2011 FEMA Central States Disaster and Earthquake Preparedness Survey Report

July 2012

Contents

Executive Summary

The area within the Central United States (CUS) (i.e., Alabama, Arkansas, Illinois, Indiana, Kentucky, Missouri, Mississippi and Tennessee) known as the New Madrid Seismic Zone (NMSZ) is at risk for experiencing a major earthquake. Although the CUS is not traditionally thought of as an earthquake-prone zone, the scientific community agrees that this area is a seismically active zone. To educate the residents of these states, the Central United States Earthquake Consortium (CUSEC), with support from the Federal Emergency Management Agency (FEMA), conducted six months of outreach from December 2010 to May 2011. This outreach (collectively referred to as "Earthquake Outreach") comprised several major initiatives, such as the anniversary of the 1811–1812 New Madrid earthquakes, the first Great Central U.S. ShakeOut™ and the 2011 National Level Exercise (NLE). The outreach from all these initiatives is collectively referred to as "Earthquake Outreach" throughout this report.

To measure the effectiveness of this outreach, to gauge residents' current preparedness behaviors and attitudes regarding the risk of experiencing an earthquake and to provide recommendations for increasing preparedness, FEMA's National Preparedness Assessment Division developed the 2011 FEMA Central States Disaster and Earthquake Preparedness Survey (2011 FEMA CUS Earthquake Survey). FEMA administered the 2011 FEMA CUS Earthquake Survey to 3,211 respondents from the CUS states through a telephone interview, asking respondents about the following areas of interest:

- Perceptions of the likelihood of an earthquake;
- Participation in earthquake preparedness drills and discussions about earthquake preparedness;
- Preparedness for an earthquake;
- Awareness of earthquake preparedness activities and events; and
- Understanding of the protective actions to take during an earthquake.

Below is a summary of the findings as well as recommendations for future outreach efforts. The findings are broken down into six basic sections. Several of these sections include comparisons between different groups, with the most prevalent being respondents who were aware of Earthquake Outreach (Outreach Aware) compared to those respondents who were not aware of Earthquake Outreach (Not Outreach Aware). Residence within and residence outside of the NMSZ are also used as comparison groups, as this comparison provides the unique opportunity to assess the preparedness of those individuals who are in the area most at risk of an earthquake. In addition, several of the questions included in the 2011 FEMA CUS Earthquake Survey were also in the 2011 and 2009 FEMA National Household Surveys. Where available, comparisons to these data are made, as well.

Survey Findings

Earthquake Outreach reached one-quarter of CUS residents.

Conducting Earthquake Outreach through a variety of mechanisms was key in helping residents to understand their risk relative to an earthquake and to take action. Twenty-eight percent of residents of CUS, including those in and outside of the NMSZ, recalled reading, seeing or hearing information about earthquake preparedness in the last six months. The most frequently cited sources for this information were media sources (particularly, television, newspaper, the Internet and radio) and a child's school. Work and community organizations were also cited by about one-third of the respondents.

Residents most at risk for a major earthquake were more likely to be Outreach Aware.

One-third of individuals living in the NMSZ were Outreach Aware while only one-fifth of those living outside the NMSZ were Outreach Aware. Of Outreach Aware respondents, those residents with children in school living in the NMSZ (20 percent) were significantly more likely to report that their child brought information home and/or brought the topic up at home than those respondents with children in school not living in the NMSZ (11 percent). Those living in the NMSZ were also more likely to be familiar with the phrase "Drop! Cover! Hold on!" than those living outside the NMSZ.

Outreach Aware respondents report significantly higher levels of preparedness. Residents who received outreach through multiple channels were more likely to recall outreach messages and participate in preparedness behaviors than those who received outreach from fewer sources.

Nearly three-quarters of Outreach Aware respondents have an emergency plan for their household, nearly three-quarters have disaster supplies, four in five are familiar with community alerts and warning systems and nearly three-quarters have taken some type of mitigation action. As the number of sources from which respondents received earthquake preparedness information increased, so did their awareness of the likelihood of experiencing an earthquake in their town and of their preparedness behaviors.

Participation in drills and other outreach activities was significantly higher within the Outreach Aware respondent group.

Approximately one in three (30 percent) of Outreach Aware respondents participated in an earthquake drill. More than one in 10 (15 percent) attended a meeting on earthquake preparedness and more than two in five (43 percent) of Outreach Aware individuals had talked about getting prepared with others in their community. Participating in these outreach activities is crucial to ensuring that residents know how to respond.

Many residents know the correct protective actions to take if an earthquake occurs, but misinformation still exists and needs to be corrected.

More than half of the respondents knew the following key actions: Get close to the ground, get under a large piece of furniture, do not lie on the floor next to a bed, hold onto something and do not run outside if you are currently inside a building. However, more than three in five respondents incorrectly believed that they should get in a doorway, and more than two in five incorrectly believed they should run outside of a building.

A focus on correcting misinformation and suggesting more appropriate courses of action is important, particularly when one person's mistake may lead to several others following the incorrect behavior. Continuing to use the phrase "Drop! Cover! Hold On!" in all materials will help quickly remind individuals of the correct action to take. Awareness of the key phrase "Drop! Cover! Hold on!" was reported by more than one-third of the respondents, including more than half of the Outreach Aware respondents.

Residents' perceptions of risk are inaccurate. Increasing residents' awareness of risks of natural hazards supports higher levels of preparedness.

Despite having an average of six presidentially declared disasters per year, nearly one-third of individuals living in the CUS region did not believe a natural disaster is likely to ever occur in their community. While at risk for an earthquake, only one-third of those respondents living within the NMSZ believed a major earthquake was likely to ever occur in their community. While residents in the NMSZ and Outreach Aware respondents were significantly more likely to believe they are likely to experience an earthquake as compared to CUS residents living outside the NMSZ, even among these populations nearly one-quarter believed it is very unlikely that an earthquake will occur in their community. Educating residents about the risk of natural hazards is important because residents who were aware of these risks were more likely to take steps to become more prepared. Those who believed that natural hazards will occur in their community were more likely than those who did not to have attended a meeting on how to be prepared for a disaster (18 percent compared to 11 percent), more likely to have a household plan (56 percent compared to 45 percent) and more likely to have updated supplies (38 percent compared to 23 percent).

Community connections, including outreach from organizations and informal discussions, are linked with earthquake preparedness behaviors, particularly for individuals with disabilities or health conditions affecting their ability to prepare and/or respond to emergencies.

In the 2011 FEMA CUS Earthquake Survey, 12 percent of respondents reported having a disability or health condition that affects their ability to prepare for an emergency situation, and 10 percent of respondents had a disability or health condition that affects their ability to respond to an emergency situation. In addition, 12 percent of respondents cared for someone with a disability who requires assistance. Respondents with a disability were more likely to be Outreach Aware than all other respondents. Community organizations were a source of Earthquake Outreach for more than one-third of the respondents who were Outreach Aware but appear to be particularly effective for individuals with a disability and for individuals who care for someone with a disability. Individuals with a disability and individuals who care for someone with a disability reported an improvement of 11 to 15 percentage points in being Outreach Aware because of outreach through community organizations. Nearly one-third of the respondents reported that they had talked about preparedness with others in their community, and close to half of those who were Outreach Aware spoke about preparedness with others in the community.

Introduction

As evidenced by a number of recent earthquakes worldwide, including those in Haiti, Japan and the United States, earthquakes are natural hazards that require our attention and preparation. Both small-scale and catastrophic earthquakes have demonstrated the need for all individuals to be aware of life-saving preparedness and response actions.

Within the United States, many think of California, specifically the San Andreas fault line, as being at risk for earthquakes, but, as demonstrated in 2011, earthquakes occur across the country (e.g., Virginia and Texas). Many do not consider the 15 percent of the United States population[1] living in the CUS (i.e., Alabama, Arkansas, Illinois, Indiana, Kentucky, Missouri, Mississippi and Tennessee) to be at risk for earthquakes. However, the scientific community, including the Association of CUSEC State Geologists,[2] agrees that there is risk for a major destructive earthquake in the NMSZ, a specific region within the CUS. The region is called NMSZ to reflect a high-magnitude earthquake that occurred in New Madrid, Mo., in 1811. Appendix A presents maps showing which areas in the CUS are part of the NMSZ.

Summary of CUS Earthquake Preparedness Activities and Events

To inform individuals in the CUS about the need for earthquake preparedness, several high-profile events were conducted in the CUS in the December 2010 to May 2011 timeframe. Collectively, these activities are referred to as "Earthquake Outreach." These included:

- Media events to commemorate the bicentennial of the New Madrid earthquake of 1811;
- Activities associated with Earthquake Awareness Month (February);
- Community involvement and media coverage associated with May 2011 National Level Exercise 11 (NLE 11), which used a catastrophic earthquake in the NMSZ as its scenario; and
- Community involvement and media coverage for the first Great Central U.S. ShakeOut.

Earthquake Outreach was coordinated by the states. One significant event was the first Great Central U.S. ShakeOut, conducted by CUSEC. The ShakeOut Drill was a multistate "Drop! Cover! Hold On!" drill on Apr. 28, 2011 (Indiana conducted its ShakeOut on Apr. 19, 2011). Each state conducted outreach and media activities to encourage registrations by all community sectors, as well as individuals, culminating in more than 3,000,000 registered respondents across the eight CUS states.

[1] U.S. Census Bureau, American Factfinder. (2010). *Profile of General Population and Housing Characteristics: 2010* Available from: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1&prodType=table

[2] The Association of CUSEC State Geologists was organized in 1992. In cooperation with the U.S. Geological Survey (USGS), the association meets with FEMA and State Emergency Management Agency (SEMA) representatives to assist with earthquake planning and emergency preparedness programs. Among other projects, the association has designed a bibliography to assist the emergency management community with information relevant to the CUS and developed a seismic hazards map for the CUSEC seven-state region. More information can be found online at http://www.cusec.org/plans-a-programs/earthquake-research/80-association-of-cusec-state-geologists.html.

FEMA and the Department of Education (ED) also supported delivery of the earthquake preparedness outreach and encouraged participation in the Great Central U.S. ShakeOut drill. For example, ED Secretary Duncan and Department of Homeland Security (DHS) Secretary Napolitano penned an open letter to schools, encouraging them to participate in the drill. To increase media coverage, the Secretaries traveled together to a school in St. Louis, Mo., to participate in the ShakeOut drill and to speak with students and the media about the importance of preparedness. FEMA and ED also implemented a wide variety of outreach, including traditional media, social media and community outreach, to promote earthquake preparedness in the CUS region. Messaging for Earthquake Outreach was developed to address the specific hazards of earthquakes in a specific region—that is, in the CUS; messaging for hazards in a specific region is distinct from national-level all-hazards and all-regions messaging.

Purpose of the 2011 FEMA Central States Disaster and Earthquake Preparedness Survey

The 2011 FEMA Central States Disaster and Earthquake Preparedness Survey (2011 FEMA CUS Earthquake Survey) was designed by FEMA to evaluate the effectiveness of CUS Earthquake Outreach activities occurring between December 2010 and May 2011 and provide recommendations for increasing preparedness.

The survey was designed to measure CUS residents':

- Perceptions of the likelihood of an earthquake;
- Participation in earthquake preparedness drills and discussions about earthquake preparedness;
- Preparedness for an earthquake;
- Awareness of earthquake preparedness activities and events; and
- Understanding of the protective actions to take during an earthquake.

The first two items help assess the effect of individuals' exposure to Earthquake Outreach. The last three items measure outcomes that assess whether Earthquake Outreach affected how people think about and prepare for earthquakes. For the purpose of this report, preparedness includes the following types of behaviors, which are based on the three *Ready*[3] campaign categories:

- ***Be informed*** about local/community risks and community response systems and plans, and know what to do in an emergency (as learned through drills and training);
- ***Make a plan*** that maps out one's household emergency plan, and discuss it with others in one's household; and
- ***Build a kit*** of supplies set aside and maintained for use only in disasters.

The survey instrument can be found in Appendix B. Questions used in this survey may be used by states and jurisdictions to enhance their surveys and support consistent data collection.

[3] Launched in February 2003, *Ready* is a national public service advertising campaign designed to educate and empower Americans to prepare for and respond to emergencies, including natural and man-made disasters. Visit www.ready.gov for more information.

Research Method

Survey Administration

The 2011 FEMA CUS Earthquake Survey was fielded from June 2011 to August 2011. The survey sample included responses from 3,211 U.S. households in the eight states in the CUS region. The target number of interviews in each state was 400. To determine the sample, counties within each of the eight states were identified as being "in the NMSZ" or "out of the NMSZ." Within each state, households most at risk for an earthquake (those living in the NMSZ) were oversampled at proportionally twice the rate of the households out of the NMSZ. This resulted in a total sample size of 1,263 in the NMSZ and 1,948 out of the NMSZ.

FEMA contracted ICF International (an applied research and consulting firm) to support the survey design, data collection and analysis and reporting. The survey was administered using a computer-assisted telephone interviewing system. Spanish-speaking interviewers were provided for Spanish-speaking respondents. As 30 percent of households nationwide are cellular phone only (i.e., have no traditional landline residential phone) or do not have a landline telephone,[4] the 2011 FEMA CUS Earthquake Survey methodology used a dual-frame sample, with cellular and landline surveys. Together, the landline and cellular phone samples provided a representative sample of the household population of the CUS region.

Representative Sample

The sample was selected via random digit dialing (RDD) from a list-assisted sampling frame. The RDD sampling technique provided a probability sample of respondents in which every person with a telephone (either landline or cellular telephone) had a known probability of being selected for the study. The RDD sampling frame represents the noninstitutionalized CUS adult population residing in households equipped with landline or cellular telephones. The frame excludes adults in penal, mental or other institutions; adults living in other group quarters such as dormitories, barracks, convents or boarding houses (with 10 or more unrelated residents); adults living in a household without a telephone; and/or adults who do not speak English or Spanish well enough to be interviewed in either language.

