%	
Language in home	English (only)	73.3%	
	English and Filipino	6.66%	
	English and Other (missing)	6.66%	
	Vietnamese	6.66%	
	Vietnamese / French	6.66%	
Marital status	Single	40%	
	Married or living with partner	60%	
Children	Yes	47%	
	No	53%	
	Range	23-37	
	Mean	30	
Currently employed	Yes	66.7%	
	No	26.7%	
	Missing	6.7%	
	Health Care Professional (in <b>bold</b> below)	13%	
Family income	Less than \$10,000	—	
	\$10,000 - \$19,999	6.7%	
	\$20,000-\$29,999	—	
	\$30,000-\$39,999	13.3%	
	\$40,000-\$49,999	13.3%	
	\$50,000-\$59,999	—	
	\$60,000-\$69,999	6.7%	
	\$70,000-\$79,999	6.7%	
	\$80,000-\$89,999	6.7%	
	\$90,000-\$99,999	—	
	\$100,000 or more	26.7%	
Missing	20.0%		



**Occupations provided:** Restaurant manager, **health educator**, program director, retired, preventative care management, interior designer, marketing assistant, safety engineer, nonprofit, **retired nurse**, retired administrator in education, trainer, student community outreach worker

### **SESSION OVERVIEW**

People slowly came in; had refreshments. They knew each other (the event was at a community center). Two people came in during introduction.

*NOTE: Transcript referenced for this topline began in the middle of the following radio material segment; up to that point, topline is based on nonverbal notetaker's notes (which included quotes) and team debriefing sheets.*

### **SEGMENT 1 (RADIO)**

Participants listened during scenario. During the clip, their eyes were down cast outward:

#### **Important Points:**

- ◆ The discussion began with the 2 or 3 most important points recalled from the clip. The group quickly started to provide responses. Everyone appeared comfortable giving their impressions.
- ◆ One participant raised her hand and stated her understanding that botulism was found only in water.

**New Information:** See other subsections.

#### **Clear/Unclear:**

- ◆ Asked about what was clear, a participant brought up the disease's 6-7 incubation day period, then smiled and laughed as she added, "But you still don't know if you're one of them" (i.e., someone exposed).
- ◆ Someone spoke about the medical community's ability to accommodate an incident.
- ◆ Another discussed contextualizing the event (preliminary versus subsequent announcements).

#### **Emotional Response:**

- ◆ A participant raised his hand to note that a terrorist attack can happen anywhere, giving a small smile after making his statement. Another asked about wanting to know where the attack had taken place.
- ◆ Someone smiled while explaining how the day-to-day continues despite major crises:
  - "It is basically the same thing during 9-11...you are watching the TV and you see the shock but then you have to go to work...that is the feeling that you have."  
The moderator identified the feeling as resignation, and the participant agreed.
- ◆ The group was comfortable being open about their impressions. Someone brought up anxiety, and another furthered the discussion addressing confusion and denial:
  - "I think denial is really big. It is really foolish for us to think that this cannot happen...I think it is a matter of when it will happen. It is like putting our heads in the sand and to think that it is not real..."

#### **Acting on Recommendations:**

- ◆ Asked how comfortable they could act on the clip's recommendations, a participant responded, "Not too confident. ... I think [the incident] needs more time and they would have to repeat the instructions.... Should this event happen there will be a siren or there will be some planes going around to let you know." He would need to such a major demonstration to believe that the incident was real.

- ◆ Another participant explained: “I think it is important for me to make a decision [of] whether I can go outside or I need to stay inside ...whether I should start putting a plastic on my windows or what ... I need to know ....”

