Running head: SOCIAL MARKETING APPROACH TO DISASTER PREPAREDNESS

A Social Marketing Approach to Disaster Preparedness Education

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotations marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: _____

Abstract

New to the field of disaster preparedness education, emergency management officials in

Bellingham, Washington were unsure of what the most effective approaches to influencing

disaster preparedness behaviors were. This research applied a social marketing-based model to

identify the most effective approach and made recommendations towards implementation.

Research questions addressed which behaviors were potentially of highest impact, which

population segments were most likely to engage in, and benefit from, the desired behavior, the

perceived barriers to and motivators for participation, and which marketing strategies would be

most effective. Using the descriptive method, a research team, and the services of a professional

research firm, gathered extensive data from working group processes, focus groups, and a

telephone survey was gathered. Results suggested, and the recommendations reinforced,

implementation of a marketing program to increase the storage of water for use during disaster

events by those age 60 years or older.

Table of Contents

List of Tables

Introduction

The northwestern corner of Washington State is renowned for its beauty: idyllic islands at the top of the Puget Sound, abundant stands of evergreen trees, and fertile fields back dropped against the glacier-capped grandeur of the North Cascades mountains. While beautiful, the underlying forces that created this unique environment (plate tectonics, volcanism, seismic activity) place area residents at risk to the effects of catastrophic disasters.

Based on the maxim that those who prepare for disasters are more likely to fare better during a disaster than those who don't, staff at the City of Bellingham's Office of Emergency Management (OEM) wanted to improve the levels of citizen preparedness in the community. The problem was that OEM staff was unsure of what the most effective approaches to influencing preparedness behaviors were. This research intended to apply a social marketing-based model to discover the most effective approaches to promoting disaster preparedness in Bellingham. Using the descriptive method of research, the following questions were addressed:

1.   What behavior provides the largest impact on individual/family disaster preparedness?

2.   Which segments of the community are most likely to engage in, and benefit from, the desired preparedness behavior?

3.   What are the perceived barriers preventing people from performing the desired preparedness behavior?

4.   What are the perceived motivators for people to engage in the desired preparedness behavior?

5.   What strategies would be effective in influencing target audiences toward engaging in the desired preparedness behavior?

Background and Significance

Strategically located between the metropolitan areas of Vancouver, British Columbia and Seattle, Washington, the City of Bellingham is the retail, manufacturing, transportation, and educational hub of northwestern Washington State. This city of 75,750 people (Office of Financial Management, 2008) sits at the top of the Puget Sound overlooking Bellingham Bay and the San Juan Islands. Bellingham is the home to Western Washington University, serves as the southern terminus for the Alaska ferry system, and has been listed as one of the best places in the country to live (National Geographic Adventure, 2008), work (Forbes Magazine, 2008), and retire (CNN Money Magazine, 2003).

The city government of Bellingham provides a full range of services to residents within its 28 square miles. Emergency management services are organized through the city's OEM. The OEM was established in 2007 following the dissolution of a long-standing agreement with the Whatcom County Sheriff's Office Division of Emergency Management (DEM) for emergency management services. Lying under the administration of the fire department, OEM is staffed with a blend of 2.2 full time equivalent employees from both the fire and police departments. In early 2009, a combination of a budgetary crisis (resulting in the loss of the OEM public education person) and personnel changes within DEM, created a window of opportunity for the two organizations to, while retaining their separate identity, closely partner in regards to sharing program responsibilities, staff assignments, and facilities. In July 2009, both entities will move into shared offices at the new 2010 Olympics Coordination Center. OEM and DEM partner with city and county departments, and other community organizations in all phases of emergency management: preparedness, response, recovery, and mitigation. An all-hazards Local Emergency Planning Committee (LEPC) serves as the nexus for all emergency preparedness activities.

Armed with an appreciation that public education serves as the backbone of any effective public preparedness effort (Coppola, 2006), and that collaborative efforts would likely be most effective, a public education working group was formed under the banner of the LEPC in 2008. Consisting of a representatives from organizations with a stake in preparedness education (American Red Cross, St. Joseph Hospital, Whatcom County Health Department, DEM, Western Washington University, Bellingham/Whatcom County Tourism Bureau), the group originally formed in the July, 2008 to collaborate on developing and delivering a community-wide disaster preparedness campaign. OEM was the catalyst for this discussion as it had grant money identified and available to fund a public education campaign.

Given that OEM staff did not possess any expertise in the design and delivery of public education campaigns, LuAn Johnson, PhD, the manager of the State of Washington Emergency Management Division's Public Education section, was invited to the first meeting of the working group to share her ideas on the design and delivery of effective public education programming. Dr. Johnson began by providing a critique of familiar public education campaign materials. The effectiveness of the materials, said Dr. Johnson, was diminished by the approach of trying to address a wide spectrum of behaviors simultaneously (L. Johnson, personal communication, July 1, 2008). As an alternative, Dr. Johnson recommended following a systematic process in the development of public education campaigns that result in the development of a maximum of three messages. The process described by Johnson consisted of a three phases: pre-campaign development, campaign development, and post-campaign debriefing. In the pre-campaign phase, elements include a benchmark study (what do we want to know about our community?), audience assessment (who is our target audience?), and stating of objectives (what do we hope our target audience will be like as a result of our campaign?). In the campaign phase, themes and

messages are selected that, ideally, strike a balance between threat (getting people to care), and response (getting people to act). Johnson advised avoiding checklists and, above all, making it easy for the audience to take action. Completing the cycle, the post-campaign phase was billed as the time to assess what went right, and what went wrong, with the intent of making improvements in future campaigns (L. Johnson, personal communication, July 1, 2008).

The meeting with Dr. Johnson reinforced the complexities of designing and delivering effective public education campaigns and emphasized the importance of obtaining results (in the form of behavior change). Further, without calling it out, Dr. Johnson provided a primer in the application of social marketing techniques. Social marketing is an emerging field that applies the tools businesses use to sell products to, instead, sell ideas, attitudes, and behaviors for the public good (Kotler & Lee, 2007 and 2008). The social marketing approach typically involves identifying barriers and benefits of acquiring a given behavior, designing a strategy using behavioral change tools, piloting the strategy, and lastly, evaluating the impact of the implemented program (Mohr-McKenzie & Smith, 1999).

Lacking the expertise and capacity to design and deliver a social marketing-based preparedness campaign, yet wanting to achieve maximum impact and cost-effectiveness (in terms of dollars spent to behaviors changed), OEM staffed contracted with Applied Research Northwest (ARN), a Bellingham-based social marketing research firm, for assistance. ARN was charged with leading working group participants through the social marketing planning process in the development of a preparedness campaign. Acknowledging that OEM would not always have funding to work with a consulting firm, the hope was that the capacity and capabilities of the working group to apply the model independently would be enhanced.

This research project was completed as a post-course requirement of the National Fire Academy's Executive Fire Officer Program's Executive Leadership course. The Executive Leadership course seeks to " . . . develop the ability to conceptualize and employ the key processes and interpersonal skills used by effective executive-level managers" (U.S. Department of Homeland Security, 2005). Of these skills, the section on influencing others to change behaviors, attitudes, or values is directly relevant to this research. Further, this research relates to the second operational objective of the United States Fire Administration to "help communities develop comprehensive all-hazard risk reduction plans" (United States Fire Administration, 2003) in that public education efforts are an integral part of Bellingham's approach to risk reduction.

This research used a conventional social marketing planning process to explore how to develop an effective campaign to influence preparedness behaviors within a specific target audience. The results of this research may reinforce processes to use in the development of future public education campaigns. The descriptive method was used to carry out this research.

<div align="center">Literature Review</div>

What behavior provides the largest impact on individual/family disaster preparedness?

Keeping with the social marketing goal of creating beneficial societal change (Kotler & Lee, 2008), increased levels of disaster preparedness in this instance, a first step is learn what behaviors others have identified as having the highest impact on this goal. A review of published research did not reveal any studies that directly addressed the question, however, national preparedness guidelines and multiple studies conducted to assess preparedness levels that referenced common behaviors suggested the relative importance of certain behaviors.

Homeland Security Presidential Directive 8 required the development of specific guidelines to help the United States prepare for, respond to, and recover from disasters and major emergencies (U.S. Department of Homeland Security, 2007). Included in the guidelines was the identification of target capabilities to serve as benchmarks for assess levels of national preparedness. Stakeholders from all levels of government, the private sector, and non-governmental organizations assisted in the development of the capabilities list through a series of workshops (U.S. Department of Homeland Security). Several performance measures specific to individual and family preparedness were presented in the Target Capabilities List. In addition to the percentage of households maintaining communication plans, disaster supplies, first aid skills, and shelter-in-place/evacuation procedures; the document established the percentage of the population trained in CBRNE (Chemical, Biological, Radiological, Nuclear, and Explosive) and decontamination procedures, and the percentage of the population who know how to respond to specific high-threat incidents in their area as preparedness benchmarks (U.S. Department of Homeland Security).

Columbia University's National Center for Disaster Preparedness has offered guidelines for citizens to prepare for disasters. Their recommendations included: developing family communication plans with contact numbers and meeting places, and always having comfortable shoes, a flashlight, water, vital medications, and a handkerchief (Redlener, 2004). These guidelines reinforced the communication plan directive from the Target Capabilities List (U.S. Department of Homeland Security, 2007), and add additional detail to personal preparedness supplies.

Preparedness surveys provided insight into what different organizations have identified as behavior benchmarks. For the past several years, the American Red Cross has sponsored a

survey of the state of preparedness behaviors across the United States. The survey asked

participants if, in the last year, they have: prepared or maintained home and away disaster supply

kits (water, food, and medicines), developed a family communication plan and meeting area,

practiced for emergencies at home, and/or taken CPR or first aid (American Red Cross, 2008).

Interestingly, the study found that only one in ten American households has a family emergency

plan, disaster kit, and first aid training (American Red Cross).

More proximate to Bellingham, a consortium of counties comprising the Seattle-Tacoma

metropolitan area sponsored a study that relied on key person interviews and focus groups to

better understand the dynamics of disaster preparedness in their jurisdictions. Specific to

preparedness behaviors, the study asked respondents if they had completed any of the following

behaviors: gathered home supplies such as food, water, and blankets; established a home escape

route; created a family communication plan; and secured household items from falling (Butler &

Savage, 2005).

The commonality of multiple behaviors identified in the guidelines and surveys suggested

which behaviors are thought to have an impact on individual and family disaster preparedness.

The commonly identified behaviors included: maintenance of disaster supplies, development of

plans, and training in first aid.

Which segments of the community are most likely to engage in, and benefit from, the desired

preparedness behavior?

A strategic principle of social marketing is to focus messaging on those people who are

most likely to make changes in their behavior (Kotler & Lee, 2007). The assumption underlying

this principle is that precious resources are best spent picking the low hanging fruit (those ready

to make change) versus reaching for the high hanging varieties (those people least likely to

move). To help categorize where people fall in this continuum, researchers Prochaska and

DiClemente developed a Stages of Change model that was subsequently condensed into four

stages by Andreasen (1995). The stages are precontemplation (those with no intention of

changing), contemplation (those recognizing a need for change), preparation/action (those

beginning to act), and maintenance (regular performers) (Andreasen). Kotler and Lee (2007)

suggested that the biggest bang for the buck is achieved by targeting those in the middle stages

of contemplation and preparation/action. Contemplators, explain Kotler and Lee, simply need a

little help to enable them to perform the desired behavior, while those in the preparation/action

stage just need reminders and reinforcement to continue the behavior.

Another theory that offered insight into which segments of the population are most likely

to engage in preparedness behaviors is Witte's Extended Parallel Process Model (EPPM). Witte

(1992) identified how, in general, people process threats as well as their ability to take action.

Threat perception, suggested Witte, involves two elements: threat severity and threat

susceptibility. Likewise, perceived value of action has two components: self-efficacy (e.g. Can I

protect myself?) and response efficacy (e.g., Will the actions help me during a disaster?) (Witte).

Further, the EPPM suggests that people, when confronted with a threatening situation, will either

engage in danger control or fear control. Danger control involves implementing a solution to the

threat. In order to engage in danger control, a person must have a belief in both self-efficacy and

the efficacy of response (Citizen Corps, 2006a). On the other hand, those people with little

confidence in self- and response efficacy have tendencies to engage in fear control. Escapism,

rationalization, and denial are all characteristics of fear control (Citizen Corps).

One other theory identified that has some relevance to the question of what groups of

people are most likely to engage in preparedness behaviors is the Citizen Corps Personal

Behavior Change Model for Disaster Preparedness (PDP Model). Expanding on the underpinnings of the Stages of Change and EPPM models, the PDP categorized a group's pre-disposition to engage in preparedness behaviors into one of three "Threat/Efficacy Profiles" (Citizen Corps, 2006a). The first profile is unaware or dismissive of threat due to perceived susceptibility, urgency, and/or severity; and is unreceptive to preparedness messages. The second group understands the threat, but sees barriers to taking action and, thus, is unprepared. Lastly, the third group is prepared due to their understanding of the threat and strong belief in self-efficacy and response efficacy (Citizen Corps).

Given these theories that categorized groups of people based on the likelihood of them engaging in preparedness behaviors, disaster preparedness surveys have shed a limited light on the demographic characteristics of the different groups. One major limitation noted in an analysis of the Citizen Preparedness Survey Database was that almost all of the surveys conducted gathered only basic demographic information: gender, race, income, etc., making it difficult to effectively segment the population (Citizen Corps, 2006b). For example, a national survey sponsored by the American Red Cross identified that readiness (and thus relative predisposition to prepare) varied by age, education, income, race, and employment status (American Red Cross, 2007). Those people who are oldest, youngest, lowest income, lowest educated, and not fully employed were found to be the least prepared segments of society (American Red Cross). A limitation of the American Red Cross survey was that the demographic data was not correlated to specific preparedness behaviors, making it difficult to identify and target specific segments of the population with focused messaging.