For all eight states combined, the estimated margin of error is +/-2.5 percent (at a 95 percent confidence level). For each state, the estimated margins of error (at a 95 percent confidence level) range from 6.1 to 7.2 percent.

Appendix C presents a summary of results by state. The error margins for households in the NMSZ are estimated at +/- 4.2 percent (at a 95 percent confidence interval).[5]

[4] Blumberg, S.J., & Luke, J.V. (2011). *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July–December 2010.* National Center for Health Statistics. Available from: http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201106.htm

[5] These error margin estimates are based on a percentage of 50 percent and a design effect due to weighting for selection probability, dual-frame estimation and demographic weighting.

Statistical significance is reported to identify differences in data that do not occur by chance—that there is a "real" difference between groups compared. All significance testing is this report is presented with a 95 percent significance level, indicating that only five times out of 100 would the specific result occur by chance. The word "significant" is only used in this report to denote statistical significance.

Weighting

Each telephone number in the national sample had an equal chance of selection. However, operational aspects associated with RDD surveys, such as nonresponse, may produce respondents that overrepresent or underrepresent certain population segments. Weighting the data according to geography, age, gender and race accounted for potential biases and adjusted the sample's demographic distributions to match the distribution in the American Community Survey (ACS) 5-year estimates for 2005 through 2009 population estimates. (See Appendix D for the survey respondents' profile based on the weighted data.)

Office of Management and Budget and Institutional Review Board Reviews

In accordance with the Paperwork Reduction Act, the Office of Management and Budget (OMB) approved a multiyear collection on July 19, 2010. The OMB Control Number for this survey is 1660-0105.

This research study was granted Institutional Review Board (IRB) exemption by ICF International's internal IRB under 45 CFR 46.101(b) (2b).

Research Findings

This summary presents findings from the 2011 FEMA CUS Earthquake Survey overall. Several questions included in the 2011 FEMA CUS Earthquake Survey were also asked in the 2009 and the 2011 FEMA National Household Surveys *Personal Preparedness in America: Findings from the 2009 and 2011 FEMA National Surveys* (FEMA 2009 and FEMA 2011 National Surveys). Where available, comparisons to these data are made. *A primary comparison within the 2011 FEMA CUS Earthquake Survey is "Outreach Aware" respondents (defined as respondents who had read, seen or heard information about earthquake preparedness in their home state) compared to "Not Outreach Aware" respondents. This comparison group is used throughout to better demonstrate the potential effects of the outreach.* Residence in and residence out of the NMSZ are also used as comparison groups to compare awareness, attitudes and exposure of those who are more at risk and less at risk for earthquakes. Throughout the report, each question was asked of the full survey sample, n=3,211, unless otherwise noted.

The sections below assess the goals of the survey in more detail:

Section 1: Awareness of Earthquake Outreach looks at respondents' awareness of the outreach activities and compares respondents living in and out of the NMSZ and respondents aware and not aware of Earthquake Outreach. This section also examines the sources of preparedness information.

Section 2: Understanding of Key Earthquake Protective Actions presents respondents' responses to six true/false questions related to protective actions to take during an earthquake.

Section 3: Outreach Participation details the frequency with which respondents engaged in Earthquale Outreach activities, including comparisons between respondents living in and out of the NMSZ and respondents aware and not aware of Earthquake Outreach.

Section 4: Perceptions of Risk and Confidence in Ability to Respond includes questions on the perceived likelihood of experiencing an earthquake and perceived efficacy of responding effectively during an earthquake. Comparison groups include respondents living in and out of the NMSZ, respondents aware and unaware of Earthquake Outreach and respondents in 2009 compared to respondents in 2011.

Section 5: Readiness to Take Preparedness Steps examines respondents' level of preparedness, including comparisons across years, between respondents living in and out of the NMSZ and between respondents aware and not aware of Earthquake Outreach.

Section 6: Preparedness Steps outlines respondents' participation in specific preparedness behaviors, including participating in training, gathering disaster supplies, preparing their homes for an earthquake, making household emergency plans and familiarizing themselves with community disaster plans. Comparison groups include respondents living in and out of the NMSZ, respondents aware and not aware of Earthquake Outreach and respondents in 2009 compared to respondents in 2011.

Section 7: Assessing Perceptions of Individuals with Disabilities or Health Conditions Affecting Their Ability to Prepare and/or Respond to Emergencies discusses outreach awareness, progress towards preparedness and mitigation actions among three populations of respondents—those who reported having a disability or health condition that affects their ability to prepare, those who reported having a disability or health condition that affects their ability to respond and those who reported that they live with or have primary responsibility for assisting someone with a disabilitiy during emergencies.

Section 1: Awareness of Earthquake Outreach

Did Residents Hear about Earthquake Preparedness?

One of the most crucial and basic ways to help residents learn to prepare for an earthquake is simply getting information about preparedness out to them. With awareness being one of the primary goals of Earthquake Outreach, the 2011 FEMA CUS Earthquake Survey sought to measure how effective the outreach was in reaching the public. Respondents were asked whether they had read, seen or heard anything about preparing for earthquakes in the last six months. Those who reported reading, seeing or hearing about earthquake preparedness were asked specifically about exposure to earthquake preparedness information related to the United States. Respondents were asked about the country to which the earthquake information related because the 2011 FEMA CUS Earthquake Survey was conducted shortly after the March 2011 earthquake in Japan. This question was added to ensure that individuals were focused on activities occurring in the United States and, ideally, within the state that they live. In addition, respondents were informed about earthquake preparedness activities that had taken place in their state and were asked whether they recalled having read, seen or heard anything about these activities in their community.

Respondents who recalled being aware of these events are referred to as "Outreach Aware" throughout this report; respondents who did not recall awareness of these events are referred to as "Not Outreach Aware." This question was selected as a comparison group because it separates the respondents who remember experiencing/being exposed to Earthquake Outreach from those who do not.

As Table 1 shows, just over one-quarter of the respondents (28 percent) recalled reading, seeing or hearing information about earthquake preparedness in the last six months. Of those, slightly more than half (55 percent) reported exposure to information that pertained to earthquake preparedness in the United States. Nearly three in 10 respondents (27 percent) indicated that they had read, seen or heard about earthquakes that happened outside the United States, and another 16 percent had read, seen or heard general information about earthquakes that could happen anywhere.

*Table 1: Exposure to Earthquake Information in CUS Region (Unaided and Aided)**

Action	% of Total
Read, seen or heard about preparing for earthquakes	28
About earthquakes in the United States only†	55
About earthquakes outside the United States†	27
About earthquakes that could occur anywhere	16
Read, seen or heard about earthquake drills, education or advertising in state (Referred to as Outreach Aware)	23

*Respondents were asked for the first measure, "In the past 6 months, have you read, seen or heard anything about preparing for earthquakes?" Those who answered the first question affirmatively were asked the second measure, "Was the information you read, saw or heard about earthquakes that might or have occurred here in the United States or about earthquakes somewhere else?" The third measure asked respondents, "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?"

†Base=individuals who in the past 6 months have read, seen or heard anything about preparing for earthquakes. (n=1,028)

Fewer than one in five respondents (16 percent) reported that they both read, saw or heard earthquake information in general (asked through an unaided question) and read, saw or heard earthquake information in their state (asked through an aided question), while almost two in three (65 percent) did not read, see or hear anything about earthquakes in general or in their state (see Figure 1).

About one-quarter of the respondents (23 percent) reported being exposed to information related to earthquake preparedness in their home state (Outreach Aware) (Table 1). Of the Outreach Aware respondents, the majority (84 percent) had been exposed only to information related to earthquakes in their home state, one in 10 (10 percent) had been exposed to information related to earthquakes in their home state and information related to earthquakes in the United States, and a small minority had been exposed to information about earthquakes in their home state and earthquakes outside the United States (3 percent) or to information about earthquakes in their home state and earthquakes that could happen anywhere (3 percent). Those who were Outreach Aware were more likely to have a bachelor's degree or higher (44 percent to 35 percent of those with less than a bachelor's degree), be 55 or older (39 percent to 29 percent of those under 55) and live in the NMSZ (34 percent to 21 percent of those living outside the NMSZ) than those who were Not Outreach Aware.

*Figure 1: Overlap of Information about Preparing for Earthquakes and Information about Earthquakes in State**

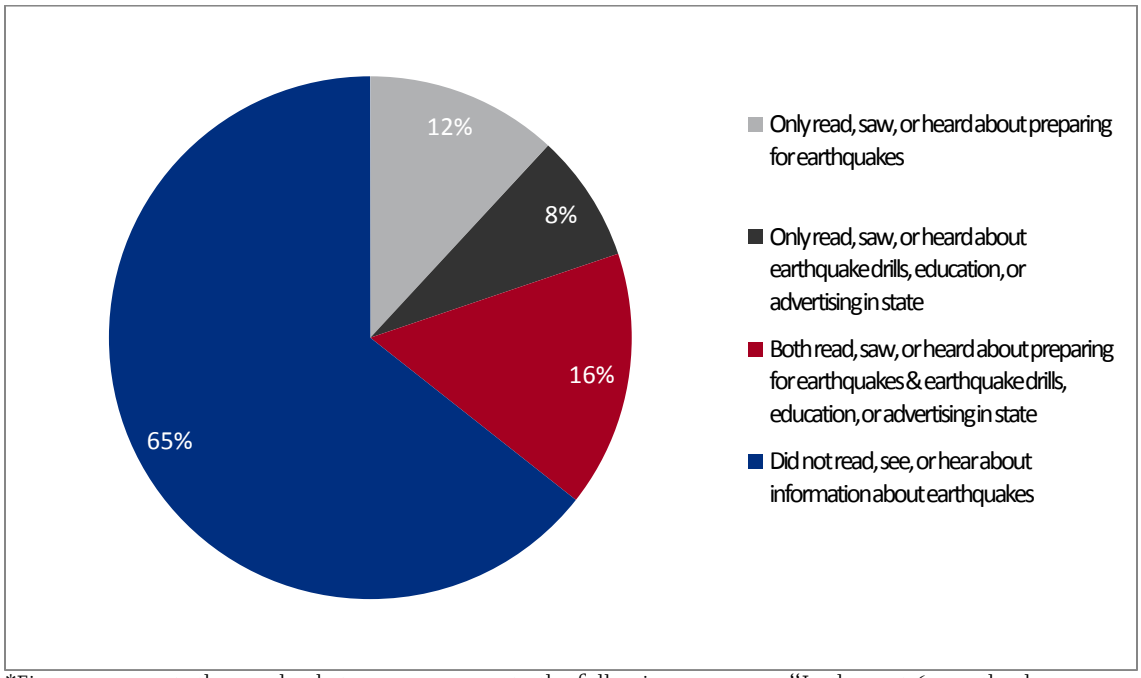


*Figure represents the overlap between responses to the following measures: "In the past 6 months, have you read, seen or heard anything about preparing for earthquakes?" and "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?"

Individuals living in the NMSZ were significantly more likely to have read, seen or heard anything about preparing for earthquakes in the past six months (36 percent) than those who were not living in the NMSZ (25 percent). Of those who have read, seen or heard anything about preparing for earthquakes in the past six months, they were significantly more likely to be Outreach Aware (67 percent) than Not Outreach Aware (16 percent). Also, individuals who were Outreach Aware (21 percent) are significantly more likely to be between the ages of 55 and 64 compared to those who were Not Outreach Aware (13 percent). However, individuals who were Outreach Aware (20

percent) were significantly less likely to be between the ages of 18 and 34 than those who were Not Outreach Aware (34 percent).

Additionally, those who reported assisting an individual with a disability were significantly more likely to be Outreach Aware (15 percent) than Not Outreach Aware (11 percent). Those with a bachelor's degree or more (27 percent) were also significantly more likely than those with less education (20 percent) to be Outreach Aware.

Where Did Outreach Aware Residents Obtain Their Earthquake Preparedness Information?

As a variety of media channels were employed to disseminate earthquake preparedness information to the public, those respondents who reported awareness of earthquake preparedness information in their state (23 percent) were asked where/how they received the information. Respondents were asked whether the following types of media were sources of information for them about preparing for earthquakes: the Internet, television, newspaper, radio and e-mail. As Table 2 shows, television was the most frequently cited media source, with approximately two-thirds of the respondents (68 percent) reporting they had read, seen or heard earthquake information from television. Nearly half of the respondents (47 percent) reported that they received information from newspaper sources. The Internet and radio were each cited by 40 percent of respondents. E-mail was the least frequently cited source of information, with just under one in five (16 percent) reporting they had read, seen or heard information about earthquake preparedness through e-mail.

An analysis was conducted to determine whether those individuals who received information from media were different from those who did not. Those who did not receive messages from media were more likely to work full time, be 35–44 years old or have children under 18 in their household.

*Table 2: Media Sources of Information about Preparing for Earthquakes in CUS Region**†*

Media Source[6]	% of Individuals Who Read, Saw or Heard Earthquake Information
Television	68
Newspaper	47
Internet	40
Radio	40
E-mail	16

*Respondents were asked, "We're specifically interested in where you may have read, seen or heard this information. Was it…." This question was a follow-up question to the yes/no question, "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?"

†Base=individuals who in the past 6 months have read, seen or heard anything about preparing for earthquakes in their state. (n=891)

[6] Note: Specific media sources (e.g., Ready.gov, *Washington Post*) were not included in the survey.

Community organizations are often a crucial piece of the post-disaster team, but they can also be an important medium for disseminating information before a disaster. Respondents were asked which of the following types of community organizations were sources of information for them about preparing for an earthquake: their child's school, work, church/faith-based organization, or another community organization. As Table 3 reveals, nearly two in five respondents (37 percent) received information through work and just under one-third of respondents (30 percent) received earthquake preparedness information through other community organizations. Fewer than one in five respondents (14 percent) received information through their church/faith-based organizations.

Reaching out to children can be a strong dissemination channel to get information out to parents. According to the 2010 American Community Survey (ACS) 1-year estimates, 31–35 percent of households in the CUS region have one or more children under 18 years old in the household.[7] In this survey, more than one-third of respondents (38 percent) reported having children under the age of 18 in the home, with the majority of those (79 percent) reporting that their children were in school. Nearly half of all respondents with children in school (47 percent) indicated they received earthquake preparedness information from their child's school.