#### **Believability:**

- ◆ “I did not think there was much urgency in his voice,” a participant said about the clip announcer. “It seemed like it was just an informational thing.” Others agreed: “Nothing convincing,” “It was low key for being urgent.”
- ◆ Another participant thought it was important that the announcer not sound “too panicky,” since his attention span is not what it once was:
  - “I think it is important that I hear it in a level voice telling me clear instructions.... [T]he best that he can condense that so that it makes sense for me to absorb all the information...I think would be best.”
  - Responding to the moderator’s question about anything in the clip grabbing his/her attention, a participant joked, “Botulism was a big hook.”
- ◆ Someone questioned the legitimacy of the clip, alluding to the federal government’s political motive:
  - “I think the information that they went about giving ... is just so they would not be blamed for not informing the people....”

#### **Recommendations for Improvement:**

- ◆ The group was comfortable and talkative as they gave their recommendations: an introduction from the Office of Homeland Security, an emergency home kit with antidote and instructions. As suggestions were made, participants nodded in approval.
- ◆ “I think people appreciate having...an announcement with a telephone number where they can reach and have several languages answering to the community.”
- ◆ “Resources should be in different languages if possible.”

#### **Overall Impression:**

- ◆ Asked for their response to the clip, participants brought up using the U.S. emergency (color) alerts.

#### **Effectiveness of Medium:**

- ◆ Someone stated that s/he would get this information from the radio, “If there is no other way.”
- ◆ Participants discussed information dissemination using cell phones which the group responded to very favorably.
- ◆ Someone would “go online and gather as much information that you can get before you panic.”
- ◆ “I think the best media is TV. ... most people are watching TV,” a participant said.

#### **SEGMENT 2 (TV)**

Everyone watched the clip. One participant walked back in the room during the video.

#### **Important Points:**

- ◆ Participants seemed to be stating items they recalled rather than those they identified as the most important points: boil water, cook food accordingly, reactions to symptoms, transmission, “things a person can do to prevent it from getting worse.”
- ◆ “I think it is important for me [is] to not panic...to understand how I can contract it.”
- ◆ “What was important for me was that if you treat it early enough you can completely recover.” This was also new information to the participant who made this statement.

**New Information:**

- ◆ The participants liked hearing that hospitals have treatment ready, however, one person noted:
  - “[In the] event that would happen ... people who do not have it will rush to the hospital ... Instead of the people who are really affected getting treated, there will be a lot of people who don’t have it [who] will be there.”

**Clear/Unclear:**

- ◆ A participant brought up the confusion about botulism not being contagious, but that you can still get it.
- ◆ Another wondered about there being treatment for everyone; others nodded.

**Emotional Response:**

- ◆ Asked about their emotional response, a participant smiled softly while stating that the clip was “kind of serious.”
- ◆ Another took a cynical view at some of the depictions like the “droopy eye”: “I guess that it is my form of denial, looking at the acting versus the message.” Interestingly, someone else in the group had once treated someone for botulism and stated that the depiction reflects how the condition looks (i.e., it is not an over dramatization).

**Acting on Recommendations:**

- ◆ A participant looked skeptical when she mentioned the food preparation segment. “Don’t you normally cook food?” she said.
- ◆ A woman looked confident as she stated she could handle personal hygiene and boiling water.
- ◆ Another smiled while stating that he wouldn’t go to the restaurant where the incident occurred.

**Believability:**

- ◆ “If I did not hear the introduction that you told me and I just saw that on TV, I would just think [the clip] was some informational whatever and not pay attention.”
- ◆ A participant enjoyed the red icon on the clip’s title card, and drew a few nods and smiles as she said so:
  - “[It] was a little bit jarring but maybe that is a good thing. It reminded me of blood.”

**Recommendations for Improvement:**

- ◆ Participants thought the website URL was too long. “It should be botulism.gov ... something simple,” one of them said.
- ◆ Someone suggested providing “any local numbers” possible, giving reassurance that someone could be reached when the phone number was dialed.
- ◆ A trailer running at the bottom of the screen drew a favorable response.
- ◆ An introduction by local TV stations was suggested.
- ◆ Regarding food preparation: “Someone should at least reference the fresh vegetables that we consume.” There was also strong interest in more specifics on food handling.
- ◆ When someone brought up the need for “some diversity in ethnicity in the actors,” there were lots of nods and yeses.