A survey of residents in the metropolitan Seattle/Tacoma area by Butler and Savage (2005) provided better linkage between demographic characteristics and preparedness behaviors. In this

survey, in regards to preparedness behaviors to enable a resident to shelter in place, Butler and

Savage found that those who were 34 years and younger had engaged in significantly fewer

shelter in place activities than older age groups, and that there were no statistically significant

differences in the levels of shelter in place preparations based on gender.

A 2008 telephone survey conducted for the City of Bellingham asked respondents to

indicate if they were prepared to sustain themselves and their families for 72 hours following a

major disaster (Jull, Williams, & Blaney, 2008). Of the 600 persons completing the survey, 64%

replied affirmatively, 16% negatively, and 19% suggested that they were somewhat prepared

(Jull et al.). The researchers found wide variations in how various demographic groups

responded to this question. Homeowners said they were more prepared than renters, as did

households without children, people with incomes exceeding $25,000, and people 65 years of

age or older (Jull et al.) These findings are particularly useful as they are derived from the study

area, are recent acquired, and provide insight into which demographic groups are more or less

likely to engage in preparedness behaviors.

A review of the work of others on the question of which groups of people are most likely

to engage in preparedness behaviors resulted in an understanding of some of the predictive

models relevant to this question (Stages of Change, EPPM, and PDP), as well as an appreciation

of the limitations and challenges of designing survey instruments that will return useful data.

What are the perceived barriers preventing people from performing the desired preparedness

behavior?

Gaining an understanding of the reasons and concerns preventing people from engaging in

preparedness behaviors is critical in being able to craft messages that will address their concerns

and move them towards preparedness (Kotler & Lee, 2007). Referring back the Stages of Change

model (Andreasen, 1995), Kotler & Lee suggested that the barriers to change are different depending on what stage of change a person is in. For those contemplating change, perceived lack of skills, self-efficacy, or true inconvenience may hinder the desired behavior change (Kotler & Lee). On the other hand, those people who are in the action step, the reason they aren't regularly engaging in a desired activity might be that they simply forgot (Kotler & Lee).

Reinforced by discussions with people who experienced the effects of the Loma Prieta earthquake in the Bay Area, Conroy (2008) attributed public complacency toward preparedness to under perceiving risk, fatalism, and a belief in the effectiveness of governmental disaster response. A sense of fatalism was also noted in a 2003 survey by the Citizen Corps in which 28% of the respondents indicated that disaster related events would likely overtake any preparations they had made (Citizen Corps, 2006c).   Another factor in play identified by Ripley (2006), is that, although 91% of Americans live in an area vulnerable to disasters, a sense of denial prevails. One emergency manager suggested:

> There are four stages of denial. One is, it won't happen. Two is, if it does happen, it won't happen to me. Three: if it does happen to me, it won't be that bad. And four: if it happens to me and it's bad, there's nothing I can do to stop it anyway. (Ripley, 2006 p.3)

In a nationwide survey taken during and after Hurricane Katrina (ORC Macro, 2005), researchers asked participants to identify roadblocks to being prepared for disasters. In terms of being prepared for disasters, respondents identified having a disaster plan and a disaster kit as being desirable ends (ORC Macro). Roadblocks identified by respondents to reaching these ends included a lack of money to buy need supplies (32% of respondents), lack of importance (25%), time constraints (12%), knowledge (10%), and cost (8%) (ORC Macro).

Lastly, communication barriers between risk communicators and their target audiences appeared to have been a barrier to preparedness for some (American Red Cross, George Washington University, U.S. Department of Homeland Security, & Council for Excellence in Government, 2004). At a 2004 symposium exploring strategies to improve public preparedness, disagreements between risk communicators on what "preparedness" means, items to set aside, and recommended response actions were all cited as barriers to preparedness (American Red Cross et al.). Additionally, symposium attendees expressed concerns about the effectiveness of risk communications, suggesting that many messages were not user friendly, too long, communicated through less effective messengers, and not compelling (American Red Cross et al.).

The review of research related to barriers to disaster preparedness revealed a large range of obstacles ranging from perceived lack of skills, reduced self-efficacy, inconvenience, and forgetfulness (Kotler & Lee, 2008), under perception of risk and belief in the effectiveness of governmental response (Conroy, 2008); a sense of fatalism (Citizen Corps, 2006c); lack of money, time, importance, knowledge, and the cost of supplies (ORC Macro, 2005); and, lastly, ineffective risk communications (American Red Cross et al., 2004). Knowledge of these potential barriers was considered in the development focus group and survey questions.

What are the perceived motivators for people to engage in the desired preparedness behavior?

Equally important to understanding the barriers in the way of preparedness is an understanding of the motivations leading to preparedness. Given an understanding of these two elements, the social marketer is in the position to remove, or minimize, the barriers, and to enhance motivation to act through incentives (Mohr-McKenzie & Smith, 1999).

Addressing the issue of motivation from a theoretical perspective, Paton, Smith, and

Johnston (2005) found that cognitive models exist that link motivation and intention to protective

behaviors (actions). In regards to motivation, Paton et al. suggested that three precursor variables

must be in place at the right levels before a person will move towards action: risk perception,

critical awareness (how much a person thinks and talks about a given hazard), and anxiety.

Anxiety, the researchers found, can actually serve as a demotivator if the anxiety becomes

paralyzing as in the case of a catastrophic earthquake scenario (Paton et al.).

Research into public attitudes about what would motivate them to prepare for disasters

provided a sense of what is normal in this regard. While approximately one-quarter of the

preparedness surveys listed in a national databank explored barriers to preparedness, far fewer

specifically addressed the reasons people take action (Citizen Corps, 2006b). For those surveys

that did address motivating factors, the questions related to the predicted proximity of disasters,

family safety, sense of unpreparedness, incentives, and personal responsibility (Citizen Corps).

A 2005 survey in the wake of Hurricanes Katrina and Rita found that those events served

as powerful motivators for preparedness. Fully 39% of the survey respondents listed the

hurricanes as the reason they had taken action (ORC Macro, 2005). Other reasons listed by

respondents included personal/household security (12%), life events (9%), advice of neighbors

and community (4%), and, lastly, advice from friends or family (3%) (ORC Macro). Not

surprisingly, 50% of those who had taken steps toward preparedness lived in regions prone to the

effects of hurricanes (ORC Macro).

More proximate to Bellingham, the focus group research done in the metropolitan Seattle

area by Butler and Savage (2005) illustrated regional motivations towards preparedness. The

effects of public education and advertising were frequently cited, however the groups suggested

these mediums were most helpful in building awareness, as opposed to creating action. Social

networks (families, friends, and colleagues) were listed by participants as having an important

influence in whether one took steps toward preparedness. Focus group participants emphasized

that experiencing a disaster, either at a community or personal level, would serve as a key

motivator for preparedness (Butler & Savage).

What strategies would be effective in influencing target audiences toward engaging in the

desired preparedness behavior?

Having completed the work of identifying target behaviors and audiences, as well as

barriers and motivations that help and hinder performance of the desired behaviors, the last

major issue addressed was to identify strategies that have proven effective in influencing target

audiences to engage in and maintain preparedness behaviors. To begin with, Kotler and Lee

(2007), identified program positioning as a foundational element of a successful marketing

strategy. Positioning essentially clarifies how the messages are intended to be viewed by the

target audience(s). "The aim," said Kotler and Lee (p. 286), "is to determine and articulate a

distinct position, one that highlights benefits and diminishes barriers unique for your target

audience . . ." Kotler and Lee (2008) suggested that programs targeting the performance of

specific behaviors may benefit from behavior-based positioning. In this model, a brief

description of the desired behavior is highlighted as in the instance of King County (Washington)

Emergency Management's 3DAYS3WAYS campaign. This campaign encouraged citizens to

prepare for disasters by making a plan, building a kit, and getting involved (Kotler & Lee, 2008).

With a firm position statement in mind, next comes the application of a mix of the classic

4Ps of marketing (product, price, place, and promotion) to help influence the target audience

toward the desired behaviors. Product has several layers of definition including core product,

actual product, and augmented product (Kotler & Lee, 2008). Core product refers to the benefits

the target audience will receive as a result of completing the desired behaviors. The actual

product is the specific behavior being promoted. And lastly, the augmented product refers to any

tangible products or services promoted. Public Safety Canada's "Is Your Family Prepared?"

campaign defined their product in terms of augmentation including the development of an

emergency preparedness Web site, a family preparedness guide, pre-packaged emergency kits,

and a toll-free number (Kotler & Lee).

Price refers to any monetary or non-monetary costs or incentives associated with the

program. Costs could include fees charged for programs, supplies, and services as well as

negative public visibility. Incentives could include subsidies, tax breaks, and positive public

recognition (Kotler & Lee, 2007). In the aforementioned "Is Your Family Prepared?" campaign,

the cost of the emergency kits, as well as the free information available in the emergency guides

and on the Web site were listed as program costs (Kotler & Lee, 2008).

Where the program messages are delivered, and the means by which the target audience

can access the messages, defines place (Kotler & Lee, 2007). Place, said Kotler & Lee (2007

p.287), includes the distribution channels chosen to communicate your message including " . . .

physical locations, phone, fax, mail, mobile units, drive-thrus, Internet, videos, home

delivery/house calls, places where potential customers shop, dine, and hang out, kiosks, and

vending machines." The "Is Your Family Prepared?" campaign relied on trusted sources such as

fire, police, ambulance and non-governmental organizations to get their product placed at retail

establishments across Canada (Kotler & Lee, 2007, 2008).

The last P, promotion, relates to information about key messages (what you want to say),

messengers (who will say it), and communication channels (where the messages will appear)

(Kotler & Lee, 2007). For the "Is Your Family Prepared?" campaign, promotion took the form of advertising (television, print, Internet), public relations (staff seminars and testimonials), direct marketing (insertion of preparedness guides into kits), internal communications, Parliamentary engagement, and event marketing and exhibits (Kotler & Lee).

The review of what others have written about best strategies for implementing social marketing campaigns revealed that once the desired positioning for the program has been determined (i.e. how the program messages are to be viewed by the target audience), the familiar marketing framework presented by the four Ps of marketing can be applied. The consistency in the literature referring to the use of the four Ps clearly indicated this as a best practice and one that should be incorporated into the local project.

<div align="center">Procedures</div>

Consistent with the purpose of this research (to discover the most effective approaches to promoting disaster preparedness in Bellingham), formative research methods, based on established social marketing practices, were applied. Procedures followed in the research can be grouped into four major areas: organization, scoping, focus groups, and telephone surveys.

Organization

This research project represented a partnership between a community-wide working group and a private marketing research firm. The working group, convened under the banner of the Bellingham Local Emergency Planning Committee, formed in the summer of 2008. Participation in the working group was solicited by email, telephone, and direct personal contact from organizations thought to have a stake in disaster preparedness related Public Education. Organizations/entities contacted included Whatcom County Sheriff's Office Division of Emergency Management, Washington State Emergency Management Division, Mount Baker

Chapter American Red Cross, St. Joseph Hospital, Bellis Fair Mall, Western Washington

University, Bellingham Cold Storage, Whatcom County Health Department,

Bellingham/Whatcom County Tourism, and OEM. Periodic meetings of this working group were

held throughout the research project at the OEM.

With funding available through a U.S. Department of Homeland Security Emergency

Management Performance Grant, the working group chose to engage a research firm to support

the research project. Inquiries were made to other public entities for referrals to firms available

and capable of providing social marketing based research. Very quickly, a local firm, Applied

Research Northwest (ARN), was not only identified as a firm specializing in social marketing,

but also as a firm who routinely did business with the City of Bellingham on an existing State

contract. Due to the location of ARN, as well as the ability to engage the services of the firm

without going through a Request for Proposals process, a contract for services was completed

between ARN and OEM.

Scoping

The process of scoping involved a literature review of secondary sources as well as

several working group processes to focus the purpose of the research, the intended audience, and

the desired behaviors. The literature review served as a survey of what other organizations and

individuals had discovered about the research questions. The review began in March 2008 at the

Learning Resource Center at the National Emergency Training Center, but was largely

conducted on-line through the use of the Internet. Keywords used in the search included:

Disaster, preparedness, levels, emergency, readiness, behavior, efficacy, social marketing, and

risk communication. Several books were also purchased outright from on-line bookstores.

At the working group session on July 30, 2008, participants discussed and reached

consensus on the purpose of the project: to improve levels of community disaster preparedness.

Next, the nine participants divided into three small groups to brainstorm the desired preparedness

behaviors. To further clarify the target behaviors, at the next meeting of the working group on

September 3, 2008, participants completed a situational analysis exercise to identify

group/organizational strengths and weaknesses, as well as external opportunities and threats

(SWOT). Questions asked were:

1. What are some of the strengths of disaster preparedness in Bellingham today and in

    the recent past?

2. What are some of the weaknesses of disaster preparedness in Bellingham today and

    over the recent past?

3. What are some opportunities for the future of disaster preparedness in Bellingham?

4. What are some threats to the future of disaster preparedness in Bellingham?

To complete the analysis, first participants individually brainstormed SWOT elements

before forming into two small groups to share their thoughts. Next, each small group was asked

to consider their SWOT results in order to develop a list of target audiences and behaviors

appropriate for focus.