*Table 3: Community Organization Sources of Information about Preparing for Earthquakes in CUS Region**†

Organization Type	% of Individuals That Read, Saw or Heard Earthquake Information
Work	37
Other community organization	30
Church/faith-based organization	14
Your child's school ‡	47

*Respondents were asked, "We're specifically interested in where you may have read, seen or heard this information. Was it…." This question was a follow-up question to the yes/no question, "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?"

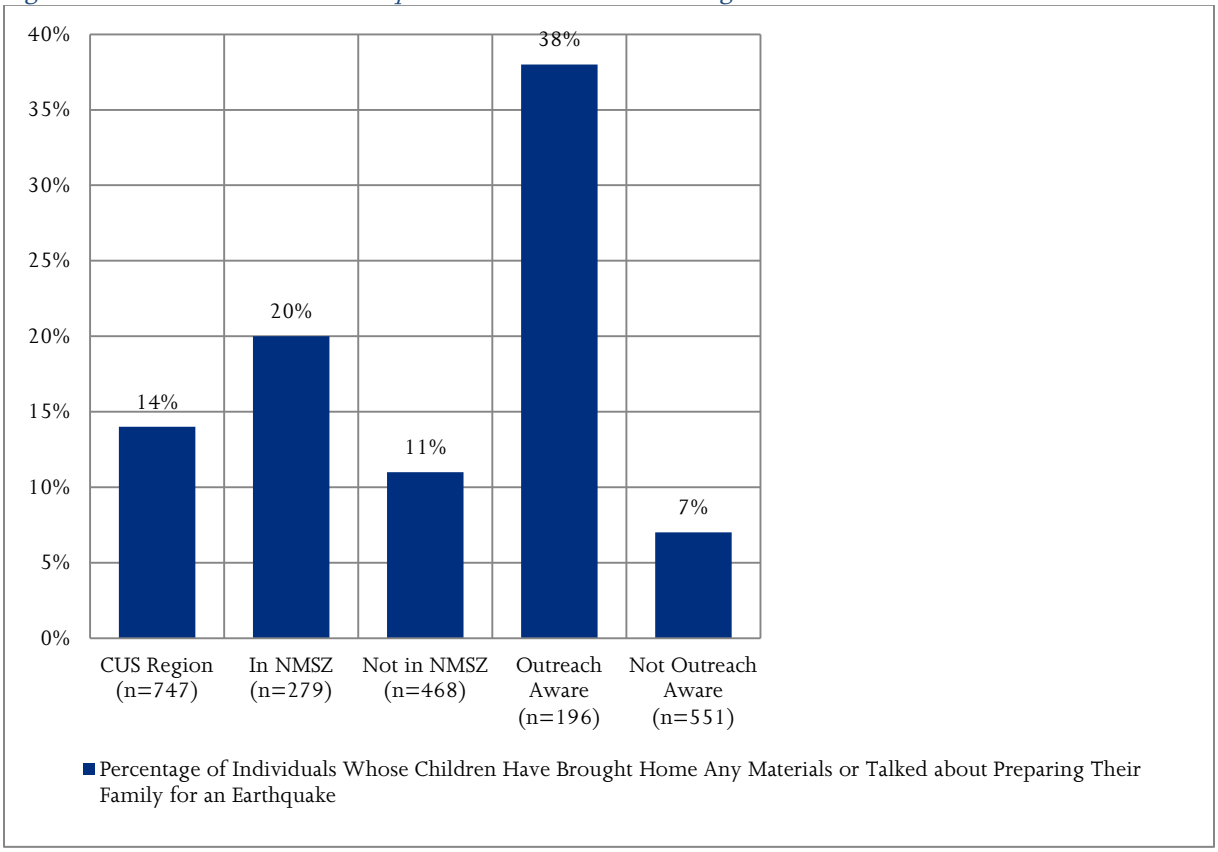
†Base=individuals who in the past 6 months have read, seen or heard anything about preparing for earthquakes in their state. (n=891)

‡Base=respondents who have children in the home attending school. (n=747)

Respondents with children in school were also asked whether their child brought earthquake preparedness materials home from school and/or whether the child talked about earthquake preparedness at home. Although nearly half of the respondents who reported having a child in school received information from the school, fewer than one in five respondents indicated that their child brought earthquake preparedness materials home or talked about earthquake preparedness at home (Figure 2). Outreach Aware respondents (38 percent) were also significantly more likely to report that their child brought information home and/or brought the topic up at home than respondents who were Not Outreach Aware (7 percent). This may indicate that those individuals who were sensitized to the topic of earthquake awareness were more receptive to receiving and processing this information. Those residents with children in school living in the NMSZ (20 percent) were significantly more likely to report that their child brought information home and/or brought the topic up at home than those respondents with children in school not living in the NMSZ (11 percent). Notably, individuals with children in school were significantly more likely have a household plan that has been discussed with others (64 percent) and participated in any preparedness training (44 percent) compared to individuals without children in school (47 percent and 38 percent, respectively). This preparedness training includes CPR training and first aid skills training.

[7] U.S. Census Bureau. (2010). *Selected Social Characteristics in the United States 2010 American Community Survey 1-Year Estimates*. Available from: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP02&prodType=table

Figure 2: Children's Role in Earthquake Discussions in CUS Region[*†]*



*Respondents were asked, "In the past 6 months, have your children brought home any materials or talked about preparing your family for an earthquake?"
[†]Base=respondents who have children in the home attending schools. (n=747)

Respondents whose children brought earthquake preparedness information home or brought the topic up at home were then asked where their child had received the information or materials. As presented in Table 4, nearly all of the respondents (96 percent) reported that the information or materials had been received from school, while a small minority of the respondents (4 percent) indicated that the information or materials had been received from a program outside of school.

Table 4: Sources of Child's Earthquake Information and Materials in CUS Region[*†]*

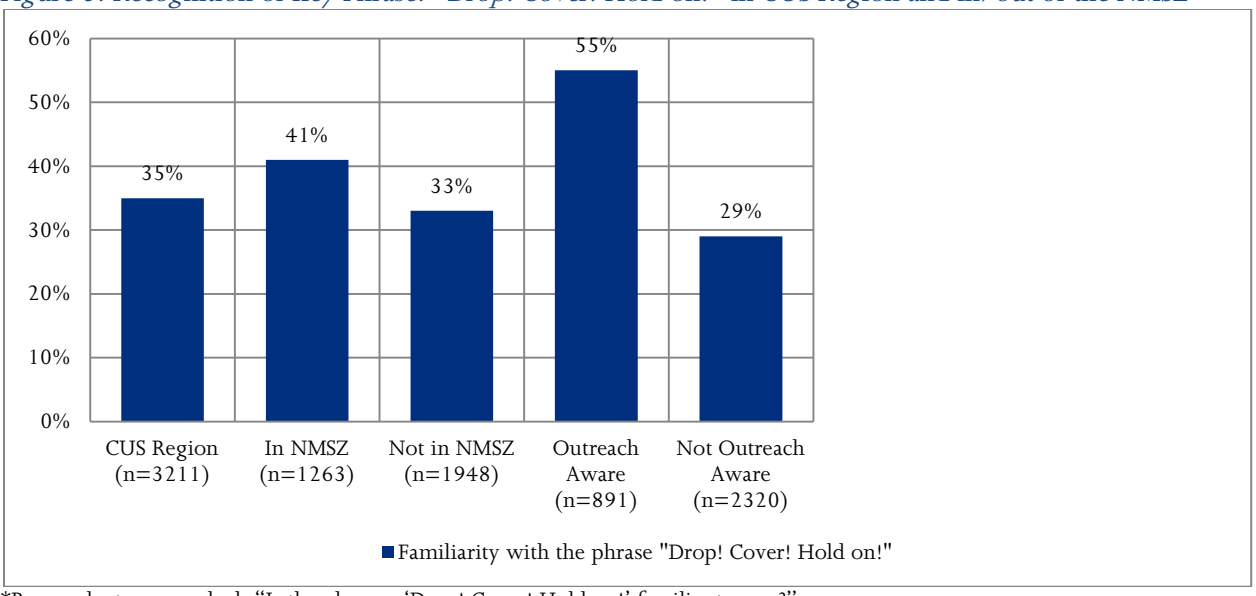
Source	% of Individuals Whose Child Received from Source
School	96
Program outside of school	4

*Respondents were asked, "Did they receive that information from …?" This was asked as a follow-up question to "In the past 6 months, have your children brought home any materials or talked about preparing your family for an earthquake?"
[†]Base=respondents who have children in the home attending schools. (n=747)

Are Residents Aware of the Key Phrase: "Drop! Cover! Hold on!"?

During the initial shaking of an earthquake, "Drop! Cover! Hold on!" is the course of action recommended by FEMA, the American Red Cross and State Emergency Management.[8] The use of this phrase was a key component of Earthquake Outreach. Respondents were asked whether they recalled this key phrase. As Figure 3 indicates, more than one-third of the respondents in the CUS region (35 percent) remembered hearing the phrase. Respondents living in the NMSZ were significantly more likely to remember hearing the phrase, with two of five respondents living in the NMSZ (41 percent) having heard the phrase, compared to one-third of the respondents living outside the NMSZ (33 percent). Outreach Aware respondents were significantly more likely to have heard the phrase, with over half of the Outreach Aware respondents (55 percent) having heard the phrase, compared to fewer than one-third of the respondents who were Not Outreach Aware (29 percent).

*Figure 3: Recognition of Key Phrase: "Drop! Cover! Hold on!" in CUS Region and in/out of the NMSZ**



*Respondents were asked, "Is the phrase, 'Drop! Cover! Hold on!' familiar to you?"

Individuals who read, saw or heard earthquake information through any type of media (i.e., the Internet, television, newspaper, radio or e-mail) were more familiar with the "Drop! Cover! Hold On!" messaging than those who did not read, see or hear earthquake information through the media (56 percent to 50 percent of those who had not read, saw or heard earthquake information through any type of media).

As displayed in Figure 4, those who learned about their state's earthquake information through both media sources (i.e., the Internet, television, newspaper, radio or e-mail) and community sources (i.e., church/faith-based organization, other community organization, work or child's school) had the highest familiarity with "Drop! Cover! Hold On!" (58 percent) compared to "media only" (53 percent) and "community sources only" (52 percent).

[8] Southern California Earthquake Center (Web page). Drop, Cover, and Hold On! Retrieved February 22, 2012, from http://www.shakeout.org/dropcoverholdon/.

*Figure 4: Recognition of Phrase: "Drop! Cover! Hold on!" in CUS Region Based on Source of Exposure**

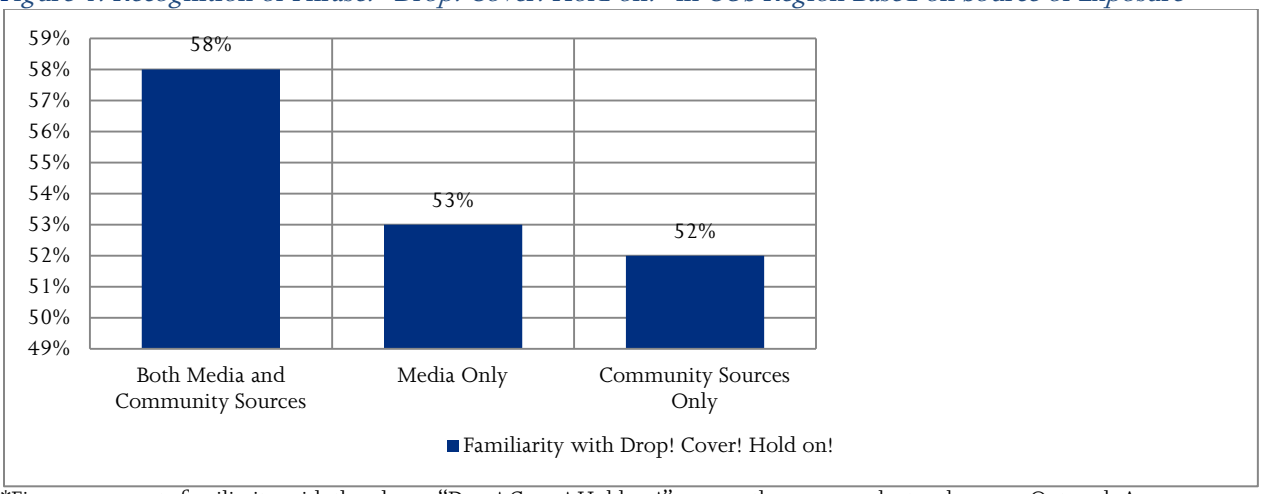


*Figure represents familiarity with the phrase "Drop! Cover! Hold on!" among those respondents who were Outreach Aware, segmented by source of exposure.

Section 2: Understanding of Key Earthquake Protective Actions

As earthquakes are no-notice events (i.e., events that do not have advanced warning signs), individuals' knowledge of correct response actions in the first few moments can prevent injuries and save lives. To test respondents' knowledge of key actions to take during an earthquake, respondents were asked a series of six fact-based questions about proper responses during an earthquake. The questions were presented in a true/false format, and only half of the questions presented correct actions. The purpose of these questions was to test individuals' knowledge of appropriate earthquake responses and also to indirectly test individuals' knowledge of the phrase "Drop! Cover! Hold on!"

Table 5 shows the percentages of respondents that answered each question correctly or incorrectly or did not know the answer. *Getting close to the ground* was the question that received the most accurate responses, with nearly three-quarters of respondents (71 percent) answering it correctly. Just more than half of the respondents correctly answered the questions regarding *getting under a large piece of furniture* (59 percent), *not lying on the floor next to a bed* (58 percent), *holding onto something* (55 percent) and *not running outside of a building* (53 percent). Incorrect responses to the statement *not running outside of a building* are especially concerning, as more than four in 10 respondents (43 percent) indicated that running out of the building is the correct response. As this activity is one that individuals will see others demonstrating, many could mistakenly follow the incorrect behavior of those leaving the building. The question that tested respondents' knowledge to *not get in a doorway* was the most challenging, as fewer than one-third of respondents (32 percent) answered it correctly. As nearly seven in 10 (64 percent) believed that *getting in a doorway* is a correct response, further education should suggest that there are other, safer protective responses.