**Overall Impression:**

- ◆ “I think it’s a better presentation than the radio.”

- ◆ “It was much more visual and [provided] more examples. ... [T]he visualization was very effective.”
- ◆ The announcer seemed “effective” and “one of authority.”
- ◆ “I got the alertness and the hazardous symbols ... that called my attention and triggered the rest of the information was pretty vital and with the CDC listed.”

#### **Effectiveness of Medium:**

- ◆ When moderator asked if participants would like to get this type of information from TV – if this were a real incident – the group brought up a preference to see a government, county, or health official bringing them such news. Another smiled as he suggested his local (and recognizable) newscaster.
- ◆ If it were going to come on television, it should come “on all the channels on primetime” and be introduced by a local newscaster.
- ◆ When moderator asked if there was anything else, most of the group was smiling and looked like they were engaged and enjoying the dialogue.
- ◆ The group thought the TV clip was better than the radio spot.

#### **SEGMENT 3 (PRINT)**

##### **Important Points:**

- ◆ The group was still very engaged as they began to scrutinize the document:
  - “[O]ne would think that there would be a space for a local number and local facility....”
  - “Change the font for anyone over 60.”
  - “I think it is important to say that there was an attack using botulism” (at the top of the first page).
  - “I think the line that ‘a terrorist could use botulism’ should be first.”

**New Information:** Not directly discussed.

##### **Clear/Unclear:**

- ◆ A participant stated that the literacy level is important when considering print material. “Depending on my reading level ... I would not even look at this.”

**Emotional Response:** Not directly discussed.

**Acting on Recommendations:** Not directly discussed.

**Believability:** See other subsections.

##### **Recommendations for Improvement:**

- ◆ “The first paragraph should tell why it’s being disseminated.”
- ◆ The back sheet’s reference to the disease being contagious was “confusing.”
- ◆ “The format needs to be different.” “It’s not catching.”
- ◆ It should include bullets (not a narrative format), and be simplified and distilled down to: What it is, how you prevent it, where you are going.
- ◆ It should be designed to tack up on a bulletin board or in the home (refrigerator magnet?).

##### **Overall Impression:**

- ◆ “I think that it is really key what I read in the first or second sentence as to whether it is going to apply to my life...I make that decision in those sentences whether I throw it away or read the rest of it.”

### **Effectiveness of Medium:**

- ◆ A participant spoke about reading through the sheet versus tossing it out if it immediately didn't seem "relevant to me." Another added, "Some people will take in the information, others won't. The seekers will seek."
- ◆ Participants strongly believed in having print material available now, i.e., well before any incident; when it would be "too late."
  - "I think that it is common sense to see this as information before everything happens ...like water, electricity, gas ... we already receive this instruction in case of national alert or ... what we should do, where we have to call ... who to talk to ... this is part of the health care and should be distributed through the agencies to the community."
  - "Maybe simple cards like we do on self breast exams to be available at health centers or public service."
- ◆ A participant recalled an incident when someone she knew was ill-treated by a hospital. She put her hands on the sheet as she emphasized that the "medical community needs to see this and be prepared."

### **PREFERRED CHANNELS**

- ◆ Television drew the most nods, followed by the radio and newspaper. The Internet also drew nods.
- ◆ Participants discussed "word of mouth" in their community "just for validation."
- ◆ "When I hear something I have to hear it from other sources," a participant explained.

### **CONCLUSION/POST-SESSION**

Moderator spoke with group about upcoming projects on bioterrorism training, and many people nodded assuredly. They clearly wanted to discuss that they wanted to know about how things are being set up for an emergency situation, and that there was preparedness in Orange County. The moderator explained the current ventilator supply limitations in hospitals; all eyes were on her and the group listened intently. They smiled and seemed comforted by her information, despite the grim reality she explained. She assured them that training was underway for first responders and that there was a stockpile of ventilators.