At the next meeting of the working group on October 2, 2008, participants completed two

exercises to further clarify target audiences and behaviors. In regards to the audiences,

participants rated (1 [low], 10 [high]) various audience segments on their need for preparedness

(how often impacted, vulnerability), their inclination to engage in preparedness behaviors

(willingness and ability), and the reachability (existing relationships with segment,

communication channels). Audience segments included children, college students, disabled,

elderly, ill, moving/driving adults, non-English speakers, non-parenting adults, parents of children in multi-family homes, parents of children in single-family homes, people in public housing, poor, retired, and working adults. Every participant's assessments resulted in a total score for each of the population segments. These scores, in turn, were entered into a spreadsheet to average the responses and to help identify the populations that both need and are likely to engage in preparedness behaviors.

Using the results of the target audience prioritization, working group participants next assessed the amount of effort needed to influence adoption of preparedness behaviors (willingness) and the potential impact of the behavior. Behaviors considered included securing heavy objects, establishing a meeting place, making copies of critical records, knowledge of sheltering areas, ability to shut-off gas, listing of key contacts, keeping shoes under bed, maintaining reserve supply of medications, supply of warm clothes and blankets, and storage of emergency food and water. Each participant assigned each behavior an impact and willingness rating which, in turn, was entered onto a spreadsheet for recording. The last task at the busy October 2, 2008 meeting was for participants to brainstorm potential barriers to and motivators for the selected target audience to engage in the high impact/high willingness behaviors identified in the previous exercise.

Initial Focus Groups

The next stage of the process, initial focus groups, represented a shift into the primary research component of the project. Focus groups (a technique involving eight to ten people led by a trained moderator and a guide to focus the discussion [Kotler & Lee, 2008]) were used to gather insights from the target audience about the barriers to and motivators for adapting target behaviors. Desired participants in the focus groups (citizens of Bellingham age 60 or older) were

recruited from senior-specific and neighborhood groups within the city. Two focus group

discussions were held. The first one, held on October 29, 2008, was attended by three males and

ten females (one in a wheelchair) at their lower-income senior apartment complex. The second,

held at a fire department training room on November 11, 2008, was attended by 12 residents (six

male and six female) from the Sehome, Columbia, and Fairhaven neighborhoods. At both of the

sessions, a staff member from ARN used a semi-structured discussion guide approved by the

working group to focus the discussion. The script for each of the questions is detailed in

Appendix A.

Telephone Survey

Between December 22, 2008 and January 14, 2009, 2092 calls were made towards

administering a telephone survey to 300 residents within the City of Bellingham who were age

60 or older. The number of participants was selected to provide a 5.6% margin of error. A

reputable survey sampling company that used multiple sources of information to target

households in the desired age range supplied phone numbers for potential survey respondents.

Paid interviewers, working in the project consultant's call center, made five attempts to contact

eligible respondents. At least one attempt was made on a weekend day and, likewise, at least one

attempt was made during normal business hours (Jull et al., 2009).

The consultants with the guidance and review of the working group developed the survey

questions. Overall, 83 questions were posed to the respondents including those to gather

comparative demographic data (see Appendix B). The core questions focused on five key

behaviors identified by the working group:

1.   Storing sufficient water for three days.

2.   Storing sufficient food for three days.

3.   Keeping shoes under the bed (to protect feet from broken glass in the event of an

earthquake or severe storm effects).

4.   Keeping an adequate supply of life-saving medicines on hand.

5.   Creating and keeping a list of out-of-area contacts handy.

Secondary Focus Groups

Following completion of the telephone survey, the working group met to review the results

of the survey and to further refine the focus of the project. After evaluating five possible options,

the working group chose storing water as the foci to pursue for further development and eventual

implementation. Looking forward to developing the strategic marketing mix to support this foci,

a series of discussion questions was developed to discover a representative group of people in the

target population's responses to the four dimensions of social marketing: promotion, products,

place, and price. Participants in the secondary focus groups were gathered from the 200

respondents to the telephone survey that expressed interest in a follow up discussion. The

participant list was further limited to those respondents who had encountered barriers to

completing preparedness behaviors in the past. Two focus group discussions were held (one on

February 24 and 26, 2009) at a public meeting space. In all, 11 people attended: eight men and

three women. When possible, colored adhesive dots were provided to the participants to enable

direct feedback about various program elements. The participants were directed to place green

dots on listed items that were considered positive, yellow dots for those items considered to be

questionable, and red dots for items that should be discarded. Working group participants

brainstormed and developed lists of belief and knowledge statements, a proposed theme, and

potential products, places, and incentives related to the project foci. A detailed script for the

secondary focus group sessions can be found in Appendix C.

Develop Strategic Marketing Mix

The last step in the planning process was to develop the strategic marketing mix. With the feedback of the secondary focus groups in hand, the working group met on March 12, 2009 to formulate the strategic marketing mix for the program. The discussion was framed around the four Ps of marketing:

1. Promotion – Knowledge objectives, belief objectives and positioning statement. Brand themes?

2. Place – where will contact be made with the target audience?

3. Product – what steps will be taken to support the target audience's adoption of the positioning statement?

4. Price – what incentives to engage in the behavior can be provided? Can any cost (time, effort) barriers be removed?

Results

Given that multiple tools were applied during the research (working group processes, focus groups, and a telephone survey), results of the research are organized on the basis of the research questions. Only the results pertinent to the questions are addressed in this section. The complete results of all procedures may be viewed in Appendix B (Telephone survey script frequency report), Appendix D (Findings from initial focus groups), and Appendix E (Findings from secondary focus groups).

What behavior provides the largest impact on individual/family disaster preparedness?

The question of what behaviors might provide the largest impact on individual/family disaster preparedness was addressed at a working group meeting on October 2, 2008, as a

component of the initial focus groups, and through questions in the telephone survey. The results

of the group prioritization process completed at the working group meeting are displayed in rank

order in Table 1.

Table 1

Potential impact of preparedness behaviors

Behavior	Impact	Willing- ness	Total
Storing water	8.0	9.6	17.6
Storing food	7.8	8.1	15.9
Extra medication	6.3	8.7	15.0
Extra shoes	7.6	6.2	13.8
Extra warmth	6.9	6.9	13.8
Emergency contacts	7.1	5.7	12.8
Turn off gas	5.1	6.7	11.8
Copy documents	6.5	4.6	11.1
Identify shelter	5.4	5.5	10.9
Secure heavy objects	4.6	6.0	10.6
Know resources	3.9	6.0	9.9
Identify meeting place	6.0	3.6	9.6

The results displayed in Table 1 clearly indicated the importance of basic survival needs in

disaster preparedness. Although the relatively high and tight grouping of the data (range of 9.6 –

17.6 on a scale of 0-20) indicates that all of the behaviors were important; storing water, based

on the impact on individuals and families if it is not done and the relative ease of performing the behavior, was identified as the most appropriate behavior to focus on.

The initial focus groups provided insight into the prevalence of the practice of storing water by people within the target audience. All of the focus group participants living in single-family homes or condos stated that they stored water, versus approximately half of the participants in who lived in a senior apartment setting. Several questions asked during the telephone survey added more information relative to the impact of water storage. The first relevant question (#4) asked, "In an emergency, you may not have running water in your home. Have you ever heard or read that it is useful to store water in case of emergency?" received an overwhelming affirmative reply (96%) versus negative (4%). When asked, "Right now, do you have enough water stored for you and everyone in your household to drink for three days?" 49% said they did. Of those who did not have enough water stored, about half (25%) said they were considering doing so, while the remainder (24%) was not. Adding more detail, Question #6 asked, "Have you or anyone else in your household talked or thought about storing water in case of emergency?" yielded a more varied response. 48% of the respondents said they had talked or thought about storing water, while 52% replied they had not.

Which segments of the community are most likely to engage in, and benefit from, the desired preparedness behavior?

At the October 2, 2008 working group meeting, participants completed a prioritization exercise in order to help identify which segment of the community would be best to focus program messages to. Each participant ranked the various target audiences on a scale of 1 (low) to 10 (high) on their need (size and vulnerability), inclination (willingness to engage), and reachability. The results of the process, which prioritized children, elderly, and parents of

children in single family homes as the highest impact target audiences, was then analyzed by the working group. Although children were ranked first in the aggregate scoring, this group was discounted, as they are not necessarily able to accomplish preparedness behaviors on their own. Instead, the elderly population was chosen as the target audience for the research. The results of the prioritization process are summarized in Table 2.

Table 2

Target audience prioritization

Audience Segments	Average Score
Children	23.29
Elderly	22.0
Parents of children in single family homes	21.14
Retired	20.14
Disabled	19.71
Parents of children in multi-family homes	19.29
People in public housing	17.86
Working adults	16.57
Poor	16.29
Ill	16.14
Moving/driving adults	15.57
College students	14.86
Non-parenting adults	14.29

Non-English speakers	13.71

What are the perceived barriers preventing people from performing the desired preparedness behavior?

The working group, the initial focus groups, and the telephone survey generated results related to this question. The working groups contribution was to develop a list of barriers to test with the target audience in the focus groups and through the telephone survey. The potential barriers identified relevant to water storage were: availability of space, cost, knowing what to buy, lack of motivation or awareness of need, thinking someone else will do it, shelf life, distasteful, and convenience.

Participants in the initial focus groups provided an interesting window as to what would prevent people from storing water in case of emergency. Some of their comments included:

"It's not going to happen – that's the attitude. I know other people who have no preparation. They're perfectly intelligent people but they just haven't bothered."

"I know I should, but there's gotta be a good way to do it and I don't know the best way, so I'll just wait until I know what that is."

A lack of motivation and/or information were believed to be the main reasons people did not store water in case of an emergency, while not having sufficient space was believed to be a key reason those living in apartments did not store water. Those who didn't store water also said they didn't think they needed it and tended to be those who had not experienced an emergency. Other reasons, including a lack of sense of urgency, and uncertainty about how to store water correctly, were given as additional reasons people might not store water.

Those participants in the telephone survey who indicated that they did not have water stored were asked to respond to six potential reasons people sometimes give for not storing

water. The most common reason given (45%) was the lack of time and/or motivation to perform

the task. Other barriers largely related to not having the right information about safe storage

practices. Most of the respondents suggested that one or two of the issues were true barriers for

them, while 13 people said that all six of the barriers prevented them from storing water. The

results of these questions are summarized in Table 3.

Table 3

Barriers to storing water

	Percentage		
Barrier	No	Somewhat	Yes
Finding the time and motivation	43	13	45
Knowing how long to keep	53	13	34
Finding a good place to keep	58	9	33
Knowing how to be sure it would stay safe and clean	60	9	32
Knowing how much water to store	66	9	25
Knowing what kind of containers to store in	72	7	22

What are the perceived motivators for people to engage in the desired preparedness behavior?

Similar to the exploration into what prevents people from storing water, results from

working group processes, the initial focus group, and the telephone survey provided insight into

what may motivate people to store water. As with the barriers, the working group's contribution

was to develop a consensus list of possible motivators for engaging in water storage. The list

included messages that say becoming prepared is easy, empowering, fear reducing, community

building, health promoting, and a duty and responsibility. Additionally, the cost of being

unprepared, labeling products, packaging products for convenience, providing recognition of those who are prepared, and projecting fear and/or guilt carefully balanced with empowerment were listed as potential motivators.

Although not necessarily specific to the behavior of storing water, the telephone survey asked an extensive series of questions relative to what motivates people to engage in preparedness activities. The most motivating condition was thought to be knowledge that an emergency was about to happen (68%), followed by full understanding of the importance of preparing (51%), knowledge that normal city services may not be available (50%), and knowing the impacts of not preparing (48%). The full results are presented in Table 4.

Table 4

Preparedness motivations

	Percentages			
Motivation	Definitely would	Probably would	Probably would not	Definitely would not
Hearing an emergency was about to Happen	68	27	4	1
Hearing a reminder on TV or radio	35	42	16	4
Having a checklist of things to do	46	40	9	3
Having a reminder to do them in your house	33	42	15	7
Knowing the best way to prepare	46	44	6	2

Knowing the city may not be able to help	50	30	14	3
Knowing that others like you were getting prepared	39	37	18	4
Getting a regular reminder to do it	28	39	22	9
Being publicly recognized for being prepared	15	20	33	26
Learning how to make it a habit to stay prepared	42	37	15	2
Understanding why it is important to do it	51	38	7	2
Understanding the consequences of not doing it	48	35	11	2
Understanding why doing it is better than doing something else	48	39	7	1

What strategies would be effective in influencing target audiences toward engaging in the desired preparedness behavior?

Armed with data from the secondary focus group (Appendix E), the working group met on March 17, 2009 to identify the strategic components of a campaign to get people 60 years or older to store water. The components were framed around the 4 Ps of marketing: promotion, product, place, and price.

Promotion. Feedback from participants in the secondary focus group suggested to the working group that messages should revolve around the concept of "major disasters" more than

"catastrophic emergencies." The working group validated secondary focus group participant

concerns that the term "catastrophic" may serve to overwhelm members of the intended

audience, while the term "disaster" is more relevant and actionable. Additionally, the working

group validated the following belief and knowledge statements that resonated most strongly with

secondary focus group participants. The belief statements were (a) normal city services such as

clean water and emergency response may not be available in a catastrophic emergency/major

disaster, and (b) in a catastrophic emergency/major disaster, safe/clean drinking water becomes

scarce. The knowledge statements that most resonated with the secondary focus group were (a)

recommendation is for 1 gallon per person per day for three days for drinking, cooking and

washing/brushing, and (b) store water for six months, then replace. Lastly, given the lukewarm

response from the secondary focus group to the proposed theme of "Always becoming ready",

the working group seized on the City of Everett, Washington's preparedness theme of "Who

depends on you?" The working group was intrigued by the possibility of dovetailing materials,

messaging, and efforts with Everett and other Puget Sound communities who used the theme.