When correct responses were reviewed for the comparison groups (see Table 6), respondents who were Outreach Aware were significantly more likely to have correctly answered that they should *get down close to the ground* (75 percent to 69 percent) and *if indoors, do not run out of the building* (59 percent to 51 percent), compared to those who were Not Outreach Aware. However, those who were Not Outreach Aware were significantly more likely to have correctly answered that *if in bed, do not lie on the floor next to the bed* (60 percent to 50 percent). Finally, those respondents who reported being familiar with "Drop! Cover! Hold on!" were significantly more likely than those who were unfamiliar with it to have correctly answered *get down close to the ground* (76 percent to 68 percent), *get under a big piece of furniture or other cover* (64 percent to 56 percent), *hold on to something* (60 percent to 52 percent) and *do not get in a doorway* (36 percent to 30 percent). Interestingly, significantly more respondents outside the NMSZ responded correctly that they should *get down close to the ground* (72 percent to 67 percent) and *if in bed, to not lie on the floor next to the bed* (59 percent to 53 percent), as opposed to those living in the NMSZ.

Findings suggest that promoting statements that include behaviors such as "Drop! Cover! Hold on!" help provide people with understanding the key actions that will promote their safety.

*Table 5: Understanding of Actions to Take During an Emergency for the CUS Region**

Action	% of Individuals		
	Providing Correct Answers	Providing Incorrect Answers	Providing an Answer of *Don't Know*
Correct Statements (These three statements were stated correctly. Respondents who reported that these were true provided a correct answer.)			
In an earthquake, you should get down close to the ground	71	24	5
In an earthquake, you should get under a big piece of furniture or other cover	59	38	3
In an earthquake, you should hold on to something	55	40	5
Incorrect Statements (These three statements were stated incorrectly. Respondents who reported that these were false provided a correct answer.)			
If you are indoors during an earthquake, you should run out of the building	53	43	4
If you are in bed during an earthquake, you should lie on the floor next to the bed	58	35	7
In an earthquake, you should get in a doorway	32	64	3

*Respondents were asked, "I'm going to read you a list of actions you could take during an emergency. For each, tell me whether you think it is true or false that the government recommends this action."

*Table 6: Understanding of Actions to Take During an Emergency for the CUS Region**

Action	% of Individuals Providing Correct Answer						
	CUS Region	NMSZ		Outreach Aware		Familiar with "Drop! Cover! Hold on!"	
	Total	In NMSZ	Not in NMSZ	Aware	Not Aware	Familiar	Not Familiar
	(n=3211)	(n=1263)	(n=1948)	(n=891)	(n=2320)	(n=1206)	(n=2005)
Correct Statements (These three statements were stated correctly. Respondents who reported that these were true provided a correct answer.)							
In an earthquake, you should get down close to the ground	71	67	72	75	69	76	68
In an earthquake, you should get under a big piece of furniture or other cover	59	61	58	59	58	64	56
In an earthquake, you should hold on to something	55	52	55	53	55	60	52
Incorrect Statements (These three statements were stated incorrectly. Respondents who reported that these were false provided a correct answer.)							
If you are indoors during an earthquake, you should run out of the building	53	56	52	59	51	55	51
If you are in bed during an earthquake, you should lie on the floor next to the bed	58	53	59	50	60	57	58
In an earthquake, you should get in a doorway	32	31	33	31	33	36	30

*Respondents were asked, "I'm going to read you a list of actions you could take during an emergency. For each, tell me whether you think it is true or false that the government recommends this action." The percentage shown indicates those that responded correctly to each statement.

Section 3: Outreach Participation

Did Residents Participate in Earthquake Drills?

The FEMA 2011 National Survey sought to explore the potential influence of key nodes of social connections or networks in a community. The report demonstrated that group-sponsored information and activities were related to reported preparedness behaviors. These connections have a large potential impact on preparedness because of the high percentage of the population included in these audiences.[9] Participation in earthquake drills is crucial to ensuring that individuals and households have the knowledge to correctly respond to an earthquake at a moment's notice. Respondents were asked whether they had participated in an earthquake drill at the following locations or community networks: work, school and home.

Outreach through community networks encouraged individuals to participate in outreach activities. A number of Outreach Aware respondents participated in activities at school or at work.

As Table 7 shows, slightly more than one in 10 respondents (14 percent) in the CUS region participated in an earthquake drill.

Nearly one in 10 respondents participated in an earthquake drill at work (9 percent), while a smaller percentage participated in a drill at school (6 percent) or at home (3 percent). Slightly more respondents living in the NMSZ reported participating in drills of all types, except drills at school, than those respondents living outside the NMSZ.

Respondents who were Outreach Aware were significantly more likely to participate in any earthquake drill and in each type of earthquake drill than those who were Not Outreach Aware. Nearly one-third of Outreach Aware respondents (30 percent) participated in an earthquake drill, while fewer than one in 10 respondents who were Not Outreach Aware (9 percent) participated in a drill.

*Table 7: Self-Reported Participation in Earthquake Drills across Groups**

Location — % of Individuals Providing Location of Drill

	CUS Region	NMSZ		Outreach Aware	
	Total	In NMSZ	Not in NMSZ	Aware	Not Aware
	(n=3211)	(n=1263)	(n=1948)	(n=891)	(n=2320)
At work	9	11	8	21	6
At school	6	5	7	12	5
At home	3	4	3	9	2
At home, work or school[†]	14	15	13	30	9

*Respondents were asked, "In the past 6 months, have you participated in any of the following? An earthquake drill at …."
[†]Multiple responses have been removed.

[9] Federal Emergency Management Agency (FEMA). (2012). *Personal Preparedness in America: Findings from the 2011 FEMA National Survey.* In Draft.

Did Residents Discuss Earthquake Preparedness with Others?

Another goal of Earthquake Outreach was to encourage individuals to talk about preparedness. Respondents were asked whether they participated in activities that would encourage discussion about earthquake preparedness. These activities include talking with others in the community about getting prepared and attending a community meeting about earthquake preparedness.

As shown in Table 8, nearly one-third of the respondents in the CUS region (30 percent) reported talking with others in the community about earthquake preparedness. A minority of the respondents (5 percent) reported attending a community meeting about earthquake preparedness.

For those living in the NMSZ, more than one-third spoke with others in the community about preparedness (35 percent), and nearly one in 10 attended a preparedness meeting (9 percent). Significantly fewer respondents living outside the NMSZ engaged in each of these activities, with fewer than one-third of those living outside the NMSZ having spoken with others about preparedness (29 percent) and a smaller minority having attended a preparedness meeting (4 percent).

Outreach awareness about a specific hazard (earthquakes) led to increased discussions about preparedness in general.

Of those who were Outreach Aware, nearly half talked about preparedness with others in the community (43 percent), while fewer than one-third of those who were Not Outreach Aware talked about preparedness with others in the community (27 percent). Significantly fewer respondents who were Not Outreach Aware attended a preparedness meeting than Outreach Aware respondents, with slightly fewer than one in five Outreach Aware respondents attending a preparedness meeting (15 percent) and a smaller minority of respondents who were Not Outreach Aware attending a preparedness meeting (2 percent).

*Table 8: Self-Reported Communication/Milling about Earthquakes across Groups**

Action	% of Individuals Reporting Communication/Milling about Earthquakes				
	CUS Region	NMSZ		Outreach Aware	
	Total	In NMSZ	Not in NMSZ	Aware	Not Aware
	(n=3211)	(n=1263)	(n=1948)	(n=891)	(n=2320)
Talked about getting prepared with others in your community	30	35	29	43	27
Attended a meeting on earthquake preparedness	5	9	4	15	2

*Respondents were asked, "In the past 6 months, have you done any of the following?"

An analysis was conducted to understand the sociodemographics and preparedness behaviors of those who were Outreach Aware and have talked to others about preparedness. This analysis was conducted because the FEMA 2011 National Survey indicated that talking to others about preparing was positively related to preparedness. Those who were Outreach Aware and have talked about preparing with others were more likely to have at least a bachelor's degree, have an income of $75,000 or more and live in the NMSZ. They were also more likely to have up-to-date supplies, have a household plan, have taken mitigation steps and were almost twice as likely to have participated in preparedness training. Those who were Outreach Aware but had not talked with others about preparedness were more likely to be 65 years or older and report having a disability that prevents them from preparing.

Section 4: Perceptions of Risk and Confidence in Ability to Respond

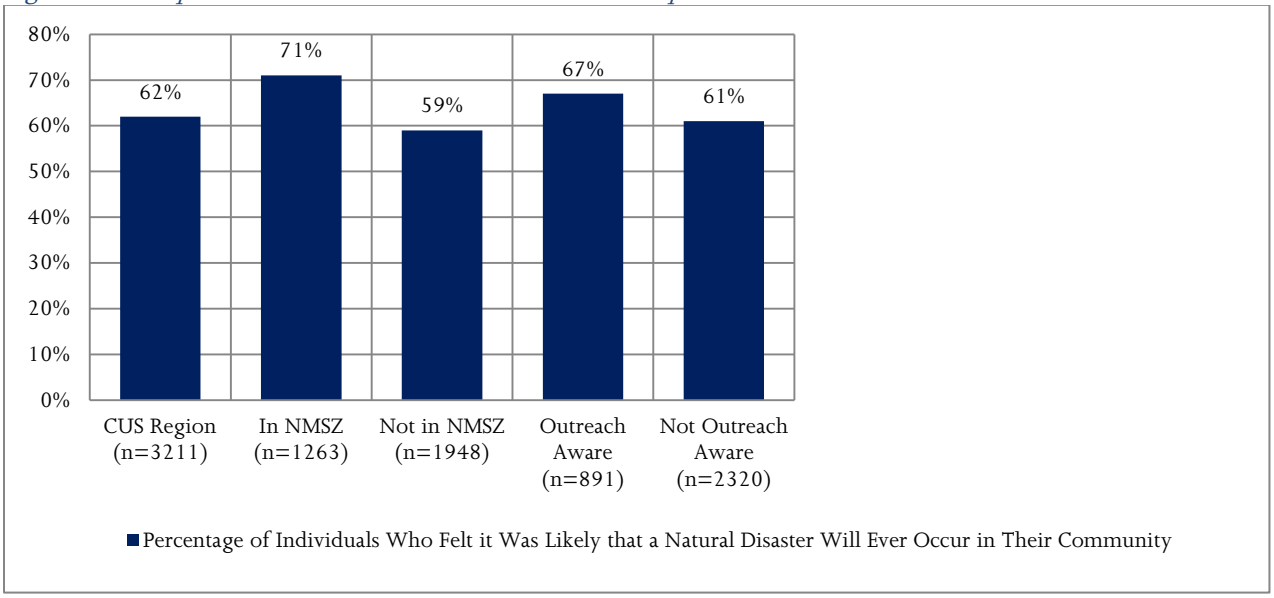
Do Residents Believe They Are at Risk for an Earthquake?

Those individuals living in the NMSZ are at risk for earthquakes. This research was conducted to better understand whether those living in the NMSZ were aware of this risk and whether they perceived a need to be prepared for earthquakes. This research as well as the FEMA 2011 National Survey explored risk perception and its relationship to preparedness behaviors. Risk communication theories such as the Extended Parallel Process Model note that how individuals process a threat affects their behavior. The EPPM theory suggests that individuals who recognize that they are susceptible to a threat will take one of two courses of action: danger control (focuses on a solution to the threat or fear control (not solution oriented and can be represented by denial, rationalization and escapism).[10]

Respondents were asked, on a 5-point scale, to report how likely they think it is that a natural disaster will ever occur in their community. Nearly two-thirds of the respondents in the CUS region (62 percent) believed a natural disaster is likely to occur in their community (see Figure 5). Over the past 3 years, individuals living in the CUS region have experienced an average of six presidentially declared disasters, depending on the state (range: 3–11 presidentially declared disasters). Most of these disasters were tornados, flooding, severe storms or hurricanes. None of these disasters included earthquakes. Perceived risk of a natural disaster varied significantly between respondents living in and out of the NMSZ (71 percent to 59 percent). Outreach Awareness also made a significant difference in the percentage of respondents who believed a natural disaster is likely, with more than two-thirds of those who were Outreach Aware (67 percent) believing their community is at risk for a natural disaster but with less than two-thirds of the respondents who were Not Outreach Aware (61 percent) believing their community is at risk for a natural disaster.

[10] Witte, K. (1998). Fear as motivator, fear as inhibitor: Using the extended parallel process models to explain fear appeal successes and failures. In P.A. Andersen and L.K. Guerrero (EDs.), The handbook of communication and emotion: Research, theory, applications, and contexts. New York: Academic Press, PP. 423-450. Retrieved February 22, 2012 from http://books.google.com/books?hl=en&lr=&id=TbVuD4N-xTkC&oi=fnd&pg=PP2&dq=The+handbook+of+communication+and+emotion:+Research,+theory,+applications,+and+contexts.+&ots=DdB4DiosMM&sig=b6AQytSW_b6zbv4A6Phv1p4CNPI#v=onepage&q=The%20handbook%20of%20communication%20and%20emotion%3A%20Research%2C%20theory%2C%20applications%2C%20and%20contexts.&f=false

*Figure 5: Perceptions of Natural Disaster Risk across Groups**



*Each percentage represents top-box scores. Those stating 4 or 5 (top box, likely) are measured on a scale of 1 to 5; with 5 being "very likely" and 1 being "not likely at all." Respondents were asked, "On a scale of 1 to 5, with 5 being 'very likely' and 1 being 'not likely at all,' how likely do you think any type of natural disaster such as an earthquake, a hurricane, a flood, a tornado or wildfires will ever occur in your community?"