## BIOTERRORISM FOCUS GROUPS SUMMARY REPORT

*Group Description:* This focus group was held in the evening at a community based economic and health development organization. Those participating in the group were all employees of the organization. Because of their employment most worked with the local community, and dealt with the community's social issues. The group was well spoken, with most contributing very interesting information. The group members all knew each other well, and even teased each other at times during the group.

Prepared by: SLU

Date: 8/30/04

### Urban African American Botulism focus group demographics (N = 8)

<b>Characteristic</b>	<b>Category</b>	<b>N (%)</b>	<b>Mean/SD</b>
Age	Missing	1 (12.5%)	47.4/10.533
Sex	Male	1 (12.5%)	
	Female	7 (87.5%)	
Education	Less than high school	1 (12.5%)	
	Some high school	1 (12.5%)	
	High school diploma or GED	1 (12.5%)	
	Some college	3 (37.5%)	
	College degree	1 (12.5%)	
	Graduate degree	1 (12.5%)	
Ethnicity/race	African American/Black	8 (100%)	
Language in home	English	7 (87.5%)	
	Missing	1 (12.5%)	
Marital status	Single	4 (50.0%)	
	Married or living with partner	2 (25.0%)	
	Divorced or separated	2 (25.0%)	
Children	Yes	7 (87.5%)	
	No	1 (12.5%)	
Employment	Yes	8 (100%)	
Family income	Less than \$10,000	1 (12.5%)	
	\$10,000-\$19,999	1 (12.5%)	
	\$20,000-\$29,999	3 (37.5%)	
	\$30,000-\$39,999		*
	\$40,000-\$49,999	1 (12.5%)	*
	\$60,000-\$69,999	1 (12.5%)	
	\$90,000-\$99,999	1 (12.5%)	

\* = median

### Urban African American Botulism focus groups:

Overall, the 7 participants ranged from 29 to 59 years of age (1; 12.5% did not answer), with an average age of 47.43 (SD = 10.533). Seven females participated (87.5%), and there was 1 male (12.5%). One (12.5%) had a high school diploma or GED, 3 (37.5%) had some college, 1 (12.5%) had some high school, 1 (12.5%) had less than high school, 1 (12.5%) had a college

degree, and 1 (12.5%) held a graduate degree. All (8; 100%) were African American. Most (7; 87.5%) reported that their main language spoken at home was English, while 1 (12.5%) did not report on language spoken at home. Four (50%) were single, 2 (25.0%) were married or living with a partner, and 2 (25.0%) were divorced or separated. Most (7, 87.5%) had children, while 1 (12.5%) did not. All (8; 100%) were employed. The median family income was in the \$30,000 to \$50,000 range.

**Thoughts and comments about the focus group:**

1. Overall, did the focus group proceed smoothly? **Yes**

Comments: Yes, there were a few issues with the technology, but the participants did not seem to notice. The group almost went too smoothly, everyone was so comfortable talking and giving opinions that they all did so at once. However, they didn't seem to get off track.

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

Comments: There was one participant that didn't appear comfortable.

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

Comments: Participant # 3 was very outspoken. Two female participants spoke a lot, but everyone was given a chance to speak and everyone did speak at one time or another. Although some people spoke more than others, no one seemed afraid to speak their mind.

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

Comments: The one male made few comments, but they were quite helpful. Some of those participants who were more reserved did participate with body language. At the beginning of the interview, not all participants seemed to be engaged.

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.

Comments: This was a lively group. They often spoke at one time or had other conversations outside the main conversation making it difficult to hear what everyone was trying to say. The participants at one end of the table were extremely chatty. Everyone seemed very comfortable, like they were friends sitting around at lunch, in fact there was a lot of joking and laughter occurring while discussing the materials.

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.?

Comments: The room was comfortable, with nice chairs and a nice oblong conference table. However, there was a fan on, and one of the participants asked that it be turned off.