Products. In consideration of feedback from the secondary working group expressing

concern with being able to lift containers larger than five gallons (approximately 42 pounds), the

working group envisioned the City making available "approved" refillable water storage

containers in volumes of five gallons or less. The working group also adopted the City of

Seattle's idea of container labels that remind people how much water is needed and how long to

store it. Lastly, the working group suggested adapting printed materials developed by the City of

Seattle to use on handouts, brochures, web sites, and displays.

Place. While noting that there was some disagreement on the value of various outlets as

sources of information between the results of the telephone survey and the feedback from the

secondary focus group, the working group concluded that information outlets presented reasonable places to deliver messages. Outlets of interest included (a) BTV10, (b) KGMI, KMRE, NPR, (c) Comcast cable ads, (d) Prime Time publication of the Bellingham Herald, and (d) the Internet. Additionally, the working group validated an extended list of places for reaching the 60+ population group including (a) Senior Center, (b) Center for Senior Health, (c) assisted living centers, (d) community club houses in senior housing developments, (e) Veteran's Administration office, (f) Northwest Regional Council, (g) hospital elevators, (h) hospital restroom doors, (i) libraries, (j) Food Co-op, (k) Village Books, (l) post offices, (m) banks, (n) the Federal building, (o) pharmacies, (p) Veterans of Foreign Wars, (q) senior citizen groups and service clubs, and (r) Whatcom Transit Authority buses.

Price. The working group reached consensus that by identifying what "approved" containers are is a key way to help make the behavior easier and potentially less expensive. Additionally, the working group concurred with positive feedback from the secondary focus group regarding the placement of reminders on store shelves where water is sold.

<div align="center">Discussion</div>

The findings of others, as discussed in the literature review, served not only to inform the researcher about what was already known about social marketing approaches to disaster preparedness, but also provided ideas on content and approach in the research project. In this section, I will discuss the connections between the study results and the findings of others and provide my interpretation of the results, especially in regards to their value to the overall research.

What behavior provides the largest impact on individual/family disaster preparedness?

A relationship at the conceptual level was noted between the findings of others and this research in regards to identifying the highest impact preparedness behavior. The literature review revealed the common recognition of the importance of certain behaviors by national preparedness guidelines (DHS, 2007) and various studies (American Red Cross, 2008; Butler & Savage, 2005; Redlener, 2004). Specifically, one of the desired behaviors identified by all of these sources was the importance of maintaining disaster supplies, but no data was found to establish the basis for this recognition. The focus of this research on water storage, presented a direct connection to the findings of others as, obviously, water is a key disaster supply. The difference in this research is that it sought to quantify the importance of water storage in comparison to other preparedness behaviors. Although the small size of the working group stands as a noted limitation as to the validity of the findings, still the group did apply criteria (impact and willingness) to achieve the relative rankings of the various preparedness behaviors. Overall, the conceptual connection between the work of others (American Red Cross; Butler & Savage; DHS; Redlener) and this research, combined with the effort of this research to quantify the importance of water storage, leads me to believe that water storage is indeed one of the most important preparedness behaviors, the single most important one identified for our community, and an appropriate behavior to target messaging to in our community.

Which segments of the community are most likely to engage in, and benefit from, the desired preparedness behavior?

Learning what other people had discovered about the process of identifying target audiences provided a sound foundation for the research. To begin with, Andreasen (1995) highlighted the importance of selecting audiences who are most likely to make change as

described by the Stages of Change model. Kotler and Lee (2007) furthered understanding by suggesting that the highest impact audiences are those either contemplating change, or those who are already performing the behavior but simply need reinforcement. Witte's (1992) Extended Parallel Process Model (EPPM) took a different approach to identifying the most susceptible target audiences, suggesting that the perception of threat (fear) and a given audience's perception of whether or not they can do anything to mitigate a threat, served as key factors. The model that made the most sense to me was the Citizen Corps' (2006a) Personal Change Model for Disaster Preparedness. This model incorporated elements of both the Stages of Change and EPPM models into a sensible map illustrating the spectrum of readiness to engage in preparedness behaviors within a given audience.

Although the literature review provided a good conceptual foundation in regards to this research question, little correlation data was discovered. For instance, the American Red Cross (2007) found that the oldest population groups were among the least prepared, but the their survey did not correlate demographic data to specific behaviors. Butler and Savage (2005) did a better job at linking demographic factors and behaviors, but did not address water storage specifically. Lastly, Jull et al. (2008) found that, within the City of Bellingham, survey respondents age 65 and older considered themselves to be better prepared than renters did. The methodology employed with the working group to identify the highest impact target audience made sense to this researcher. Using the factors of need, inclination, and reachability, the working group's prioritization of children and elderly seemed consistent with the predictive models, and the working group's selection of the elderly over children made sense as children would not be able to accomplish the desired behaviors on their own. The results of this process were critical to the research and the organization as identification of the target audience serves as

an integral component of the social marketing planning process and, ultimately, in the desire to deliver the preparedness messages to the highest impact audience.

What are the perceived barriers preventing people from performing the desired preparedness behavior?

Perceived barriers to engaging in preparedness activities proved to be a rich topic for comparison between information gleaned in the literature review and the research data. On the macro level, barriers of fatalism and denial identified by Conroy (2008) and Ripley (2006) were reinforced in the some of the attitudes about preparedness articulated by participants in the initial focus groups. Likewise, on a practical level, the barriers of importance, time, and cost cited by ORC Macro (2005) were noted in the feedback from the initial focus groups and telephone survey. Additionally, however, the focus groups and telephone survey respondents developed the idea that a lack of information about how much water to store and how to store it, served as a significant barrier to people. This information served an integral element of the planning process, specifically in providing insight into what strategies, if delivered, would most likely influence adoption of the desired preparedness behavior.

What are the perceived motivators for people to engage in the desired preparedness behavior?

Although there was comparatively less information discovered about the motivators for, as opposed to the barriers to, engaging in disaster preparedness, what was found was consistent with the results of this research. The key finding was that the predicted proximity to (Citizen Corps, 2006b) or the actual experiencing of a disaster was a highly motivating condition (ORC Macro, 2005; Butler & Savage, 2005). This finding was reinforced in the results from the telephone survey where 68% of the respondents indicated that knowledge about an impending disaster would cause them to make preparations. Other motivators identified by the Citizen

Corps study included an interest in family safety, a sense of unpreparedness, incentives, and

personal responsibility. Although perhaps stated in different terms, motivational factors of (a) the

importance of preparing, (b) knowing that city services would be unavailable, and (c) knowing

the impacts of not preparing identified by the telephone survey respondents were similar to those

listed in the Citizen Corps study. Another key component of the social marketing planning

process, learning what factors might motivate people to engage in the desired preparedness was

vital in the design of the strategic marketing mix.

What strategies would be effective in influencing target audiences toward engaging in the

desired preparedness behavior?

The research and writings of Nancy Lee and Philip Kotler, leaders in the field of social

marketing, provided an excellent roadmap of the social marketing planning process, especially in

the area of developing the specific marketing strategies. To begin with, Kotler and Lee (2007)

emphasized the importance of developing a vision of how the desired program is positioned in

relation to the intended audience. In the case of study, this positioning was established by the

selection of the "Who depends on you?" theme. Although not explicit to water storage, the theme

intended to capture the importance of disaster preparedness and to motivate the target audience

to engage.

To frame the overall marketing program, Kotler and Lee (2007, 2008) referred to the

classic 4 Ps of marketing: product, price, place, and promotion. Product, as defined by Kotler and

Lee (2007) has three states: core, actual, and augmented. The core product (the expected benefits

to the target audience) were implicitly acknowledged by working group participants but not

identified in the results. Instead, the study focused on the actual product or behavior (water

storage) and the augmented products of "approved" water containers and labels providing the audience with information about proper water storage.

The monetary or non-monetary costs associated with a program were defined by Kotler and Lee (2007) as price. Examples of price components included fees, supplies, and incentives (Kotler and Lee). The study resulted in the concept of identifying an "approved" water container as a method to decrease the time, and increase the confidence, of people wanting to purchase water containers. Although price is typically associated with money, Kotler and Lee's inclusion of monetary factors was helpful in leading working group participants to understand that, even without the resources to buy water containers outright, the net cost to program participants could still be reduced through non-monetary means.

Place, as defined by Kotler and Lee (2007) is where messages are delivered and the means by which people access messages. The study provided a host of ideas for where messages could be communicated to including electronic media and an extensive list of actual physical locations within the community. Of all the elements of social marketing, this is one of the most tangible and easiest to understand. What is more difficult, during the process of actually distributing the messages, is to make cost/benefit judgments about which places will provide the greatest return (in exposure) for the amount of time, energy, and money involved. During delivery of this program, the manager will need to pay close attention to this cost/benefit relationship.

Information about what you want to say, who will say it, and where the messages will appear, defines, in the terms of Kotler and Lee (2007), the concept of promotion. Where, in the context of promotion, refers to the communication channel the message is distributed through as opposed to the place where the message was received. A fairly tangible concept to understand, promotional outlets included advertising, personal deliveries, direct marketing, and internal

communications (Kotler and Lee). The most important element of promotion is establishing what you want to say. To this end, the study tested a number of belief and knowledge statements to learn which ones resonated with participants. Feedback received on, for instance, the desirability of using the term "disaster" instead of "catastrophe" was helpful in shaping the terms used in the process of messaging, the knowledge that the prospect of normal city services (police and fire) being unavailable was important to survey participants, and the acknowledgement by survey participants that drinking water is scarce during a disaster were all important realizations for the working group, and ones not addressed in the findings of others.

<center>Recommendations</center>

Given that the various elements of this study were ultimately targeted towards increasing the practice of storing water for disaster use by community members aged 60 or over; the primary recommendation is to deliver the research validated messages according to the proposed mix of marketing methods. The key to implementing this recommendation is staffing to support the program. Presently, given the recent loss of OEM's public education specialist, no position within OEM or DEM exists that has the capacity and focus to fulfill this role. However, depending on the ability to fill a position that is currently vacant in DEM, plus the potential of being able to engage the services of one or two Ready Corps volunteer positions, we will likely have staff in place by late this summer who are capable of implementing this program. The other key ingredient to implementing the program is funding for materials and message placement. Although both city and county governments are in a severe budget crisis, grant funds from the Department of Homeland Security will likely be available as a funding source.

Two major benefits are expected from successful implementation of the program. First, and most importantly, the program is expected to increase the practice of a key preparedness

behavior (water storage) by the elderly population. Net result of the increased level of

preparedness is that this vulnerable population should be in a better position to sustain

themselves in the absence of the normal governmental, family, and community support systems

that will likely be disrupted by a disaster event. Secondly, at an organizational level, the process

of this research, in combination with implementing its findings, will provide local public

educators with knowledge and experience in using the social marketing methodology to develop

and deliver other preparedness messages targeted at perhaps different target audiences.

Especially important in these times of scarce resources, this research-based approach is expected

to produce measurable results (as evidenced by changes in behavior) at a comparatively lower

cost than what could be achieved with general purpose, non-targeted, preparedness messaging. In

order to empirically establish the benefits achieved by the program, follow-up evaluation is

recommended. Using elements of the telephone survey specific to water storage, an additional

telephone survey, likely completed by the same contractor, would be very helpful in establishing

the effectiveness of the program.

Lastly, although somewhat unconventional for Applied Research Projects, I would

encourage the use of working groups or a research teams. The benefit, in my mind, of this team

approach is the built-in ability to consider and include other points of view, as well as the

increased accountability to actually implement recommendations that is inherent in a group

process. Additionally, and, in this case, increasingly common for Applied Research Project, the

use of research tools (e.g. Survey Monkey or a survey firm) can potentially enhance the quantity

and quality of research data. In the case of this study, the quantity and quality of data generated

was far beyond the ability of a single lay researcher to gather.

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Appendix A

Script for Initial Focus Groups

1. Let's go around the room with introductions. Could each of you take one minute or less and give your first name and, in one or two sentences, describe a time when you experienced an emergency situation. I'll give an example. "My name is Rebecca and once when I was hiking I ran out of water. By the end of the hike I was pretty dehydrated and couldn't drink or eat much for a few hours." If you have never been in an emergency situation or disaster, you can say that too.

2. Let's start by imagining that there's been a severe earthquake. The power is out. Phones and cell phones are not working. You're at home. What is the first thing that comes to mind that you would need if this happened? [Follow up] have you done this thing to become prepared in case of an earthquake? Keeping in mind this scenario, we're going to talk about some examples of things emergency management specialists think are particularly important to do. Even though they're important, many people don't do them. We're trying to learn what gets in the way of doing these things, and what motivates or helps you.

3. The City of Bellingham Office of Emergency Management recommends that you haveenough water for each person to drink for three days in case clean water is unavailable at the time. Do you have or water stored away in case of an emergency? If not, what got in the way? [prompt, if needed] For example, I [moderator} haven't done it because I haven't gotten around to it. If so, how did it go? [possible prompts] Was it difficult? What did you do to make it easier or more "do-able"?

4. The Office of Emergency Management recommends that each person have enough food stored for each person to eat for three days in case there isn't any available where you can get to it. Do you?