In addition to asking respondents about the likelihood of a natural disaster ever occurring in their community, respondents were also specifically asked about the likelihood of an earthquake occurring in their community. As Figure 6 illustrates, fewer than one in five respondents (19 percent) believed it is likely that their community would experience a major earthquake, and one-third of the respondents in the CUS region (35 percent) believed it is not at all likely that a major earthquake will ever occur in their community.

Most individuals who live in the CUS region believed that a natural hazard would ever occur in their community (62 percent), whereas a much smaller subset of the total believed that an earthquake would ever occur in their community (19 percent). Those who believed that there is a risk of an earthquake ever occurring in their community tend to be 65 or older (21 percent compared to 15 percent), retired (27 percent compared to 18 percent), and indicated having a disability that prevents them from preparing (17 percent compared to 10 percent) or responding (15 percent compared to 9 percent). Those who believed that an earthquake will ever occur in their community are also more likely to be female (59 percent compared to 50 percent) and less likely to work full time (42 percent compared to 53 percent) than those who do not believe that an earthquake will ever occur in their community.

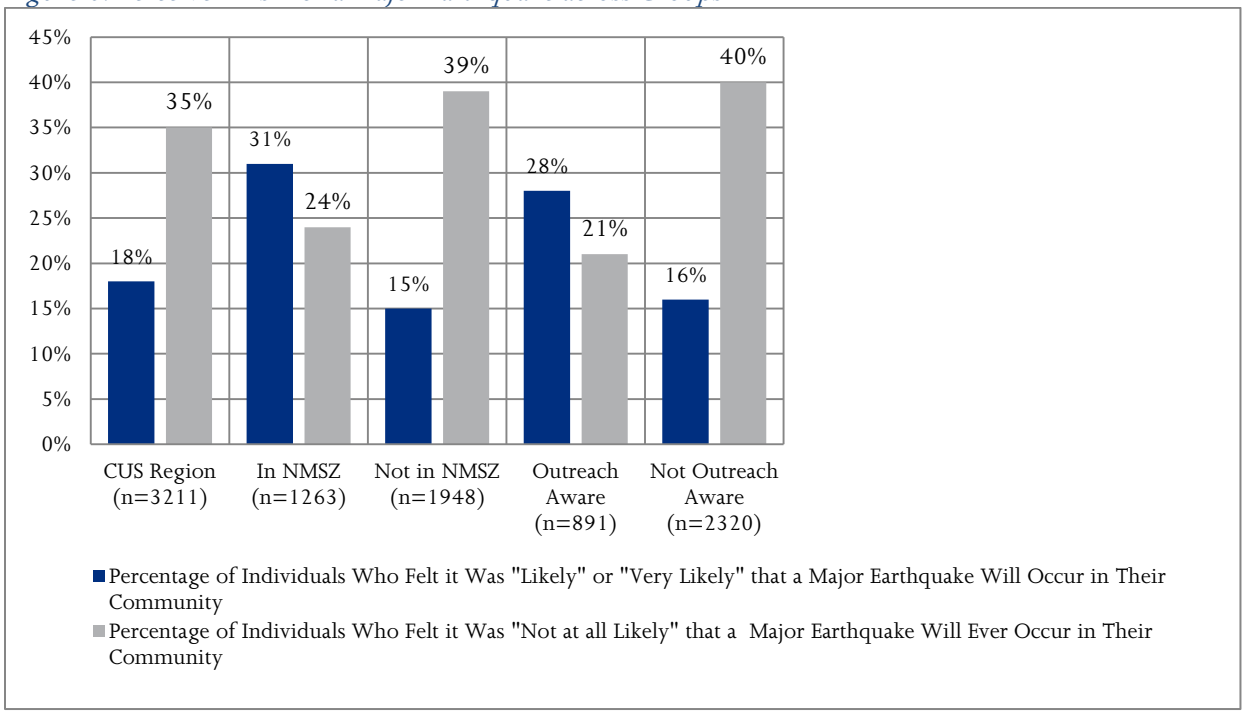
The majority of individuals (62 percent) in the CUS region who believed that a natural hazard would occur in their community do not have many distinguishing demographic attributes compared to those who did not believe a natural hazard will ever occur in their community. They are more likely to have children in the household (41 percent compared to 33 percent) and somewhat more likely to be female (54 percent compared to 48 percent).

While still low, a significantly higher percentage of respondents living in the NMSZ (31 percent) believed a major earthquake is likely to occur in their community, as compared to 15 percent of respondents living outside the NMSZ. Further, only 24 percent of those living in the NMSZ believed it is not at all likely that a

major earthquake will occur in their community, compared to 39 percent of respondents living outside of the NMSZ who believed it is not at all likely that their community would experience a major earthquake.

Outreach Awareness also played a role in respondents' belief that an earthquake is likely to occur in their community. Slightly more than one in five respondents who were Outreach Aware (21 percent) believed it is not at all likely that a major earthquake will occur in their community, while two in five respondents who were Not Outreach Aware (40 percent) believed it is not at all likely that an earthquake will occur in their community. Nearly three in 10 Outreach Aware respondents (28 percent) believed a major earthquake is likely to occur in their community, compared to 16 percent of those who were Not Outreach Aware—a significant difference. Notably, one in five Outreach Aware respondents believed an earthquake is "not at all likely" to occur in their community. These findings suggest there is a continuing issue with the lack of perceived susceptibility for this type of disaster. Even with awareness of the preparedness activities and events, a sizable percentage of the Outreach Aware respondents continue to think they are not at risk for an earthquake.

*Figure 6: Perceived Risk for a Major Earthquake across Groups**



*Each percentage represents top-box and bottom-box scores. Those stating 4 or 5 (top box, likely), or 1 (bottom box, not at all likely), are measured on a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all." Respondents were asked, "On a scale of 1 to 5, with 5 being 'very likely' and 1 being 'not likely at all,' how likely do you think it is that a major earthquake will ever occur in your community?"

Are Residents Confident in Their Ability to Respond During a Natural Disaster?

Having confidence in one's ability to respond to a natural disaster, especially a no-notice disaster, may help individuals implement life-saving measures and, ultimately, reduce injury and save lives. Respondents were asked how confident they are in their ability to know how to respond in the first 5 minutes of a sudden natural disaster, such as an earthquake, that occurs without warning. Over half of the respondents in the

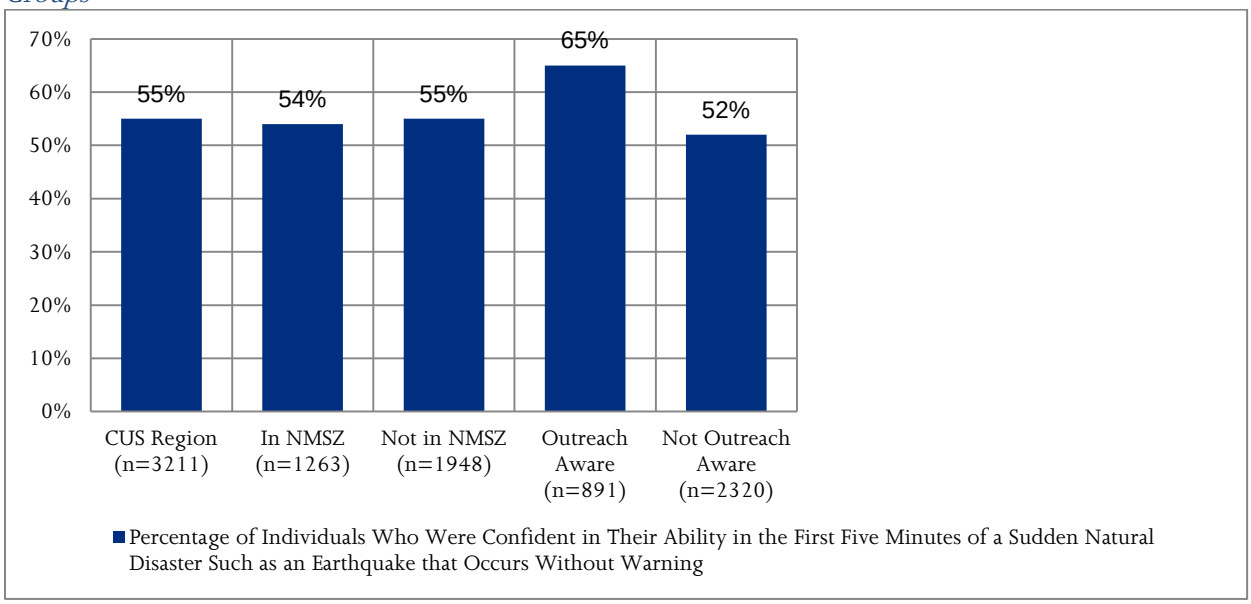
CUS region (55 percent) reported confidence in their ability to know what to do during a sudden natural disaster (see Figure 7). This percentage was similar for those respondents living in and outside of the NMSZ, with slightly more than half reporting they know what to do. Being Outreach Aware made a significant difference, with nearly two-thirds of those respondents who were Outreach Aware (65 percent) and just over half of those who were Not Outreach Aware (52 percent) reporting confidence in their ability to know how to respond during a sudden natural disaster such as an earthquake.

Individuals who were confident in their ability to respond during a natural disaster reported higher levels of correct knowledge than those who were not confident in their ability to respond for *getting down close to the ground* (74 percent to 67 percent) and *getting under a big piece of furniture* (62 percent to 54 percent). Of note, however, is that individuals with confidence to respond were significantly more likely than individuals who were not confident to incorrectly believe that *getting in a doorway* is a correct response (69 percent to 59 percent).

Those who are confident in their ability to respond to a natural disaster were more likely to keep up-to-date supplies in their home, have a household plan and participate in preparedness training.

While their participation in earthquake drills was low, those who were confident in their ability to respond to a natural disaster were also slightly more likely to have participated in a drill. Additionally, they were more likely to have completed at least one mitigation action.

*Figure 7: Confidence in Ability to Respond to a Sudden Natural Disaster, such as an Earthquake, across Groups**



*Each percentage represents top-box scores. Those stating 4 or 5 (top box, confident), as measured on a scale of 1 to 5, with 5 being "very confident" and 1 being "not at all confident." Respondents were asked, "How confident are you in your ability to know what to do in the first 5 minutes of a sudden natural disaster, such as an earthquake, that occurs without warning? Please use a scale of 1 to 5, with 5 being 'very confident' and 1 being 'not at all confident.'"

Section 5: Readiness to Take Preparedness Steps

The Stages of Change Model,[11] developed by Prochaska and DiClemente, states that behavior change is a process rather than a discrete event. As detailed in Table 9, individuals move through five distinct stages that indicate their readiness to attempt, make or sustain behavior change. Analysis of responses to questions about Stages of Change can help marketers determine the focus and types of messaging to use in outreach materials.[12] The "preparation" stage indicates preparation to take action and should not be mistaken for disaster "preparedness."

Table 9: General Stages of Behavior Change

STAGE	DESCRIPTION
Precontemplation	No intention to change or think about change in the near future.
Contemplation	Not prepared to take action at present, but is intending to take action.
Preparation	Actively considering changing his or her behavior in the immediate future.
Action	Recent overt behavior change, but the changes are not well established.
Maintenance	Behavior has changed and been maintained for more than 6 months.

As Figure 8 shows, the largest percentage of respondents has been prepared for more than six months (maintenance) (39 percent), and another nearly one in five respondents (17 percent) have recently started preparing (action). Those who reported that they have been prepared for more than six months (maintenance) were more likely than all other respondents to have up-to-date supplies, have a household plan and participate in all types of preparedness training and meetings. They were also more likely to have participated in earthquake drills and to have taken mitigation steps than all other respondents. Fewer than one-quarter of respondents (23 percent) indicated that they were not planning to take any steps to become prepared (precontemplation). This question was asked in the 2011 and 2009 FEMA National Household Surveys and was included in the 2011 FEMA CUS Earthquake Survey to assess the potential effect of exposure to the localized Earthquake Outreach on readiness to act.

Findings suggest that individuals exposed to Earthquake Outreach have taken steps or are considering taking steps to be prepared.

There are significantly more Outreach Aware respondents who have been prepared for more than six months (maintenance) than respondents who are Not Outreach Aware. Exactly half of the respondents who were Outreach Aware reported they have been prepared for more than six months compared to 35 percent of those Not Outreach Aware. In fact, Outreach Aware respondents represent one-third of the 39 percent of overall respondents who reported being prepared for more than six months. Nearly one in five Outreach Aware respondents (19 percent) reported that they have recently started preparing (action) compared to 16 percent of Not Outreach Aware. Of note is that a significantly larger percentage of respondents who were Not Outreach Aware reported that they were not thinking about preparing (precontemplation) (25

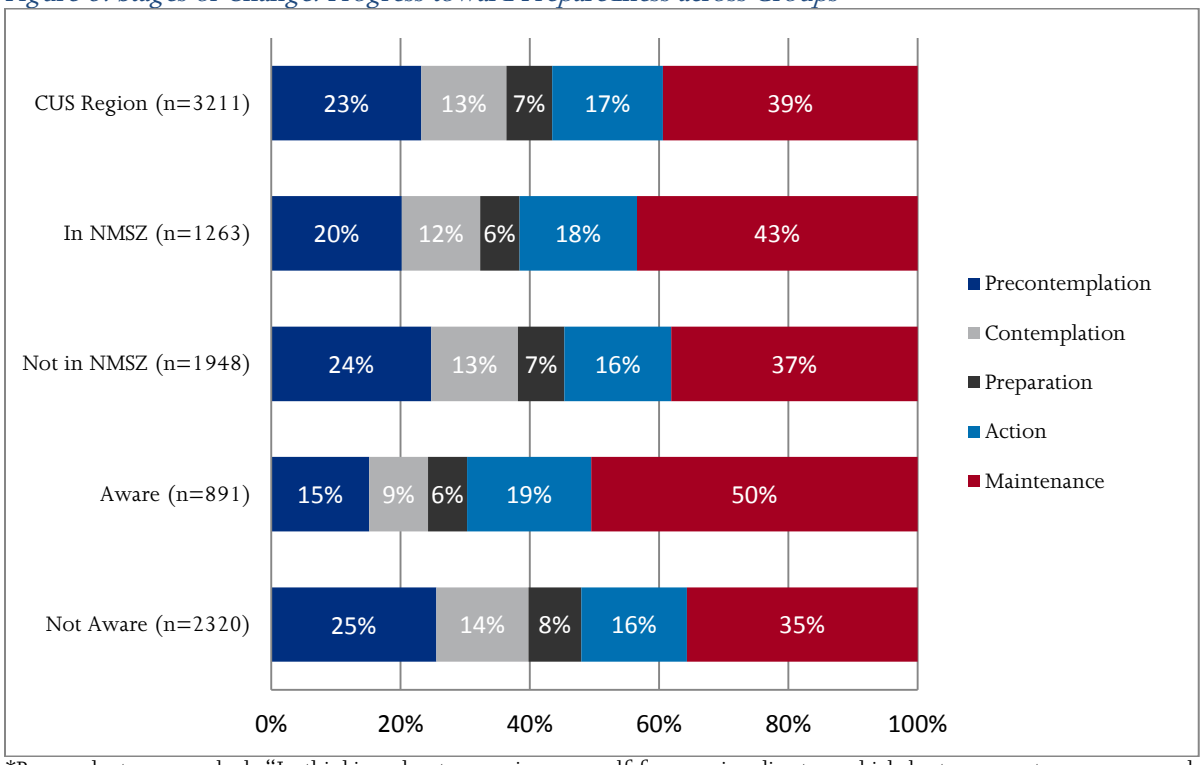
[11] Prochaska, J.O., & DiClemente, C.C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research and Practice,* 20, 161–173.