7. Any additional information that should be included?

Comments: Participants mostly seemed to know each other. Many worked in the building where the Focus Group was held.

### 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.

XXX Comprehension of the materials

- There was confusion over transmission, action steps and the nature of the threat.

XXX Usefulness of the materials

-Participants wanted the information on cleaning with bleach in all channels. The materials were useful but a lot of information was missing

XX Readability of the materials

-Materials need more to grab attention.

XXX Credibility of the materials

-The radio announcer was not credible and sounded like a commercial. The fact sheets needs a title. The video was well accepted.

X Other (please describe)

-Information regarding the TV and Radio Scripts.

### Key Findings

What are your top three impressions of this group?

- 1) The group had a good mix of educational backgrounds.
- 2) Lively group with a lot to say. The participants seemed to feed off each other.
- 3) Certain participants didn't like *not* having their questions answered at the time they were asked.
- 4) Participants understood the information but felt there were better ways to deliver it.
- 5) Participants were concerned for the elderly, handicapped, children, and those with special needs.
- 6) The participants appeared honest and willing to share.
- 7) All the materials offered them new knowledge but the information really just led them to more questions and confusion.
- 8) Although some worry was apparent in the form of questions, they mostly expressed a distrust of the media info and a blasé attitude.



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

- 1) There was confusion regarding transmission. Although botulism is not contagious, it can pass from a person's skin – needed to be clarified for the participants.
- 2) Participants needed more clarification regarding treatment and recovery.
- 3) There was a lot of concern for elderly, small children, and those that are ill.
- 4) Participants emphasized the importance of how materials are presented. For instance, fact sheet needs to be more attention grabbing with a title and a more effective layout. Radio Scripts need to sound serious and the TV clip voice needs to be in tune with the image on screen.
- 5) Participants felt that there needed to be warning signals before the radio and TV clips; something is needed to grab peoples' attention and to tell them to listen to this important information.
- 6) The radio wasn't well received; it did not sound urgent. Participants felt it sounded like a commercial and people would just change the channel. Participants also felt that additional information should be included in the radio clips.
- 7) After hearing the radio, seeing the television clips and reading the fact sheets participants still had additional questions and were still somewhat confused about botulism.
- 8) Information coming from an expert will encourage people to listen and follow directions.

## BIOTERRORISM FOCUS GROUPS SUMMARY REPORT

The focus group took place at a health department. The group was made up of people of a variety of ages. A number of the focus group participants were staff at the health department. Community nurses were present in the group, along with clerical staff. The group also included a retired couple as well as other community members. The group was very talkative; the participants appeared comfortable expressing their opinions to university researchers and each other.

Prepared by: SLU

Date: 8/17/04

### Rural white botulism focus group demographic characteristics (N = 10)

<b>Characteristic</b>	<b>Category</b>	<b>N (%)</b>	<b>Mean/SD</b>
Age			44 (16.761)
Sex	Male	2 (20%)	
	Female	8 (80%)	
Education	High school diploma or GED	3 (30%)	
	Some college	4 (40%)	
	College degree	3 (30%)	
Ethnicity/race	Caucasian/White	10 (100%)	
Language in home	English	10 (100%)	
Marital status	Single	3 (30%)	
	Married or living with partner	6 (60%)	
	Divorced or separated	1 (10%)	
Children	Yes	7 (70%)	
	No	3 (30%)	
Employment	Yes	8 (80%)	
	No	2 (20%)	
Family income	Less than \$10,000		
	\$10,000-\$19,999		
	\$20,000-\$29,999	1 (10%)	
	\$30,000-\$39,999	2 (20%)	
	\$40,000-\$49,999	1 (10%)	*
	\$50,000-\$59,999	1 (10%)	
	\$60,000-\$69,999	1 (10%)	
	\$70,000-\$79,999	1 (10%)	
	\$80,000-\$89,999		
	\$90,000-\$99,999		
\$100,000 or more			
	Missing	3 (30%)	