5. Many injuries after earthquakes are from people walking on broken glass. The Office of Emergency Management recommends having sturdy shoes stored under your bed in case of an earthquake. Do you?

6. Often we lose power in emergencies and may not have heat for our homes. The Office of Emergency Management recommends having a full change of warm clothing stored for emergencies. Do you?

7. Often in an emergency local communications don't work, like phones. The Office of Emergency Management recommends making a list of contacts that live outside of your area and keeping it handy. Those contacts can be a common point of contact for people in the emergency area. Do you have such a list?

8. The Office of Emergency Management recommends having an extra supply of medication in case you run out during an emergency and can't get more. Do you?

9. What advice would you give the City of Bellingham about helping and encouraging residents like you to take action to become prepared for emergencies and disasters? [prompts] If you have gotten any information in the past about emergencies, where did it come from? What types of messages are most helpful to you about preparing for a disaster?

Appendix B

Telephone Survey Script and Frequency Report

INTRO:

Hello, my name is $I and I am calling on behalf of the City of Bellingham with a survey about getting ready for emergencies.   The survey will help the City understand what would be most helpful to residents in getting prepared for emergencies. May I please speak to an adult age 60 or older.   [If yes] Do you have a few minutes?   [How long] The survey takes about 10-12 minutes depending on your answers.   [Rebuttal]   The City of Bellingham Disaster Preparedness Task Force is preparing to launch a public outreach campaign in 2009. The aim of the campaign is to help Bellingham residents to better avoid and prepare for disasters. This survey will help the Task Force learn about what would encourage and help people like you to prepare for a disaster.

N = ... 300   100%

Able to continue... 01   299   100%

Not able to continue.. 02   1   0%

SC1:

Are you age 60 or older? Make sure respondent knows we mean 60 and not 16.

N = ... 300 100%

Yes 1 300 100%

No.. 2 0 0%

Don't know (do not read) 3 0 0%

Not applicable (do not read) 4 0 0%

Refused (do not read)... 5 0 0%

SC2:

And do you live within the city limits of Bellingham?

N = ... 300 100%

Yes 1 300 100%

No.. 2 0 0%

Don't know (do not read) 3 0 0%

Not applicable (do not read) 4 0 0%

Refused (do not read)... 5 0 0%

INFO1:

Ok, now I would like to ask you about a few things people might do to prepare for an emergency.

N = ...	300	100%
Press enter to continue 1	300	100%

Q4:

In an emergency, you may not have running water in your home. Have you ever heard or read that it is useful to store water in case of an emergency?

N = ...	300	100%
Yes 1	289	96%
No... 2	11	4%
Don't know (do not read) 7	0	0%
Not applicable (do not read) 8	0	0%
Refused (do not read)... 9	0	0%

Q5:

Right now, do you have enough water stored for you and everyone in your household to drink for three days? That would be at least 1 gallon per person per day.   [FAQ: Why are you asking me about this right now?] People sometimes plan to do things or have done them in the past. To get a clear estimate of the level of emergency preparedness, we want to know what your home is like right now.

N = ...		300	100%
Yes 1		146	49%
No... 2		152	51%
Don't know (do not read) 7		1	0%
Not applicable (do not read) 8		1	0%
Refused (do not read).. 9		0	0%

Q6:

Have you or anyone else in your household talked or thought about storing water in case of an

emergency?

N = ...		155	100%
Yes 1		74	48%
No... 2		80	52%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

INFO2:

Has any of the following kept you from storing water? The first one is...

N = ...	154	100%
Press enter to continue 1	154	100%

Q7A:

Knowing how much water to store. (Would you say...)

N = ...		154	100%
Yes 1		37	24%
No.. 2		100	65%
Somewhat... 3		14	9%
Don't know (do not read) 7		2	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		1	1%

Q7B:

Knowing what kind of containers to store it in. (Would you say...)

N = ...		154	100%
Yes 1		33	21%
No.. 2		109	71%
Somewhat... 3		10	6%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		1	1%
Refused (do not read)... 9		0	0%

Q7C:

Finding a good place to keep it. (Would you say...)

N = ...		154	100%
Yes 1		50	32%
No.. 2		89	58%
Somewhat... 3		14	9%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q7D:

Finding the time and motivation to do it. (Would you say...)

N = ...		154	100%
Yes 1		68	44%
No.. 2		65	42%
Somewhat... 3		19	12%
Don't know (do not read) 7		2	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q7E:

Knowing how long to keep it. (Would you say...)

N = ...		154	100%
Yes 1		52	34%
No.. 2		80	52%
Somewhat... 3		19	12%
Don't know (do not read) 7		2	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		1	1%

Q7F:

Knowing how to be sure it would stay safe and clean. (Would you say...)

N = ...		154	100%
Yes 1		48	31%
No.. 2		90	58%
Somewhat... 3		13	8%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		2	1%

Q8:

Is your water in sealed, store bought containers, containers you refilled from your tap, or

something else?   [If the something else is a water heater then select that option!]

N = ...	146	100%
sealed, store bought containers 1	91	62%
Containers you refilled... 2	51	35%
Something else (Please specify)... 3	15	10%
Water heater (do not read) 4	8	5%
Don't know (do not read) 7	0	0%
Not applicable (do not read) 8	0	0%
Refused (do not read)... 9	0	0%

Q8A:

[For water heaters ONLY]   Is your water heater strapped to a wall?   [If needed: Strapping a

water heater to the wall prevents it from falling over in an earthquake]

N = ...	8	100%
Yes 1	5	63%
No... 2	2	25%
Don't know (do not read) 7	1	13%
Not applicable (do not read) 8	0	0%
Refused (do not read)... 9	0	0%

Q9:

Where did you decide to store your water?

N = ...		146	100%
Press enter to record response..	1	146	100%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q10:

In an emergency, you may not be able to get to a store to buy food. Have
you ever heard or read that it is useful to store food in case of an
emergency?

N = ...		300	100%
Yes	1	294	98%
No...	2	6	2%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q11:

Right now, do you have enough food for you and everyone in your household to eat for three

days?

N = ...		300	100%
Yes 1		284	95%
No... 2		13	4%
Don't know (do not read) 7		2	1%
Not applicable (do not read) 8		1	0%
Refused (do not read)... 9		0	0%

Q12:

Have you or anyone else in your household talked or thought about storing food in case of an

emergency?

N = ...		17	100%
Yes 1		6	35%
No... 2		10	59%
Don't know (do not read) 7		1	6%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

INFO3:

Has any of following kept you from storing food? The first one is...

N = ...   17   100%

Press enter to continue 1   17   100%

Q13A:

Knowing how much to store. (Would you say...)

N = ...   16   100%

Yes 1   4   25%

No... 2   9   56%

Somewhat.. 3   0   0%

Don't know (do not read) 7   3   19%

Not applicable (do not read) 8   0   0%

Refused (do not read)... 9   0   0%

Q13B:

Knowing what kind of food to store. (Would you say...)

N = ...		17	100%
Yes 1		6	35%
No.. 2		8	47%
Somewhat... 3		1	6%
Don't know (do not read) 7		2	12%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q13C:

Finding a good place to keep it. (Would you say...)

N = ...		17	100%
Yes 1		7	41%
No.. 2		7	41%
Somewhat... 3		1	6%
Don't know (do not read) 7		2	12%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q13D:

Finding the time and motivation to do it. (Would you say...)

N = ...		17	100%
Yes 1		8	47%
No... 2		5	29%
Somewhat.. 3		1	6%
Don't know (do not read) 7		2	12%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		1	6%

Q13E:

Knowing how long to keep it. (Would you say...)

N = ...		17	100%
Yes 1		6	35%
No... 2		9	53%
Somewhat.. 3		0	0%
Don't know (do not read) 7		2	12%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q14:

Do you store your emergency food separately, or do you simply keep enough food in your house to provide for three days, or do you do both?

N = ...		284	100%
Store food separately... 1		8	3%
Enough foor for 3 days 2		163	57%
Both... 3		113	40%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q15:

Where did you decide to store your emergency food?

N = ...		121	100%
Press enter to record response... 1		121	100%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q16:

If your electricity and gas were shut off, would you be able to cook the food that you have?

N = ...		300	100%
Yes 1		166	55%
No.. 2		127	42%
Don't know (do not read) 7		1	0%
Not applicable (do not read) 8		3	1%
Refused (do not read).. 9		3	1%

Q16A:

Can you describe for me how you would do that?

N = ...		166	100%
Yes- Press enter to record response 1		166	100%
No.. 2		0	0%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

Q17:

In an emergency you might not have heat in your home. Right now, do you have sufficient

warm clothes and blankets to keep you and others in your household warm?

N = ...		300	100%
Yes	1	296	99%
No..	2	2	1%
Don't know (do not read)	7	2	1%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q18:

Have you or anyone else in your household talked or thought about storing warm clothes and

blankets in case of an emergency?

N = ...		4	100%
Yes	1	2	50%
No..	2	2	50%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q19:

Many injuries after earthquakes are from people walking barefoot on broken glass. Have you ever heard or read that it is useful to keep a pair of sturdy shoes under your bed in case of an emergency?

N = ...		300	100%
Yes	1	127	42%
No..	2	172	57%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	1	0%

Q20:

Right now, do you have a sturdy pair of shoes stored under your bed?

N = ...		300	100%
Yes	1	120	40%
No..	2	180	60%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q21:

Have you or anyone else in your household talked or thought about storing shoes under your bed in case of an emergency?

N = ...		180	100%
Yes 1		16	9%
No... 2		164	91%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q22:

Do you have space under your bed to store a pair of shoes if you wanted to?

N = ...		180	100%
Yes 1		161	89%
No... 2		18	10%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q23:

Would you have any difficulty reaching shoes under your bed and putting them on if you
needed them?

N = ...		161	100%
Yes 1		11	7%
No.. 2		149	93%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		1	1%

Q24:

In an emergency, local telephone calls might not go through, but long distance could. Have you
ever heard or read that it is useful to keep a list of people outside the area to call in case of an
emergency?

N = ...		300	100%
Yes 1		181	60%
No.. 2		117	39%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		1	0%
Refused (do not read).. 9		1	0%

Q25:

Right now, do you keep a list of people you can contact in an emergency who live outside of the

Puget Sound region?   NOTE: If they have contact information available to them, but don't

have designated emergency contacts written down somewhere handy, they do not have a list.

[If needed: What is outside the Puget Sound region?   Outside the Puget Sound region would

be at least as far as Eastern Washington or outside of Washington State.   Why would I want to

have contacts? If you need to check in with someone locally, you can call your contacts outside

the region and see if they can help. For example, if your household or family members all share

those contacts, you can each call the contacts to tell each other where you are or that you're

okay.

N = ...		300	100%
Yes 1		230	77%
No.. 2		69	23%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		1	0%
Refused (do not read)... 9		0	0%

Q26:

Have you or anyone else in your household talked or thought about making a contact list for

people you know outside the region?   NOTE: If they have contact information available to

them, but don't have designated emergency contacts written down somewhere handy, they do

not have a list.   [If needed: What is outside the Puget Sound region?   Outside the Puget

Sound region would be at least as far as Eastern Washington or outside of Washington State.

Why would I want to have contacts? If you need to check in with someone locally, you can call

your contacts outside the region and see if they can help. For example, if your household or

family members all share those contacts, you can each call the contacts to tell each other where

you are or that you're okay.

N = ...		72	100%
Yes 1		10	14%
No.. 2		61	85%
Don't know (do not read) 7		1	1%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

INFO4:

Has any of the following kept you from having a contact list? The first one

is...

N = ...		72	100%
Press enter to continue 1		72	100%

Q27A:

Finding the time and motivation to do it. (Would you say...)

N = ...		71	100%
Yes 1		29	41%
No.. 2		30	42%
Somewhat.. 3		12	17%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q27B:

Figuring out who you could use for your contacts. (Would you say...)

N = ...		70	100%
Yes 1		20	29%
No.. 2		37	53%
Somewhat.. 3		8	11%
Don't know (do not read) 7		4	6%
Not applicable (do not read) 8		1	1%
Refused (do not read)... 9		0	0%

Q27C:

Not seeing a need to have a separate out of area contact list. (Would you say...)

N = ...	70	100%
Yes 1	21	30%
No.. 2	43	61%
Somewhat.. 3	5	7%
Don't know (do not read) 7	0	0%
Not applicable (do not read) 8	1	1%
Refused (do not read)... 9	0	0%

Q28:

Do you use any prescription medications?

N = ...	300	100%
Yes 1	258	86%
No.. 2	42	14%
Don't know (do not read) 7	0	0%
Not applicable (do not read) 8	0	0%
Refused (do not read)... 9	0	0%

Q29:

Would you have serious problems if you ran out of any of your medications during an emergency?

N = ...		259	100%
Yes 1		98	38%
No.. 2		141	54%
Don't know (do not read) 7		15	6%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		5	2%

Q30:

Right now, do you have at least a three-day supply of those medications?

N = ...		98	100%
Yes 1		97	99%
No.. 2		1	1%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q31:

Have you or anyone else in your household talked about or thought about keeping an extra supply of medication in case of an emergency?

N = ...		1	100%
Yes 1		1	100%
No... 2		0	0%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

Q32:

Do you ever run out of that medication before you have a chance to get a refill?

N = ...		97	100%
Yes 1		13	13%
No... 2		84	87%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

INFO5:

Has any of the following kept you from having at least a three-day supply of medication on

hand? The first one is...

N = ...		14	100%
Press enter to continue 1		14	100%

Q33A:

Your Insurance company's restrictions on when you can get refills. (Would you say...)