[12] The question on Stages of Change originated from and was used with the permission of the National Center for Disaster Preparedness (NCDP): NCDP. (2007). *The American Preparedness Project: Where the US public stands in 2007 on terrorism, security, and disaster preparedness.* New York: NCDP.

percent) than Outreach Aware respondents (15 percent). Similarly, nearly three-quarters of the Outreach Aware respondents (69 percent) either have begun preparing (action) or were already prepared (maintenance) compared to slightly more than half of the respondents who were Not Outreach Aware (51 percent) and either have begun preparing (action) or were already prepared (maintenance).

Respondents living in and outside of the NMSZ responded very similarly, with slightly less than half reporting that they have been prepared for more than six months (maintenance). However, a significantly larger percentage of respondents living outside the NMSZ indicated that they were not planning to take steps to become prepared (precontemplation—24 percent) than respondents living in the NMSZ (20 percent).

*Figure 8: Stages of Change: Progress toward Preparedness across Groups**



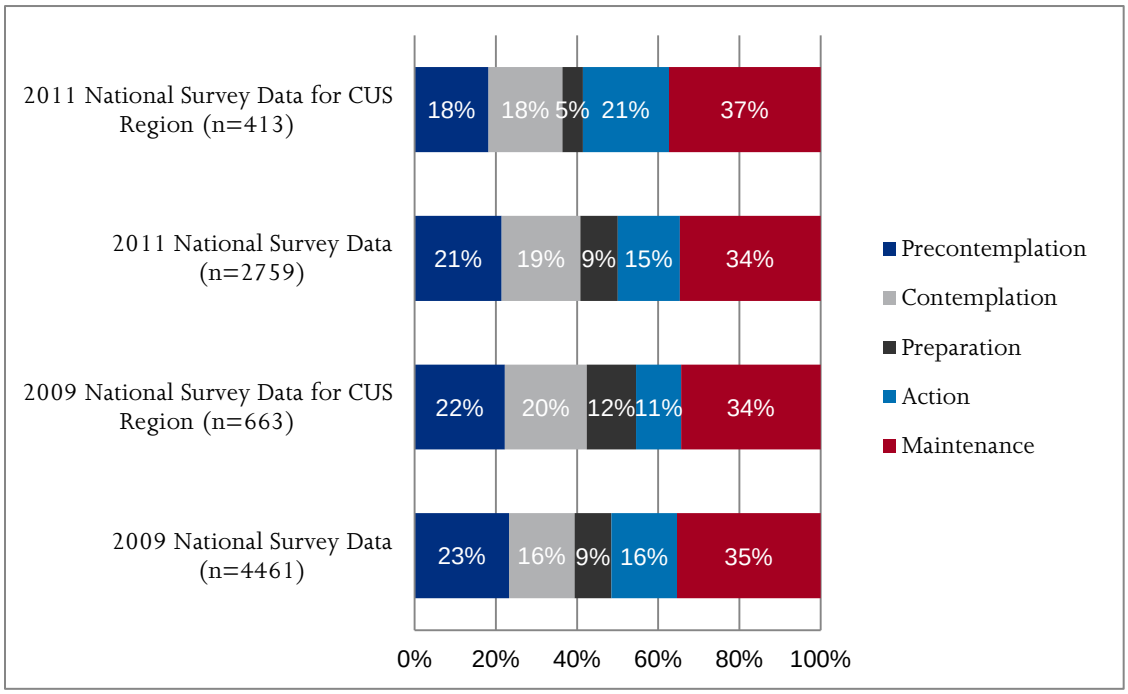
*Respondents were asked, "In thinking about preparing yourself for a major disaster, which best represents your preparedness?" "Precontemplation" was measured as "I am not planning to do anything about preparing." "Contemplation" was measured as "I have not yet prepared but I intend to in the next 6 months." "Preparation" was measured as "I have not yet prepared but I intend to in the next month." "Action" was measured as "I have recently begun preparing." Finally, "Maintenance" was measured as "I have been preparing for at least the past 6 months."

An analysis of sociodemographics was conducted to determine differences in responses to this question among those who were Outreach Aware. Those Outreach Aware respondents who reported that they have been prepared for six months or more (maintenance) were more likely to own their home, have a bachelor's degree or higher education, have an income of $75,000 or more and work full time. Those who reported that they are not yet prepared but are willing (action, preparation or contemplation) were more likely to be female, be African American or have children in the household. Those Outreach Aware respondents who reported that they are not intending to prepare are more likely to be 65 years or older, be retired or indicate having disabilities that prevent them from preparing or responding to a disaster.

To see how motivation to move along the continuum of preparedness varied over time, the responses of 2011 and 2009 FEMA National Household Survey respondents were compared (see Figure 9). Across both years, approximately the same percentage of respondents in the national samples was in each stage.

Among respondents in the CUS region, however, noteworthy differences exist between 2011 and 2009. Significantly more respondents indicated having recently begun preparing (action—21 percent to 11 percent) and larger percentages of respondents reported being prepared for at least six months (maintenance—37 percent to 34 percent) in 2011, as compared to 2009, while fewer respondents reported not planning to do anything about preparing (precontemplation—18 percent to 22 percent), not yet preparing but intending to in the next six months (contemplation—18 percent to 20 percent) or not yet prepared intending to in the next month (preparation—5 percent to 12 percent). Of importance, since the percentages in the earlier stages of the continuum (i.e., precontemplation, contemplation) have not increased from 2009 to 2011, data suggest that individuals have moved closer to later continuum stages (i.e., action, maintenance) and, thus, to a higher level of preparedness.

Figure 9: Stages of Change: Progress toward Preparedness Nationally and in the CUS Region (2009–2011) †*



*Respondents were asked, "In thinking about preparing yourself for a major disaster, which best represents your preparedness?" "Precontemplation" was measured as "I am not planning to do anything about preparing." "Contemplation" was measured as "I have not yet prepared but I intend to in the next 6 months." "Preparation" was measured as "I have not yet prepared but I intend to in the next month." "Action" was measured as "I have recently begun preparing." Finally, "Maintenance" was measured as "I have been preparing for at least the past 6 months."

† The table reports data from the 2011 FEMA National Household Survey and 2009 FEMA National Household Survey. Data for CUS regions were extracted from the 2009 and 2011 FEMA National Household Surveys.

Section 6: Preparedness Steps

Did the Amount of Exposure to Information Sources Affect Preparedness?

Another goal of Earthquake Outreach was to increase the number of individuals who are prepared for disasters, including an earthquake. This section describes the responses to a series of questions that respondents were asked in order to gauge their level of preparedness.

An analysis was conducted to assess the role of the number of sources from which respondents reported receiving earthquake preparedness information and the number of the preparedness behaviors respondents reported that they had completed. This analysis was conducted by separating respondents into groups based on the number of information sources mentioned by each participant.

Relationships were found between the number of sources from which respondents reported receiving earthquake preparedness information and the number of the self-reported preparedness behaviors respondents completed. In addition, awareness of the risk of experiencing an earthquake was also related to the number of sources of information. As the number of sources of information increased, so did the percentage of respondents who believed that it is likely that an earthquake will occur in their community, from 27 percent who cited only one source to 55 percent who had cited seven sources.

The following nine sources of information were considered:

- Television;
- Radio
- Newspaper;
- Internet;
- E-mail;
- Work;
- Child's school;
- Church or faith-based organizations;
- Other community organizations.

For the preparedness behaviors, participation among respondents tended to increase as the number of sources of information they cited increased until about six of the nine possible sources of information were cited. Beyond this point, the effects of multiple communication channels tended to plateau.

Knowledge of community alert and warning systems. As the number of cited sources of earthquake information increased, the reported knowledge of community alert and warning systems increased. Of the respondents who cited only one source of information, 69 percent reported familiarity with the community alert and warning systems. This percentage increased to 85 percent of respondents who cited three sources, 88 percent of respondents who cited five sources and 93 percent of respondents who cited six sources. In addition, the number of sources of information had an effect on respondents' attendance at meetings about how to better prepare for a disaster, including attendance at first aid skills training and attendance at meetings on earthquake preparedness. For example, attendance at first aid skills training jumped from 10 percent of the respondents who cited one source to 49 percent of the respondents who cited six sources, and attendance at meetings about how to better prepare for a disaster increased from 12 percent of respondents who cited one source to 51 percent of respondents who cited six sources.

Talking about earthquake preparedness with others in the community. Respondents also reported talking about earthquake preparedness with others in the community more as the number of sources of information they cited increased. Whereas slightly more than one-quarter of the respondents who cited only one source of information (26 percent) reported talking with others in the community about earthquake preparedness, nearly half of those who cited three sources (42 percent) reported talking with others, and nearly three-quarters of the respondents who cited six sources (68 percent) reported talking about preparedness with others in the community. This is an important increase to note, as talking with others (milling) has been found to be an important element in affecting behavior change.[13]

Mitigation behaviors and the sources of earthquake preparedness information. Mitigation behaviors were also influenced by the number of sources from which respondents had received earthquake preparedness information. The percentage of respondents who strapped their water heater to the wall (from 18 percent of respondents who cited one source to 41 percent of respondents who cited six sources) and the percentage who repaired structural damages in their homes (from 24 percent of respondents who cited one source to 50 percent of respondents who cited six sources) increased as the number of sources of information increased.

Did Residents Participate in Preparedness Training?

Preparedness education and training provide individuals with needed skills in advance of a disaster, including an earthquake, such as what to do to protect people in the first few moments after a disaster. To measure this, respondents were asked whether they had participated in each of the following training within the last six months:

- Meeting about preparedness;
- CPR training;
- First aid skills training; and
- Training as part of a community emergency response team.

As Table 10 shows, two in five respondents (40 percent) attended some type of preparedness training. Approximately one-quarter of the respondents attended either CPR training (28 percent) or first aid skills training (25 percent) in the past six months. Slightly fewer attended a meeting on disaster preparedness (15 percent) or training as part of a community emergency response team (9 percent). The percentage of individuals who attended all types of training did not significantly vary for those living in and out of the NMSZ.

However, Outreach Aware respondents participated in more training of all types. A significantly larger percentage of Outreach Aware respondents participated in at least one type of training (49 percent), compared to respondents who were Not Outreach Aware (37 percent). One-third of the Outreach Aware respondents attended CPR training (33 percent), nearly one-third attended first aid training (29 percent), slightly less than one-quarter attended a meeting on preparedness (24 percent) and more than one in 10 attended training as part of a community emergency response team (15 percent).

[13] Bourque, L.B., Kano, M., Mileti, D.S., & Wood. M.M. (2008). "Public Response to Terrorism." Presented at the National Press Club, Washington, DC.

*Table 10: Self-Reported Participation in Preparedness Training across Groups**

Action	% of Individuals Reporting Participation				
	CUS Region	NMSZ		Outreach Aware	
	Total	In NMSZ	Not in NMSZ	Aware	Not Aware
	(n=3211)	(n=1263)	(n=1948)	(n=891)	(n=2320)
Attended a meeting on how to be better prepared for a disaster	15	18	15	24	13
Attended CPR training	28	28	29	33	27
Attended first aid skills training	25	26	25	29	24
Attended training as part of a community emergency response team	9	10	9	15	8
Attended any training[†]	40	41	39	49	37

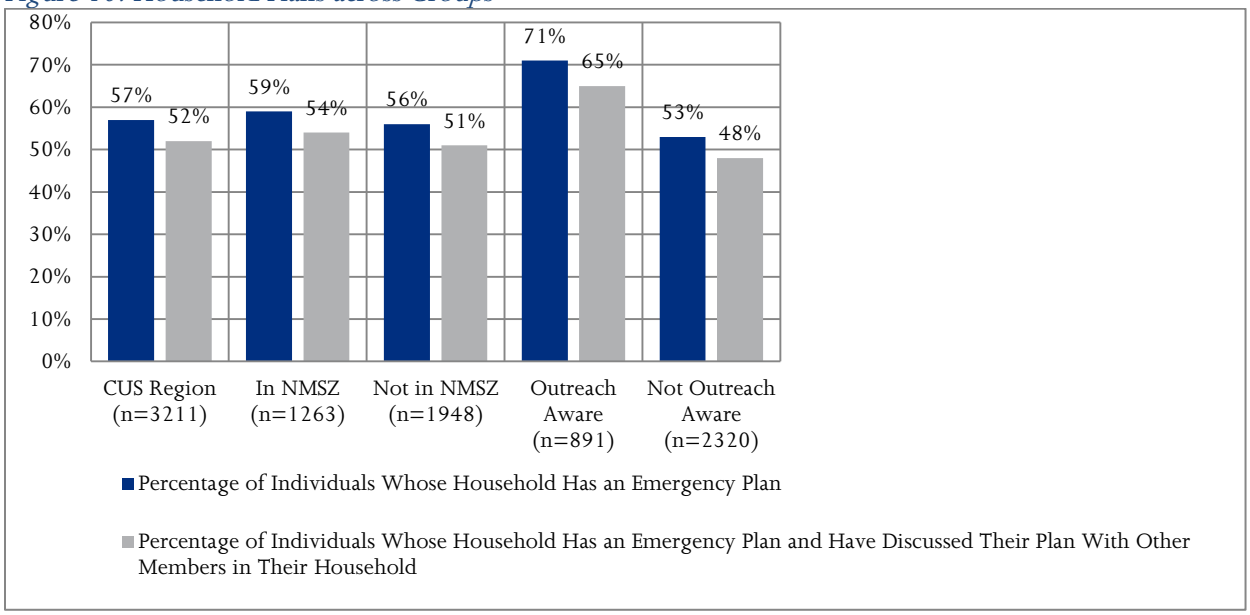
*Respondents were asked, "In the past 6 months, have you done any of the following?" The final measure is a composite measure, testing if respondents attended any of the training listed.
[†]Multiple responses have been removed.