\* = median

OVERALL, THE 10 PARTICIPANTS RANGED FROM 18 TO 66 YEARS OF AGE, WITH AN AVERAGE AGE OF 44 (SD = 16.761). EIGHT FEMALES PARTICIPATED (80%), AND THERE WERE 2 MALES (20%). THREE (30%) HAD A HIGH SCHOOL DIPLOMA OR GED, FOUR (40%) HAD SOME COLLEGE, AND THREE (30%) HAD A COLLEGE DEGREE. ALL (10) WERE CAUCASIAN. ALL (10; 100%) REPORTED THAT THEIR MAIN LANGUAGE SPOKEN AT HOME WAS ENGLISH. THREE (30%) WERE SINGLE, 6 (60%) WERE MARRIED OR LIVING WITH A PARTNER, AND 1 (10%) WAS DIVORCED OR SEPARATED. MOST (7, 70%) HAD CHILDREN, WHILE 3 (30%) DID NOT. MOST (8; 80%) WERE EMPLOYED, 2

(20%) WERE NOT. THE MEDIAN FAMILY INCOME WAS IN THE \$40,000 TO \$50,000 RANGE (3; 70% DID NOT RESPOND).

**Thoughts and comments about the focus group:**

8. Overall, did the focus group proceed smoothly? Yes

Comments: Overall the group went very well. There were a few minor issues such as having to move the screen and tables around for everyone to be able to see the television clips. The conference phone to be used to contact the subject matter expert didn't work. Participants were very talkative. Some of the group participants were employees of the health department, including some nurses.

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

Comments: Participants talked a lot. The room was nicely lit.

10. Were there any dominant participants in the focus group? Yes & No

Comments: A few participants talked more than others, but no one was overly dominating. One participant would sometimes interrupt others. However, everyone contributed to the discussion.

11. Were there any reserved participants in the focus group? Yes

Comments: The elderly man was the most quiet, but everyone gave at least some good feedback.

12. 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.

Comments: The group consisted of both health department works and community members that all appeared to know each other. The health center was a bit noisy at times, even with the conference room door closed.

13. 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.?

Comments: The room was not set up for easy set-up of the television monitor. With the monitor it was hard to for some participants to see the moderator. The room was a little noisy at first.

14. Any additional information that should be included?

None.

### **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.

  X   Comprehension of the materials

-There was confusion about contagiousness.

  X   Usefulness of the materials

-There should be a lead-in for the radio.

       Readability of the materials

  X   Credibility of the materials

-The print materials need a source to identify where materials originated (who developed them).

  X   Unintended effects

-Some materials may cause increased fear.

  X   Other (please describe)-

-Participant didn't think it was necessary for the symptoms to be acted out; they recommended listing them in bullet form.

### **Key Findings**

What are your top impressions of this group?

1. Health professionals were in the group but didn't seem to dominate. Having the health department employees gave the group a unique perspective.
2. The group was very knowledgeable, however, some were more knowledgeable than others.
3. Participants were talkative, and for the most part liked the materials.
4. The topic of the materials scared some of the participants.
5. The group had a diverse age range, from fairly young participants to older retired participants.

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

1. People in this rural group will look to local officials for information and assistance.
2. Need an announcement as to why radio/TV is being played and repeat. Participants recommended a lead-in such as: "Due to recent events, the following information is important."

3. According to the participants, the portrayal of symptoms in television was over the top and unnecessary.
4. It is important to identify the source of the information being provided. Without the source the fact sheets were not seen as credible.
5. Participants felt materials need to make it clearer how botulism can be passed from one person to another.
6. Participants requested more specific information on where the outbreak took place.
7. According to participants mentioning terrorism on the fact sheet increased fear.