N = ...		14	100%
Yes 1		9	64%
No.. 2		5	36%
Somewhat.. 3		0	0%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

Q33B:

Needing authorization from your doctor for a restricted or carefully controlled medication.

(Would you say...)

N = ...		14	100%
Yes 1		10	71%
No.. 2		2	14%
Somewhat... 3		2	14%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

Q33C:

Forgetting to get your medication refilled. (Would you say...)

N = ...		14	100%
Yes 1		3	21%
No.. 2		11	79%
Somewhat... 3		0	0%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		0	0%

Q33D:

Not realizing that you were running out of your medication. (Would you say...)

N = ...		14	100%
Yes 1		5	36%
No.. 2		8	57%
Somewhat.. 3		1	7%
Don't know (do not read) 7		0	0%
Not applicable (do not read) 8		0	0%
Refused (do not read)... 9		0	0%

INFO6:

Now I want to know if anything could help you to take these actions to prepare for an emergency. For each item I read, please tell me if you definitely would, probably would, probably would not, or definitely would not take any action to get prepared. The first one is…

N = ...		300	100%
Press enter to continue 1		300	100%

Q34A:

Hearing that an emergency was about to happen. (Would you say...)

N = ...		300	100%
Definitely would	4	204	68%
Probably would	3	80	27%
Probably would not..	2	11	4%
Definitely would not	1	2	1%
Don't know (do not read)	7	2	1%
Not applicable (do not read)	8	1	0%
Refused (do not read)..	9	0	0%

Q34B:

Hearing a reminder on TV or radio. (Would you say...)

N = ...		300	100%
Definitely would	4	104	35%
Probably would	3	126	42%
Probably would not..	2	49	16%
Definitely would not	1	13	4%
Don't know (do not read)	7	2	1%
Not applicable (do not read)	8	4	1%
Refused (do not read)..	9	2	1%

Q34C:

Having a checklist of things you can do. (Would you say...)

N = ...		300	100%
Definitely would	4	138	46%
Probably would	3	121	40%
Probably would not..	2	28	9%
Definitely would not	1	8	3%
Don't know (do not read)	7	2	1%
Not applicable (do not read)	8	1	0%
Refused (do not read)..	9	2	1%

Q34D:

Having a reminder to do them in your house. (Would you say...)

N = ...		300	100%
Definitely would	4	99	33%
Probably would	3	127	42%
Probably would not..	2	44	15%
Definitely would not	1	21	7%
Don't know (do not read)	7	3	1%
Not applicable (do not read)	8	3	1%
Refused (do not read)..	9	3	1%

Q34E:

Knowing the best way to prepare. (Would you say...)

N = ...		300	100%
Definitely would 4		137	46%
Probably would 3		131	44%
Probably would not 2		17	6%
Definitely would not 1		5	2%
Don't know (do not read) 7		4	1%
Not applicable (do not read) 8		3	1%
Refused (do not read) 9		3	1%

Q34F:

Knowing that the city might not be able to help you in an emergency.

(Would you say...)

N = ...		300	100%
Definitely would 4		149	50%
Probably would 3		90	30%
Probably would not... 2		43	14%
Definitely would not 1		9	3%
Don't know (do not read) 7		4	1%
Not applicable (do not read) 8		1	0%
Refused (do not read)... 9		4	1%

Q34G:

Knowing that others like you were getting prepared. (Would you say...)

N = ...		300	100%
Definitely would 4		116	39%
Probably would 3		111	37%
Probably would not 2		55	18%
Definitely would not 1		12	4%
Don't know (do not read) 7		3	1%
Not applicable (do not read) 8		1	0%
Refused (do not read) 9		2	1%

Q34H:

Getting a regular reminder to do it. (Would you say...)

N = ...		300	100%
Definitely would 4		83	28%
Probably would 3		118	39%
Probably would not 2		67	22%
Definitely would not 1		28	9%
Don't know (do not read) 7		3	1%
Not applicable (do not read) 8		1	0%
Refused (do not read) 9		0	0%

Q34I:

Being publicly recognized for taking action to be prepared. (Would you say...)

N = ...		300	100%
Definitely would	4	45	15%
Probably would	3	59	20%
Probably would not...	2	99	33%
Definitely would not	1	79	26%
Don't know (do not read)	7	7	2%
Not applicable (do not read)	8	4	1%
Refused (do not read)..	9	7	2%

Q34J:

Learning how to make it a habit to stay prepared. (Would you say...)

N = ...		300	100%
Definitely would	4	125	42%
Probably would	3	111	37%
Probably would not...	2	45	15%
Definitely would not	1	7	2%
Don't know (do not read)	7	4	1%
Not applicable (do not read)	8	4	1%
Refused (do not read)..	9	4	1%

Q34K:

Understanding why it is important to do it. (Would you say...)

N = ...		300	100%
Definitely would	4	152	51%
Probably would	3	114	38%
Probably would not	2	22	7%
Definitely would not	1	6	2%
Don't know (do not read)	7	4	1%
Not applicable (do not read)	8	1	0%
Refused (do not read)..	9	1	0%

Q34L:

Understanding the consequences of not doing it. (Would you say...)

N = ...		300	100%
Definitely would	4	143	48%
Probably would	3	105	35%
Probably would not	2	33	11%
Definitely would not	1	6	2%
Don't know (do not read)	7	5	2%
Not applicable (do not read)	8	3	1%
Refused (do not read)..	9	5	2%

Q34M:

Understanding why doing what's recommended is better than doing something else. (Would you

say...)

N = ...		300	100%
Definitely would	4	143	48%
Probably would	3	117	39%
Probably would not	2	22	7%
Definitely would not	1	3	1%
Don't know (do not read)	7	8	3%
Not applicable (do not read)	8	1	0%
Refused (do not read)...	9	6	2%

Q35:

Do you think emergencies usually come up unexpectedly and happen suddenly, or that you usually get plenty of warning?   If R answers both say: We want to know what you think usually happens.

N = ...		300	100%
Unexpected and happen suddenly..	1	236	79%
Plenty of warning..	2	48	16%
Don't know (do not read)	7	11	4%
Not applicable (do not read)	8	1	0%
Refused (do not read)..	9	4	1%

Q37:

What are your main sources for information about things like weather, news, and community events?   (Select all that apply)

N = ...		300	100%
Mailings 01		2	1%
Websites.. 02		70	23%
TV 03		248	83%
Local radio shows 04		152	51%
Local newspapers (specify)... 05		96	32%
Community newsletter 06		1	0%
Something else (specify).. 07		34	11%
Don't know (do not read) 77		0	0%
Not applicable (do not read) 88		0	0%
Refused (do not read)... 99		0	0%

COMSC:

Do you ever use a computer to access the internet?

N = ...		300	100%
Yes	1	198	66%
No..	2	101	34%
Don't know (do not read)	3	1	0%
Not applicable (do not read)	4	0	0%
Refused (do not read)...	5	0	0%

Q36:

In a typical week, how often, if at all, do you use the internet for email or to find information?

N = ...		198	100%
More than once a day..	1	58	29%
Every day	2	87	44%
Two to six times a week..	3	34	17%
Once a week..	4	8	4%
Less than once a week...	5	10	5%
Not at all...	6	0	0%
Don't know (do not read)	7	0	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)..	9	1	1%

INFO7:

For each of the following organizations, please tell me how much you trust them to provide reliable information about preparing for emergencies. The first one is...

N = ...		300	100%
Press enter to continue 1		300	100%

Q38A:

City programs like the Fire Department or Office of Emergency Management. (Would you say you trust them....)

N = ...		300	100%
A great deal 5		137	46%
Very.. 4		106	35%
Somewhat... 3		43	14%
Not very 2		4	1%
Not at all... 1		4	1%
Don't know (do not read) 7		5	2%
Not applicable (do not read) 8		1	0%
Refused (do not read).. 9		0	0%

Q38B:

Local aid groups and emergency relief groups. (Would you say you trust them....)   If R asks for examples: Groups such as The Salvation Army, The Lighthouse Mission, Red Cross, or the

Whatcom County Medical Reserve Corps. We are looking for comment about these types of

groups not these specific organizations.

N = ...		300	100%
A great deal 5		77	26%
Very 4		99	33%
Somewhat 3		90	30%
Not very 2		9	3%
Not at all 1		8	3%
Don't know (do not read) 7		14	5%
Not applicable (do not read) 8		0	0%
Refused (do not read) 9		3	1%

Q38C:

Neighborhood associations. (Would you say you trust them....)

N = ...		300	100%
A great deal 5		37	12%
Very... 4		41	14%
Somewhat... 3		124	41%
Not very 2		39	13%
Not at all.. 1		34	11%
Don't know (do not read) 7		17	6%
Not applicable (do not read) 8		3	1%
Refused (do not read).. 9		5	2%

Q38D:

Healthcare organizations like the local hospital or the Health Department. (Would you say you

trust them....)

N = ...		300	100%
A great deal	5	100	33%
Very	4	101	34%
Somewhat	3	72	24%
Not very	2	12	4%
Not at all	1	7	2%
Don't know (do not read)	7	6	2%
Not applicable (do not read)	8	0	0%
Refused (do not read)	9	2	1%

Q38E:

Are there any other organizations that you trust to provide reliable information about preparing

for emergencies?   [If answers YES say, "Which organizations?"]

N = ...		300	100%
Yes (please specify)	1	92	31%
No...	2	199	66%
Don't know (do not read)	7	7	2%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	2	1%

Q39:

Have you ever experienced a disaster or emergency, such as an earthquake, power outage, or

hurricane?

N = ...		300	100%
Yes	1	241	80%
No...	2	58	19%
Don't know (do not read)	7	1	0%
Not applicable (do not read)	8	0	0%
Refused (do not read)...	9	0	0%

Q40:

What, if any, emergency training have you had?

N = ...	300	100%
None.. 1	132	44%
Bellingham Map Your Neighborhood 2	1	0%
Other (please specify) 3	165	55%
Don't know (do not read) 7	2	1%
Not applicable (do not read) 8	0	0%
Refused (do not read).. 9	0	0%

Q41:

Have you ever served in the military?

N = ...	300	100%
Yes 1	72	24%
No.. 2	228	76%
Don't know (do not read) 7	0	0%
Not applicable (do not read) 8	0	0%
Refused (do not read).. 9	0	0%

Q42:

How old are you?

Mean = ...	93.2	
Standard Deviation = ...	136	
N = ...	300	100%
Don't know (do not read) 777	1	0%
Not applicable (do not read) 888	0	0%
Refused (do not read)....................................... 999	6	2%

Q43:

Do you live in a....

N = ...	300	100%
House 1	194	65%
Apartment 2	38	13%
Mobile home 3	7	2%
Condo.. 4	49	16%
Assisted living center.. 5	5	2%
Something else (please specify)........................ 6	4	1%
Don't know (do not read) 7	1	0%
Not applicable (do not read) 8	0	0%
Refused (do not read).. 9	2	1%

Q44:

The Department of Emergency Management may be doing further research on this topic. If so,
would you be willing to participate?   [IF YES say, "Ok, great. What is your full name? What is
the best phone number to reach you?" USE THIS FORMAT: FIRST, LAST, PHONE [Phone
format: 999 999 9999]   [Project Information for Interviewers if asked The City of Bellingham
Disaster Preparedness Task Force is preparing to launch a public outreach campaign in 2009.
The aim of the campaign is to help Bellingham residents to better avoid and prepare for
disasters. The Task Force would like to learn about what would encourage and help people like
you to prepare for a disaster.]

N = ...		300	100%
Yes (record name, phone)... 1		200	67%
No... 2		95	32%
Don't know (do not read) 7		3	1%
Not applicable (do not read) 8		0	0%
Refused (do not read).. 9		2	1%

CMTBX:

Comment Box: Do NOT Prompt

N = ...		300	100%
hit 'enter' to continue .... Y		300	100%

INT99:

Thank you for your time. Have a good evening.

N = ...   300   100%

Complete 08   300   100%

Appendix C

Script for Secondary Focus Group

PROMOTION (20 minutes)

Review the following statements with the group. Solicit feedback –

- Do they raise questions for you?

- How do you think others would respond to them?

- Which do you find the most compelling? Surprising? Doubtful?

- What would you need to know to find these believable?

Belief statements

- In a catastrophic emergency/major disaster, safe/clean drinking water becomes scarce.

- Emergencies happen here. Floods, storms, earthquakes, terrorism, explosions, epidemics

- Getting lucky (not being threatened by a disaster) doesn't always happen.

- We anticipate we could have a catastrophic quake in our area.

- Normal city services such as clean water and emergency response may not be available in a catastrophic emergency/major disaster.

- Disasters don't always come from nature. People can cause emergencies too.

Knowledge statements

- People must have water to survive.

- Recommendation is for 1 gallon per person per day for drinking, cooking and washing/brushing

- You can store water in lots of ways – store bought bottles, refilled bottles, a secured water tank.

- Plastic containers are safe.

- Reused plastic is safe.

- Store water for 6 months, then replace.

- There are lots of places you can keep it - apartments (under the table, behind the door), out of the house, in the house (either ok), back of the fridge, freezer (plastic is ok in the freezer)

- Water in the fridge or freezer reduces how much power the appliance needs - it is cost effective/sustainable/green

OVERARCHING THEME: (10 minutes)

What do you think of the overarching theme for the outreach?

Does the language work for you? Would you change it at all? Take suggestions.