Do Residents Have a Household Plan?

Having a household emergency plan is a key step in ensuring safety and the ability to be located immediately following a major earthquake. Respondents were asked whether their household has an emergency plan with instructions about where to go and what to do in the event of a disaster. Those respondents with a household plan were also asked whether they have discussed the plan with other members of the household. Nearly three in five respondents in the CUS region (57 percent) reported that they have a household emergency plan, and more than half of the respondents (52 percent) reported that they both have a plan and have discussed it with members of the household (see Figure 10). Living in the NMSZ did not appear to make a difference, with nearly three in five respondents living in the NMSZ (59 percent) and three in five respondents living outside the NMSZ (56 percent) having a household plan. Similarly, nearly half of the respondents living in and outside the NMSZ reported that they have a plan and have discussed it with other members of the household (54 percent to 51 percent).

Respondents who were Outreach Aware were significantly more likely than those who were Not Outreach Aware to have a household emergency plan (71 percent to 53 percent). In addition, about two-thirds of the Outreach Aware respondents (65 percent) reported that they have a household plan that they have discussed with other members of their household—a significantly higher percentage than the nearly half of the respondents who were Not Outreach Aware (48 percent).

*Figure 10: Household Plans across Groups**



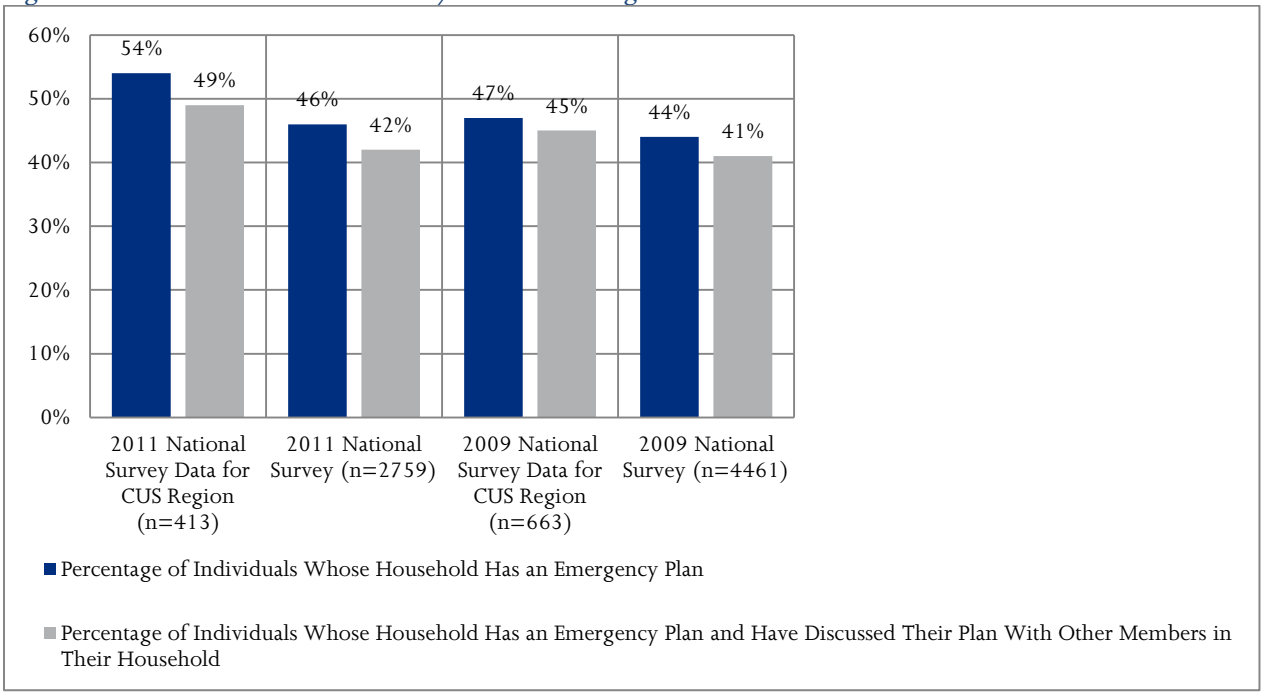
*Respondents were asked for the first measure, "Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?" The second measure was reported by measuring respondents who said "Yes" to having a disaster plan and also stated "Yes" to "Have you discussed this plan with other members in your household?"

Figure 11 compares the percentage of individuals in 2011 and 2009 who reported having a household emergency plan and the percentage of those who have a plan that they have discussed with others in their household.

More respondents in the CUS region reported that they have a household plan in 2011 than in 2009, with nearly three in five respondents in 2011 (54 percent) indicating that they have an emergency plan as compared to fewer than half of the CUS region respondents in 2009 (47 percent).

Nearly half of the CUS region respondents in 2011 (49 percent) reported that they have a plan that they have discussed with other members of the household, while a lower percentage (45 percent) of the respondents in 2009 had a plan they had discussed with other members of the household. The national differences between 2011 and 2009 in the percentages of respondents with a household emergency plan did not vary greatly—slightly under half of the respondents from both years reported having an emergency plan.

Figure 11: Household Plans Nationally and in CUS Region[*†]*



*Respondents were asked for the first measure, "Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?" The second measure was reported by measuring respondents who said "Yes" to having a disaster plan and also stated "Yes" to "Have you discussed this plan with other members in your household?"

† The table reports data from the 2011 FEMA National Household Survey and 2009 FEMA National Household Survey. Data for CUS regions were extracted from the 2009 and 2011 FEMA National Household Surveys.

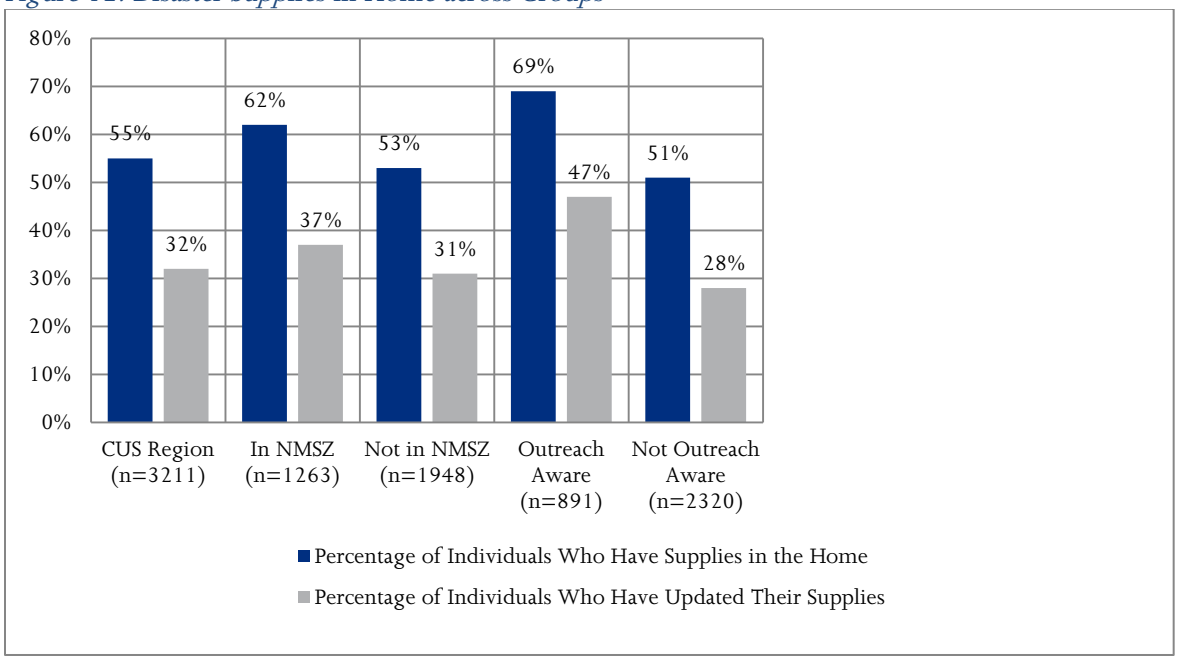
Do Residents Have Disaster Supplies in Their Homes?

Having up-to-date disaster supplies that are readily available is another crucial aspect of being prepared. Respondents were asked whether they had disaster supplies in their home. Those individuals with disaster supplies were then asked whether they had updated their supplies within the last six months.

More than half of the respondents (55 percent) reported that they have disaster supplies in their home, and nearly one-third of the respondents (32 percent) reported that they have updated their supplies within the past six months (see Figure 12). A significantly higher percentage of respondents living in the NMSZ versus those not living in the NMSZ reported that they have disaster supplies (62 percent to 53 percent) and supplies that have been updated in the past six months (37 percent to 31 percent).

Outreach Aware respondents reported significantly higher percentages for both having disaster supplies (69 percent) and having supplies that had been updated in the last six months (47 percent). Of respondents who were Not Outreach Aware, only 51 percent have disaster supplies and 28 percent have supplies that have been updated in the past six months.

*Figure 12: Disaster Supplies in Home across Groups**



*Respondents were asked for the first measure, "Do you have supplies set aside in your home to be used only in the case of a disaster?" For the second measure, respondents were asked, "Have you updated these supplies in the last 6 months?"

Those respondents who reported having disaster supplies in their home were asked to list the supplies they have. Respondents were not given a list from which they could choose which supplies they had, so this list also provides evidence of the supplies that respondents believe should be part of a disaster supply kit. Table 11 lists the top 10 supplies mentioned by respondents in the CUS region, along with the percentages of individuals who mentioned having these supplies.

Nearly three-quarters of respondents reported having bottled water (72 percent) or a supply of packaged food (71 percent), and half of the respondents reported having a flashlight (50 percent). The next most frequently reported disaster supplies were a first aid kit (32 percent), batteries (27 percent), blankets/clothing/bedding (22 percent), a portable, battery-powered radio (20 percent), candles/matches (15 percent), a generator/backup power source (11 percent) and medications (8 percent).

*Table 11: Disaster Supplies in Homes in CUS Region**

Supplies	% of Individuals with Disaster Supplies
A supply of bottled water	72
A supply of packaged food	71
A flashlight	50
A first aid kit	32
Batteries	27
Blankets/clothing/bedding	22
A portable, battery-powered radio	20
Candles/matches	15
Generator/electrical backup/alternative power	11
Medications	8

*Respondents were asked, "Could you tell me the disaster supplies you have in your home?"

Have Residents Taken Mitigation Actions to Prepare for an Earthquake?

Individuals can also take precautionary steps to protect themselves in their home in case of an emergency, such as an earthquake. Respondents were asked whether they had undertaken any of a series of mitigation activities to prepare for an earthquake, including anchoring their homes to the foundation, repairing or upgrading structural weaknesses in the home, purchasing flood insurance[14], securing the home's water heater to the wall and strapping down heavy furniture or equipment. One-third of the respondents (33 percent) reported that they have anchored their home to the foundation (see Table 12). Approximately one in five respondents reported that they have repaired or upgraded structural weaknesses (24 percent), purchased flood insurance (21 percent) or secured their water heater to the wall (19 percent). Finally, nearly one in 10 respondents (8 percent) reported that have strapped down heavy furniture or equipment.

Although respondents living in the NMSZ reported higher percentages of respondents engaging in nearly all of the protective actions, only securing their water heater to the wall with straps was performed by significantly more respondents living in the NMSZ than respondents outside the NMSZ.

A significantly higher percentage of Outreach Aware respondents reported engaging in these activities, with more than one-third of Outreach Aware respondents having anchored their home to the foundation (41 percent) or repaired or upgraded structural weaknesses in the home (35 percent) and with nearly one-third of Outreach Aware respondents having secured their water heater to the wall (31 percent) or purchased flood insurance (26 percent). For respondents who were Not Outreach Aware, the most commonly reported activity was anchoring their home to the foundation, with 30 percent of respondents who were Not Outreach Aware engaging in this activity. Overall, a significantly higher percentage of Outreach Aware

[14] Although purchasing flood insurance is not directly related to earthquake preparedness, this item was included in the survey as flooding may occur in the aftermath of an earthquake. Further, since flood insurance is an important FEMA program in this CUS, participants were also asked whether they had purchased flood insurance. One in five respondents (21 percent) in the CUS region reported purchasing flood insurance. There was little difference in flood insurance purchasing behavior between those in the NMSZ and outside the NMSZ. Outreach Aware respondents were more likely to have purchased flood insurance (26 percent) compared to those who were Not Outreach Aware (19 percent).

respondents reported engaging in any of these mitigation activities (71 percent), compared to respondents who were Not Outreach Aware (55 percent).