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

Population: Rural African American  
Agent: Botulism

Region: Southeast  
Focus Group Date: August 16, 2004  
Report Date: September 15, 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 have little knowledge of botulism.
- Participants would be frightened if such an event actually took place.
- Participants were confident in their ability to take protective actions to keep themselves safe.
- Participants said that television would be the best way to communicate with them.

## **RADIO MESSAGE**

### ***Comprehension***

- Participants had little knowledge of botulism before the focus group.
  - "I had never heard of the word, botulism."
- Important information gathered from the radio message included:
  - What to do in case of an attack
  - What to do with food

### ***Emotional Response***

- Participants felt that the message was frightening.
  - "You'd get scared"
  - "I'd try not to panic and then I would try to be alert"

### ***Actions***

- Most participants felt confident in taking actions to keep themselves safe.
  - "I would need to go and check with my doctor."
  - "I would start looking to see if I had one of the symptoms."
  - "I would start heating my foods to the temperature it said."
  - You are "going to be very confident to do what supposed to be done"
- Some participants were less confident in their ability to keep themselves safe.
  - "I'm not sure that I'm that confident on what the proper procedures are in case there is an alert."
  - "I live in a very rural area...and my concern is how I'm going to get to [the hospital] I the first place."



### ***Channel Appropriateness***

- There was some concern as to how many people would actually hear the message on the radio.
  - “If it’s not on television I wouldn’t hear because I don’t listen to the radio.”

### ***Response to the Materials***

- Participants said the message should be consistent to get everyone’s attention.
  - “If they were consistent with it, not one flash, but just to keep on and on, then it becomes believable.”

## **TELEVISION MESSAGE**

### ***Comprehension***

- Participants thought the television message was clear and informative.
  - “Wonderful information.”
  - “She expresses it clearly and she was letting us know what to do and how to do.”
  - “That gave me a lot of information, it’s good information.”
- There was some concern that too much information was provided and it would be difficult to comprehend while trying not to panic.
  - “This information should be coming to us regularly so that we could be familiar with it.”
- Participants were confused about botulism not being contagious, but still spreading by touch.

### ***Emotional Response***

- Participants felt the television message was believable.

### ***Actions***

- Participants were concerned with where to go for help.
  - “Where would we go for medical attention immediately? I don’t know.”

- Participants would boil their water or stock up on bottled water.

### ***Channel Appropriateness***

- Respondents believed that television was the best method of communication.
  - "I think TV is about the best and fastest way."
  - "TV's a good way of letting people know."
- Tornado sirens were suggested as a way of letting people know about a terrorist event.

### ***Response to the materials***

- Respondents had several suggestions for improving the television message
  - Repeat the information
  - Spokesperson should be more enthusiastic
  - The information needs to be condensed

## **PRINT INFORMATION**

### ***Comprehension***

- Participants were still confused about the contagiousness of botulism.
  - "Don't be saying it's not contagious when if you touch somebody you're going to get it."
- Participants were also confused about the effectiveness of treatment for botulism.
  - It says "down here that recovery can be complete, if the person gets the right medical treatment right away and at the top it says there's no cure. They're conflicting."

### ***Emotional Response***

- Participants felt more confidence in protecting themselves after reading the print information.
- Participants would be more cautious in handling food and water.

### ***Actions***

- Some participants were confused about what to do in the case of an airborne attack.
  - “Suppose it was coming from air, you know, how would we go about protecting ourselves?”
- Participants wanted to know where the attack took place so that they would know if they should take precautions or not.
  - “If you went and ate there you know that you should go immediately and be treated.”

### ***Channel Appropriateness***

- Participants were concerned that if the material was placed on a web site that many people would not have access to it.
- Participants suggested having the print materials in the newspaper, at health departments, or placed at churches.
  - “In the black community, the church is the best source of getting out information.”

### ***Response to the Materials***

- Participants would want the print materials to come out before a terrorist event.

### **PREFERRED CHANNELS FOR INFORMATION DISSEMINATION**

- Participants said television would be the best channel for getting information to them.
- Printed materials were the next best method of communication.