"Becoming ready/Preparing is a constant endeavor (alt. continual effort, continual process)"

WHAT WILL CoB AND ITS PARTNERS DO? (Products) (15 minutes)

Review the following and discuss pros and cons. Identify favorite products.

- Direct people to the state Website for emergency preparedness, especially highlighting the water storage section

- Provide labels for water bottles

- Containers for refilling at home - 1/2 gal, 1 gal, 5 gal.

- Drinking water bottles (promotional)

- Magnets for fridge storing – to write rotation date on

- Reusable grocery bags

- Brochures/posters

PLACE (15 minutes)

The city can provide emergency tips using local TV and radio. Solicit feedback and additional ideas for media:

- BTV10

- KGMI

- Comcast local ads

- Herald Prime Time publication

In addition, the City can partner with local grocery stores to provide the following: Solicit feedback:

Finally, the City could provide information in the following places – solicit feedback and additional ideas:

Take away fliers and posters at:

- Senior Center

- Center for Senior health

- Veterans Administration

- Northwest Regional Council

- Hospital elevators

- Hospital restroom doors

PRICE (incentives and discounts, increase ease, reduce effort) (15 minutes)

Discuss and solicit feedback and ideas on the following (vote with dots):

- Store displays as end caps, free standing, etc.

- Coupons for a discount (e.g. 3 for 2)

- Shelf labels where water is displayed noting 3 gallons per person are needed for

  emergencies (flyers too)

- Water delivery service discounts

- Free labels with water purchases

- Club events/challenges - Senior/Junior Boy/Girl Scout clubs deliver water to seniors' households.

Appendix D

Findings From Initial Focus Groups

STORING WATER

About half of participants in the senior apartments setting said they stored water, and all of those

who lived in single family homes or condos stored water. Storage space and containers varied

greatly. Some stored their water in a closet or pantry, behind a door or even under the kitchen

table. One used a five-gallon container that was changed out periodically. Another routinely

bought cases of 16 ounce bottled drinking water from Costco and stored them in her garage,

keeping 1-2 cases on hand. Others mentioned relying on the water stored in their hot water tanks

and toilet tanks. One mentioned reusing 2-liter soda bottles for his stores. Several of those that do

store water, rotate their water so that they drink the oldest containers.

Motivators

> "It's a cultural thing...This is not the first time we've addressed this…. You do it not
>
> becauseof a negative thing or because you're worried, you just do it because it's part of
>
> life."

Among those who stored water, some said they have always stored water. Others said that it

was something people around them have always done. Another key motivator included having

been in an emergency situation. Having done it once, some said it has become a habit.

Barriers

> "It's not going to happen – that's the attitude. I know other people who have no
>
> preparation.
>
> They're perfectly intelligent people but they just haven't bothered."

> "I know I should, but there's gotta be a good way to do it and I don't know the best way,

so I'll just wait until I know what that is."

Being unmotivated or uniformed were believed to be the main reasons people did not store water in case of an emergency. Not having sufficient space was a key reason those living in apartments did not store water. Those without water also said they didn't think they needed it and were mostly those who haven't experienced an emergency. Others speculated about reasons people did not store water, including a lack of sense of urgency, and uncertainty about how to do it correctly.

STORING FOOD

"What I'm not stopping to think about is what would the spoilage be… but then how am I going to cook the frozen food? I know there have been power outages and I've been about to bake something and I think 'Well, that's okay, I can put it in the microwave.' It takes a minute, but the thought was there. So that's that sort of remembering that almost everything we have depends on an outside utility."

Participants were asked if they had enough food on hand to last three days and all but one said they did. Those with extra space, especially pantries mentioned having extra food beyond three days worth. Many said that between the refrigerator, freezer and pantry they would have plenty – one even said he had sufficient stores for three months. There was some discussion of staging their use of foods, starting with refrigerated goods, then moving to the frozen foods, then dried and canned goods.

Many assumed they would be using their fresh and raw foods. Participants expressed some concern that they might not have the means to cook what foods they have. One participant described her stores as "easily accessible and easy to prepare survival-type food," mostly in cans, and having a manually operated can opener and a camp stove for cooking without power.

There was little concern about having a variety of foods given the three-day timeline.

Participants said they almost always eat at home, which may account for their ample pantries.

Even after the moderator asked to clarify that the food was stored away, it was unclear whether

most participants had the food as merely an extra supply or put it away specifically for an

emergency.

Motivators

"It's not something I've thought about, it's just something I've maintained. I was just

raised that way."

Rationale for storing food focused primarily on habits and prior experience. Worries about

running out of food were also a rationale. A few said they buy in bulk to save time and that

provided extra stores automatically. Having the space to store food was important. Many kept

foods that they regularly use well-stocked. They felt it was easy to do.

Barriers

Few barriers were identified by participants. Storage space was a primary barrier for the one

apartment dweller who did not have food stored. Income was also mentioned as a barrier.

Those that did not have it said they did not have the money and just shop for food weekly.

WARM CLOTHING AND BLANKETS

Participants were asked if they had sufficient warm clothing and blankets to survive without heat

for three days. All said they did, but not necessarily stored as a separate stash. Two in the senior

apartment center had clothing set aside in a back pack, and one who lived independently had

extra clothes in a bag. All others were relying on clothing in their closets. Many others said their

clothes were nearby or "everywhere in my three closets," but did not have a set stored away, and

seemed to feel that this was adequate to address the action suggested. Two people said they have

suitcases where they switch out winter and summer clothes, making them prepared in summer, but not winter.

One planned to use her camper van which has independent heat and power sources. Another has a fireplace she can use, and had used when her furnace failed one winter. Other secondary heat sources like a portable propane heater were also mentioned.

Motivators

Those who had extra warm clothes stored in a backpack or emergency kit attributed their preparedness to previous emergency experiences or emergency preparedness training (Map Your Neighborhood).

Barriers

Those who said they did not have clothes stored away for an emergency said it was because they do not have many clothes or because they had not thought of this or realized it was important. Many agreed that their apartments are so small that they didn't see a need to have it packed separately - everything is within reach. One couple just moved from Midwest and did not think that the Pacific Northwest has serious storms and so saw no need to prepare warm clothes. Some also expressed concerns that there was no guarantee they would be able to get to the stored clothes during an emergency. Participants didn't think that having extra clothing and warmth was a problem at home. They were unconcerned that they would have enough at home to stay warm.

EXTRA MEDICATIONS

> "My insurance company will only cover one month at a time. Normally I would get a
>
> back-up and replace the back-up, but they won't cover it."
>
> "It's especially a problem if the pharmacy happens to be out. I suppose I could go

without it for a while and bank it."

"How long of a supply does a person need?"

Participants were asked if they had additional medications on hand in case they could not get to

the pharmacy for refills during an emergency. Most were conscientious about getting timely

refills and expected to have three days or more on hand at any given time. Many had extra

medications available due to buying in bulk or getting three months refilled at a time when

allowed. One mentioned stockpiling medications by skipping doses to be sure extra were

available.

Participants felt the greatest concern would be when the resident had less than a three day

supply and the condition was life threatening. Participants also broadened the discussion to

include medical supplies like oxygen and needles for insulin injections.

Some suggested the city would need to be involved to help. In a major emergency, they were

concerned it may be longer before new medications can be picked up or made available.

Motivators

The group members agreed that for some medications, some doctors (not all) will allow you to

get an extra supply. Some participants were more concerned about having an extra supply of

medications for more severe medicated conditions.

Barriers:

Some participants talked about doctors and insurance being key barriers to stocking up on

medications. Some were only permitted to buy monthly, but others were unable to pay for more

than a month at a time. All said they have not been allowed to get refills for narcotic pain

killers. These three barriers encompassed most of their concerns. It is likely that medications

that don't result in serious consequences when missed for a short time also create some

complacency about having extra on hand (e.g. a blood pressure medication).

OUT OF AREA CONTACT LIST

Participants were asked if they maintained a list of contacts outside of the area in case of an emergency. Most were focused on local contacts including medical assistance, neighbors and nearby family. An emergency scenario where the local exchanges lock up but long-distance lines work was an unfamiliar for most participants.

All residents in the senior apartments setting had a contact list. Some participants had maintained a list for a time, but now those lists were outdated. A woman in a wheelchair said important (including out-of-area) contacts were on a list on a nightstand accessible to her. The two women who had lived in earthquake-prone areas of California had a list in their emergency backpacks. Others talked about having accessible lists of contact people in places like billfolds and near the phone or on the refrigerator that they used daily or took with them daily. Many of their descriptions were about local emergency contacts, not ones that were outside the area. Many at the senior apartments did not see the importance of reaching someone outside the area. Many were focused on how quickly someone could come to them to help them. Three people had a "life line" necklace that helps them call three emergency numbers if they fall or have an accident, and some of them had another resident as an emergency contact. The woman in the wheelchair mentioned having a caregiver who comes and checks on her, and checked on her during the recent power outage to make sure she was okay. Once the scenario was fully clear to participants, having an out-of-area contact list seemed useful.

Motivators

Prior experience of earthquakes and fires had motivated people to create these lists.

Barriers

Having out of area contacts seemed unimportant to many. Some said they had no (dependable) relatives or friends outside the area. Keeping the list up to date was one barrier as people moved or passed away.

SHOES UNDER THE BED

One of the most common injuries in emergencies is having bare feet cut by glass from broken windows and fixtures. Keeping a pair of sturdy shoes under the bed can provide for safe walking indoors. Only a few participants in the senior apartment complex had shoes stored under the bed and it sounded like these were people's everyday shoes. One, who had been through Map Your Neighborhood, said that shoes were included in her emergency kit next to her bed. Many said they had shoes near the bed and some said they could reach them without getting out of bed. Some thought aloud about how many steps they would have to take to get from their bed to their shoes. Participants talked about how their apartments can be very small so they did not see the need to store shoes under their beds. Some who said their shoes were not stored away said they just had not thought about this danger and did not know it was important.

Motivators

Residents living in homes and condominiums were engaged by the idea once they understood its value.

Barriers

Participants were concerned about tripping on the shoes, and wanting their room to look tidy. Participants who live in very small apartments they did not see a need to store shoes because of the close proximity of shoes in their closets. In rooms with little or no glass, participants were unconcerned with storing shoes. Some said their beds sat on the floor or that all the under-thebed

storage space was in use.

THEMES

In addition to the specific behaviors, facilitators listened for constant themes and other

information that arose from the group discussions.

Prior experiences may impact current preparations.

One of the biggest reasons that people were engaging in some of these preparedness

behaviors was that they had experienced an emergency in the past, or had been taught that

such behaviors were a normal component of life. Two women who had lived in earthquake and

drought-prone areas of California had backpacks with every item discussed by the focus group.

Similarly, a man from New England had a "storm pantry" -- a habit formed due to power outages

during cold Boston winters.Others described experiences such as living on farms or practicing

religions where self-sufficiency was valued, practiced and necessary. Others had been engaged in

military service, which seemed to coincide with a strong value for emergency preparedness.

This population sees interdependence as a significant part of emergency preparedness.

During the opening scenario where participants were asked about what they would first do

during an earthquake/power outage, several participants talked about checking on a neighbor or

others in their household. Residents talked about how they had systems for checking on each

other including the Map Your Neighborhood method of looking for "Okay" and "Help" signs in

others windows. Residents even talked about putting together a safety kit for peers during the

discussion.

Some behaviors are not well understood – even behaviors they engage in.

There is plenty of room for building awareness around some of the behaviors. For example,

having everyday shoes nearby and clothes in their nearby closets seemed accessible enough

for shoes and warmth. When it came to the idea of having a contact list of people in the area, many said that they do not have any (dependable) relatives outside the area. Many did not understand why having contacts outside the area was important. Their primary concern was the need to reach someone in the area who can come to them and help them during an emergency, or taking care of their own immediate situation. And even when it comes to storing water, participants had questions about whether tap water is all right to use, how long water can be stored, whether plastic is a viable storage material, and so on.

Discussion participants said they want more information that explains what to do in case of certain emergencies, as far as how to be prepared but also regarding where to go.

SUGGESTIONS FOR THE CITY

When asked about what advice they would give the City, apartment residents had a number of specific suggestions for encouraging Bellingham residents to become prepared. Many thought specific information about what preparedness actions are important to take would be helpful. Senior apartment residents said this could come in the form of a refrigerator magnet, an individual mailing or a mailing to be sent to a key person(s) at their complex for distribution, such as a floor representative. Some said they would like to be able to go to someone with follow-up questions and this is one reason they liked the idea of a designated emergency preparedness 'liaison,' such as a floor representative in their building. Residents said the apartment newsletter is very popular and could be a good place to include emergency preparedness messages. Some suggested radio and television ads. Some suggested that the information list the top 10 things to do to become prepared. Many thought repeating the message would help. Senior apartment residents saw getting to people in the building who need help as a top priority and some suggested a check-list of those in the building with special needs. Some

voiced strongly for a policy of having all people in wheelchairs and walkers designated to rooms

on the first floor. Some suggested that there be accessible information for how to get out of the

building. Organizations that residents said they see as helpful are the Salvation Army, Catholic

Community Services, Starbucks and the City of Bellingham because these groups helped them

during power outages during the 2006-2007 winter.

Other suggestions for reaching seniors and creating a prepared populace included:

- Using TV

- Creating videos

- Using the Map Your Neighborhood Video

- Creating brochures and check lists

- Treating it as an adventure – make it fun

- Making it a competition with awards

- Including information in Welcome Wagon gifts for newly relocated seniors – a start with

  the extras and clear where to find or who to call to acquire them

- Using the Internet, Creating a website

- Encourage people to think about preparedness when making any spending choices, be

  prepared – e.g. insulating your house, getting a VHF radio.

- Keep people's preparedness levels private so they aren't targeted by the unprepared.

- Make it easy and interesting

- Make it lively

- Use the Smart Trips model (score points, earn rewards)

- Consider doctors' offices as a site for publicity

- Consider doctors – such as the Center for Sr. Health physicians as a new context for the

Information

- Be clear about what the City will and will not do so people prioritize their own needs appropriately.

- Create a system so people can rate their neighborhood or household.

Appendix E

Findings from Secondary Focus Groups

PROMOTION

There are three main pieces to the promotion and messaging of the program: 1) What do people need to believe to engage in the behavior? 2) What do people need to know to engage in the behavior? 3) What is the overarching theme of the program? This section addresses each.

Belief objectives

The Work Group identified six belief objectives that people need to hold in order to be motivated to store water. They were:

- Normal city services such as clean water and emergency response may not be available in a catastrophic emergency/major disaster. (7 green)

- In a catastrophic emergency/major disaster, safe/clean drinking water becomes scarce. (6 green)

- Emergencies happen here. Floods, storms, earthquakes, terrorism, explosions, epidemics. (4 green)

- Disasters don't always come from nature. People can cause emergencies too. (2 green, 4 yellow)

- Getting lucky (not being threatened by a disaster) doesn't always happen. (3 yellow)

- We anticipate we could have a catastrophic quake in our area. (1 green, 1 yellow, 4 red)

The statements are presented in rank order of those that were considered the most compelling by most respondents. Overall, these statements rang true for participants. Some participants felt that

people tend to be naïve about disasters in their area. For example, one male participant

commented:

> "Getting lucky, not being threatened by a disaster, you hear that time and time again in
>
> the interview following the disaster. 'I never thought it could happen to us'… they're
>
> really so put in their place so to speak that actually it did happen and they just couldn't
>
> believe it."

One respondent explained how building standards in the Northwest are the same as in Southern

California which is generally viewed as being more at risk for a major earthquake.

> "I think most of the people I know are naïve in thinking that Southern California is at a
>
> much higher risk than we are. Seismologically (sic) it's not true."

Participants agreed that having their own supply of drinking water is very important to have

during an emergency situation, as well as having a source of energy to boil the water in case of

contamination. The importance of being prepared was also tied into the possibility that city

services may be unavailable. Below is a quote from one respondent describing the importance of

storing water and how this should be a focus for emergency planners:

> "Physically you can live without food for several days, but you can't without water. So as
>
> a focus that's perhaps a higher priority than food. Most of us have some food in storage
>
> in the pantry… and we have ample supplies of, or at least available supplies of bottled
>
> water… but it's not for emergencies…many folks who do have some water like that don't
>
> perceive it as for an emergency. They don't quantify it for an emergency…we ought to
>
> focus on teaching that other point of view."

Below is a quote from a participant who describes why she felt the city services statement was

compelling.

"I think our culture has much in the films, and videos, and TV that shows the emergency

responses coming wherever you are you will always have a doctor or a fire engine or

something, they just come- that comes with the United States…but it's not for everybody,

everybody can't reach it. You're not in the position for them to reach you."

Some participants felt unsure about the statements "getting lucky (not being threatened by a

disaster) doesn't always happen" and "disasters don't always come from nature- people can

cause emergencies too". The statement "we anticipate we could have a catastrophic quake in our

area" was the least favored of the statements. Some felt that it was redundant with "emergencies

happen here" and that getting so specific wasn't necessary or that it wasn't very convincing

because it was too remote of a possibility.

Catastrophic emergency vs. major disaster

Respondents had mixed feelings about the terms 'catastrophic emergency' and 'major disaster'.

To some, a 'major disaster' sounded more likely to happen and that the term 'catastrophic'

sounded "far off" or "like war". However, many respondents agreed that the word 'catastrophic'

sounded more compelling and that it implies a community-wide disaster that would affect more

people and require more resources.

"Well, I would think a catastrophic emergency is Mount Baker exploding. A major

disaster is gas coming down Whatcom Creek explodes; 911 takes care of it. We don't

have to worry about it. To me that might be the difference, I don't know."

Below is a brief exchange between two participants discussing their interpretation of the two

terms in relation to recent local events:

Man: "Even with the floods and storms and everything just last month; it seemed like a

major disaster but at our house we didn't even pay attention…"

Woman: "A major disaster is just as you say, to a lot of people it was a huge major disaster like the people who live in Marietta, but the people up on Alabama hill, 'oh, it's raining again'. So, it's- a catastrophic affects more people and more resources are needed."

Knowledge objectives

The Work Group identified eight information items that people may need to know in order to effectively store water. They are presented here in the order in which people felt they were most compelling.

- Recommendation is for 1 gallon per person per day for drinking, cooking and washing/brushing. (7 green)

- Store water for 6 months, then replace. (longer in plastics #2, #4, and #5) (5 green)

- You can store waster in lots of ways – store bought bottles, refilled bottles, a secured water tank. (3 green)

- People must have water to survive. (2 green)

- Plastic containers are safe. (1 green)

- Reused plastic is safe. (2 yellow)

- Water in the fridge or freezer reduces how much power the appliance needs – it is cost effective/sustainable/green. (2 yellow)

- There are lots of places you can keep it – apartments (under the table, behind the door), out of the house, in the house (either ok), back of the fridge, freezer (plastic is ok in the freezer). (no votes)

Overall, participants felt that knowing the amount of water to store and how long to store it were the most important pieces of information to provide. Participants also said that some of the key recommendation statements could be combined or slightly altered. For example, some suggested combining the statements "plastic containers are safe" and "reused plastic is safe" as well adding that the plastic could be new or used. Some said these could also be melded in with the statement "you can store water in lots of ways…" Another suggestion was to combine "people must have water to survive" with the amount of water recommended to make it more poignant.

A few concerns were raised about storing water in plastic containers. Some participants wondered about the containers bursting when frozen, as well as potential sun damage of plastic containers if stored outdoors. Safety was also a concern for some because they had heard that certain reused plastics or containers may leach chemicals into the stored water. Some also questioned why plastic was the preferred method of storing instead of using other types of material such as glass.

Along with these recommendations, there was a discussion in one of the groups about having large garbage cans or rain barrels of stored water that could be used for non-drinking purposes.

"One of the things that we did in preparation for Y2K, which was the big issue awhile ago, was we had a new 30 gallon garbage can outside the lower entry to our house. We had that full of water and it wasn't for drinking purposes it was for flushing toilets, so we

just kept that out there all the time…you don't want to go pouring down your really good

drinking water that you've been hording for six months using it to flush the toilets."

The statement that recommends having 1 gallon of water per person per day was found to

be the most important among participants. Respondents thought that the number of days that are

recommended to be prepared for should be included in this statement. Some participants also

expressed concern about safe drinking water for pets and how much is recommended to have on

hand for them as well.

"For all of the information that I've stored away I had completely forgotten how much

you were supposed to keep on hand and how much you need per person."

"I think that's the first step we should take is to convince everybody that at least 3 gallons

of water per person in the household, for drinking."

Knowing how long to store water and in what types of containers were also important.

One participant discussed her experience with the Red Cross and how they had materials that had

inconsistent information. She expressed how important it is that everyone be on the same page

about how to be prepared for an emergency situation.

Freezing water and reducing the energy needs of appliances spoke more to the first group

than the second. They suggested storing water in bags that would then lay flat in the freezer in

order to save space.

Overarching theme

The Work Group proposed an overarching theme that could be applied to all the

program's elements as a complete readiness program is rolled out over the next several years.

The theme was:

"Becoming ready/preparing is a constant endeavor"

Participants suggested the slogan needed to be tweaked in a way that implies that becoming ready is a continual process. The first group highlighted the importance of being in a constant state of awareness and that the message needs to evoke a sense of urgency. They suggested changing the statement to "being ready is a continuous endeavor".

Man: "We need to communicate that this is a rotation; it started whenever and it's part of everyday life."

Facilitator: "And that doesn't quite come across to you in this statement?"

Man: "No, it doesn't..."

The second group didn't care for the phrase 'constant endeavor' and suggested changing it to 'ongoing effort'. They also liked 'continuous' better than the word 'constant'. Unlike the first group, the second felt "becoming" was appropriate because it is implies a process. One participant said:

"Becoming ready is the motivation and motivation is the problem."

When participants realized that this message was to be used to as a slogan one woman said:

"Oh, it's not too catchy is it? As a rule it's ok, but as a slogan it leaves a little to be desired…It's too long. It's a slogan."

The other participants agreed there needs to be a more catchy tag line like *"get ready to survive"* along with this message; something that will grab people's attention.

PRODUCTS

The work group suggested a number of potential products that could support storing water. Handouts were provided showing both the state website's information and the Seattle brochure. In rank order they were:

- Containers for refilling at home – ½ gal, 1 gal, 5 gal (9 green, 2 red – for 5 gal)

- Provide labels for water bottles (8 green, 1 yellow)

- Brochures/posters – such as the City of Seattle's (4 green, 1 yellow)

- Direct people to the state website for emergency preparedness, especially highlighting the water storage section – handout provided (2 green, 2 yellow)

- Magnets for fridge storing – to write rotation date on (2 green, 2 yellow)

- Reusable grocery bags (2 green)

- Drinking water bottles (promotional) (4 yellow, 1 red)

Participants liked the idea of providing refillable containers, but suggested that they have a handle and should be no larger than 3 gallons. Participants thought that anything greater than 3 gallons would be too heavy to lift. Labels were thought to be a strong product to offer as well.

The feedback on brochures and websites was somewhat mixed. In general, participants thought that the City of Seattle handout was easier to understand than the handout from the state website. They indicated that the use of fewer words and more graphics made it more simplistic and thought that it would get through to people more easily. One participant was really adamant about using color coding and visuals as a way to relay information to those that are more visually inclined; this would also be useful to those that have trouble reading fine print. Also,

participants felt it was important to note what types of containers are recommended as well as including a measurement cheat on the handouts (e.g. 2 liters = ½ gallon).

Promotional water bottles were not favored among participants. Many had concerns about the environment. These concerns may be particularly salient in Bellingham, which has a very engaged population around environmental issues.

Man: "I think environmental considerations are brought in also. Those little half liter bottles or whatever size they are, the cost for those on our environment is tremendous…Going green is important."

Man: "Yeah."

Woman: "Yeah, Exactly."

Man: "Yes, it really is tremendous."

Woman: "People would be creative. You could give them the labels…They don't need to create more plastic bottles. That's bothering me. Let them find their own."

Several suggestions for getting the word out emerged from the products discussion:

- Putting advertisements/information on grocery carts

- Placing colorful inserts in utility bills that outline these practices. Most said they usually skim the inserts especially if it is vibrant and catches their attention.

- Partner with local corporations that could subsidize the products – for example, having Alcoa or Haggen or other organizations' logos on the refillable bottles.

- Teaching 4th and 5th graders about these practices so they could educate their parents and grandparents about proper emergency preparedness techniques. Participants suggested

looking at senior high school projects and student clubs rather than working through

teachers and school curriculum barriers.

PLACE – CHANNELS FOR REACHING THE TARGET POPULATION

The Work Group suggested several media channels for reaching the target population,

based on survey findings that many watch TV. One potential use of this media would be to

provide emergency tips as emergencies were being reported (e.g. storm warnings etc.) using

local TV and radio.

- BTV10

- KGMI

- Comcast local ads

- Herald Prime Time publication

Overall, these sources were not very popular among participants. They were relatively

unfamiliar with them, or did not use or view them regularly. Participants liked the idea of using

the radio to share emergency tips. KMRE and Chuckanut radio hour were suggested as viable

options for reaching the 60+ demographic. Some agreed that the Herald and public radio would

be good sources. It was also suggested that internet sources be used to advertise emergency tips

as some said that the internet was their main source for news. Other suggestions for informative

channels were the neighborhood and homeowner associations.

In addition to media channels, the Work Group chose some specific sites for information

distribution:

- Senior Center

- Center for Senior Health

- Veterans Administration

- Northwest Regional Council

- Hospital elevators

- Hospital restroom doors

While participants saw these as viable locations, they also suggested providing information at "more fun places". Below is a list of their suggestions:

- Libraries

- Co-op

- Village Books

- Post office

- Banks

- The federal building

- Pharmacies

- VFW

- Various senior citizen groups and service organizations (e.g. Elks club, Rotary, Kiwanis, Eagles, Lions, Moose, American Legion and Masons)

- WTA (placing ads in and on buses)

PRICING - INCENTIVES AND DISCOUNTS

The Work Group identified six potential pricing strategies to help people store water. Pricing strategies either provide real financial benefit or can simply make the behavior easier for people to do. They included:

- Grocery store shelf labels where water is displayed noting 3 gallons per person are needed for emergencies (flyers too) (8 green)

- Club events/challenges – Senior/Junior Boy/Girl Scout clubs deliver water to seniors' households (6 green, 1 yellow)

- Free labels with water purchases (5 green)

- Store displays as end caps, free standing, etc. (4 green)

- Coupons for a discount (e.g. 3 for 2) (4 green)

- Water delivery services discounts (2 green, 1 yellow, 1 red)

Most of the incentives were well liked by participants with the exception of the water delivery services discounts. In general, participants seemed to really like the intergenerational aspect of the club events suggestion. They also brought up the idea of having a water delivery hotline where you could phone in and request emergency water to be delivered. While store displays were believed to be good ideas, they were not thought to be feasible, given the high value of free-standing display space and end caps in grocery stores.