*Table 12: Activities to Decrease Impact of Earthquake in CUS Region**

Action % of Individuals Performing Action

	CUS Region	NMSZ		Outreach Aware	
	Total	In NMSZ	Not in NMSZ	Aware	Not Aware
	(n=3211)	(n=1263)	(n=1948)	(n=891)	(n=2320)
Anchored home to foundation to keep home stable	33	35	32	41	30
Repaired or upgraded structural weaknesses in masonry, brick or stone foundations	24	21	25	35	21
Secured water heater with straps to wall	19	24	18	31	16
Strapped down heavy furniture or equipment to keep in place	8	10	7	14	6
Completed any mitigation activity†	58	60	58	71	55

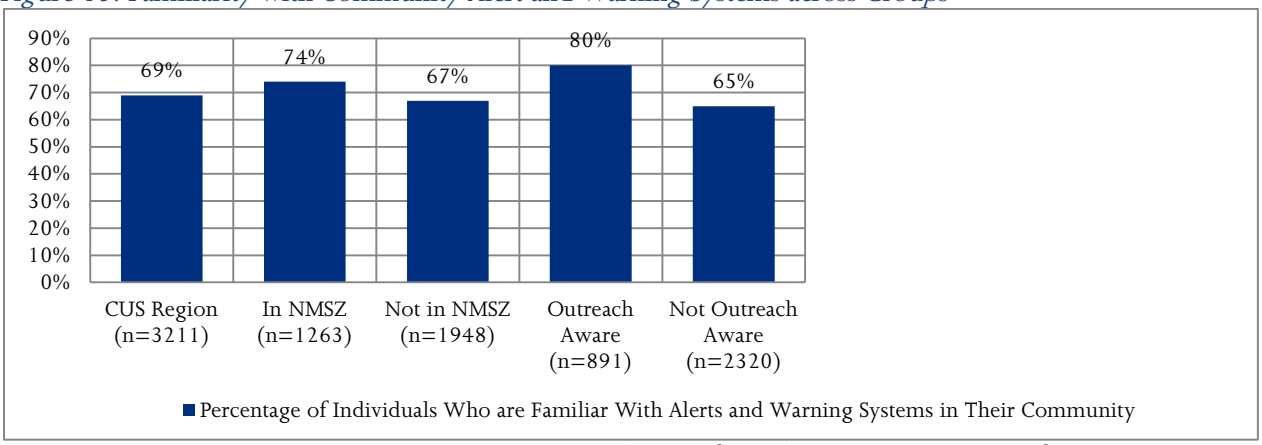
*Respondents were asked, "Have you taken any of the following steps to protect your home, its structure and furnishings?" The percentage of individuals measured includes those who responded "Yes" or "Done by Other." The final measure is a composite measure of respondents who completed any of the mitigation activities.

†Multiple responses have been removed.

Are Residents Familiar with Community Plans?

If an earthquake were to occur, receiving notifications from community alerts and warnings could provide critical local information in the immediate aftermath (e.g., available transportation, emergency response capabilities and community shelter locations). Respondents were asked whether they are familiar with the alert and warning systems in their community. As Figure 13 shows, more than two-thirds of the respondents (69 percent) were aware of the alert and warning systems in their community. Nearly three-quarters of respondents living in the NMSZ (74 percent) were aware of the alerts and warnings in their community, while a significantly lower percentage—just more than two-thirds of respondents living outside the NMSZ (67 percent) were aware of their community alerts and warnings. Four out of five Outreach Aware respondents (80 percent) were familiar with the alerts and warning systems in their community, which is significantly higher than the percentage of respondents who were Not Outreach Aware (65 percent).

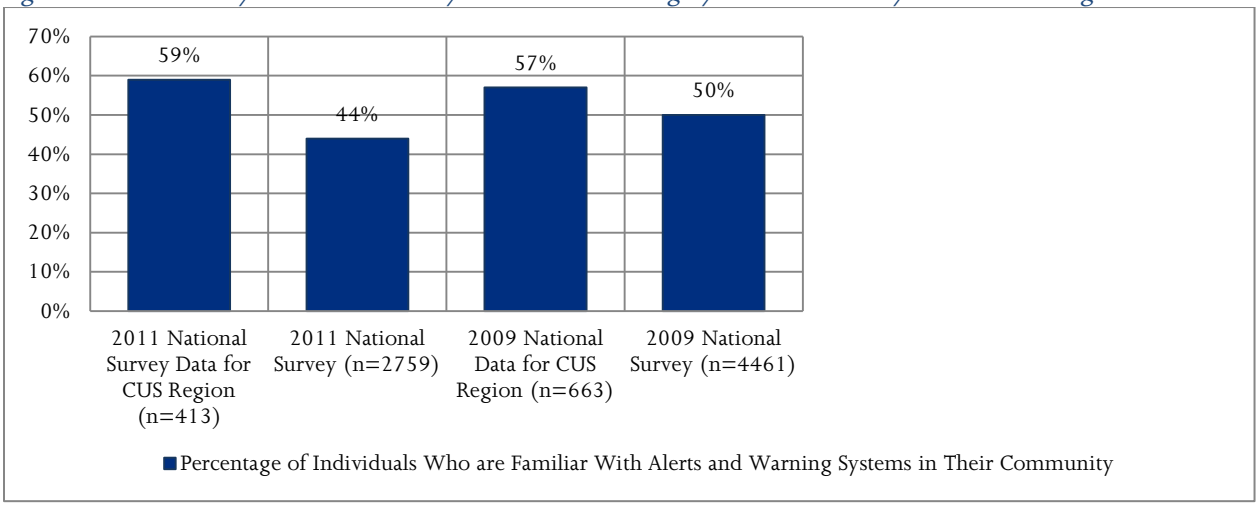
*Figure 13: Familiarity with Community Alert and Warning Systems across Groups**



*Each percentage represents top-box scores. Those stating 4 or 5 (top box, familiar), as measured on a scale of 1 to 5, with 5 being "very familiar" and 1 being "not at all familiar." Respondents were asked, "Using a scale of 1 to 5, with 5 being 'very familiar' and 1 being 'not at all familiar,' how familiar are you with alert and warning systems in your community?"

This report also looked at the percentage of respondents familiar with community alert and warning systems across time, for both the CUS region and the national sample from the FEMA National Household Survey.[15] Although half of the national sample (50 percent) was familiar with the community alerts and warnings in 2009, significantly fewer respondents (44 percent) report familiarity with them in 2011 (see Figure 14). However, a higher percentage of respondents from the CUS region were familiar with the community alert and warning systems in 2011 (59 percent) than in 2009 (57 percent).

Figure 14: Familiarity with Community Alert and Warning Systems Nationally and in CUS Region†*



*Each percentage represents top-box scores. Those stating 4 or 5 (top box, familiar), are measured on a scale of 1 to 5, with 5 being "very familiar" and 1 being "not at all familiar." Respondents were asked "Using a scale of 1 to 5, with 5 being 'very familiar' and 1 being 'not at all familiar,' how familiar are you with alert and warning systems in your community?"

† The table reports data from the 2011 FEMA National Household Survey and 2009 FEMA National Household Survey. Data for CUS regions were extracted from the 2009 and 2011 FEMA National Household Surveys.

[15] The 2011 FEMA CUS Earthquake Survey and 2011/2009 FEMA National Surveys used the same wording to ask respondents about familiarity with alerts and warning systems. However, for the 2011/2009 FEMA National Surveys, the question about "alert and warning systems in your community" was asked as part of a series of randomized topics, whereas it was asked as an independent question for the 2011 Earthquake Survey.

Section 7: Assessing Perceptions of Individuals with Disabilities or Health Conditions Affecting Their Ability to Prepare and/or Respond to Emergencies

In the 2011 FEMA CUS Earthquake Survey, 12 percent of respondents indicated they have a disability or health condition that affects their ability to prepare for an emergency situation ("respondents with a disability—prepare"), and 10 percent of respondents indicated they have a disability or health condition that affects their ability to respond to an emergency situation ("respondents with a disability—respond"). In addition, 12 percent of respondents reported that they live with or have primary responsibility for assisting someone with a disability who requires assistance ("those who assist"). These three populations of respondents are compared to respondents who reported neither having a disability nor caring for someone with a disability ("all other respondents"). These are important populations to consider, as these individuals may require more assistance and/or different types of assistance before, during and after an earthquake.

Outreach Awareness. As Table 13 shows, respondents with a disability—respond (34 percent), respondents with a disability—prepare (33 percent) and those who assist (35 percent) were significantly more likely to report having read, seen or heard about preparing for earthquakes in the last six months than all other respondents (26 percent). Those who assist (29 percent), respondents with a disability—prepare (28 percent) and respondents with a disability—respond (28 percent) were significantly more likely to report awareness of drills, education and advertising to raise awareness of the risk of an earthquake and to help prepare for an earthquake in their home state than all other respondents (21 percent). Of note, however, is that respondents with a disability—prepare and who had received information about preparing for earthquakes (Outreach Aware) were not more likely to talk with others in the community about preparedness.

Several differences can be seen in the communication channels through which respondents with disabilities and those who assist individuals with a disability reported receiving earthquake information compared to all other respondents. Respondents with a disability—prepare or with a disability—respond were generally most likely to receive this information from television, their child's school, the newspaper, community organizations and faith-based organizations compared to all other respondents. Those who assist individuals with a disability were most likely to receive earthquake information from television, the Internet, work, community organizations and faith-based organizations. All other respondents were significantly more likely to report receiving information from work (42 percent) when compared to respondents with a disability—prepare (12 percent) or with a disability—respond (15 percent) as well as from the Internet (42 percent) when compared with respondents with a disability—respond (29 percent).

*Table 13: Outreach Awareness Among Those Who Indicated Having a Disability or Being a Caregiver for Someone with a Disability (2011)**

Action	% of Individuals			
	Individual with Disability –Prepare	Individual with Disability –Respond	Caring for Someone with a Disability	All Others
Read, seen or heard anything about preparing for earthquakes in the past six months	33	34	35	26
Read, seen or heard anything about drills, education and advertising to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for an earthquake in the past six months	28	28	29	21
We're specifically interested in where you may have read, seen, or heard this information. Was it … On television?†	84	76	73	65
From your child's school?	62	65	40	48
In the newspaper?	54	59	49	46
On the Internet?	34	29	43	42
On the radio?	44	47	44	37
At work?	12	15	37	42
From another community organization?	38	38	40	26
Through e-mail?	15	16	17	16
At church or from faith-based organization?	21	24	25	10

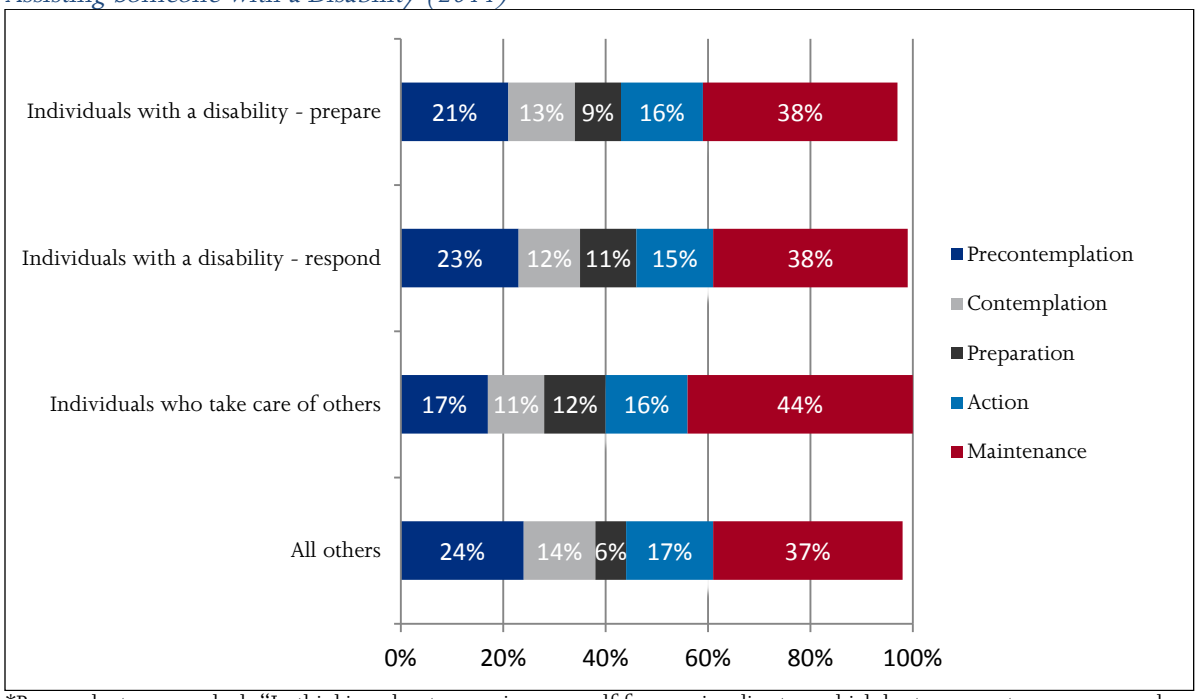
*For the first measure, respondents were asked, "In the past 6 months, have you read, seen or heard anything about preparing for earthquakes?" The second measure asked respondents, "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?" The remaining measures were a follow-up to this latter measure, asking, "We're specifically interested in where you may have read, seen or heard this information. Was it…."

†This set of measures on where respondents may have read, seen or heard information is a follow-up question to "In the past 6 months, there have been drills, education and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen or heard anything about that?"

Outreach Participation. Respondents with a disability—prepare (9 percent) and respondents with a disability—respond (13 percent) were slightly less likely to have participated in any type of earthquake drill than those who assist (14 percent) and all other respondents (14 percent) (see Table 14). However, respondents with a disability—prepare (5 percent), respondents with a disability—respond (8 percent) and those who assist (6 percent) were more likely to participate in a drill at home than all other respondents (2 percent). While respondents with a disability and those who assist them were more likely to have taken part in an earthquake drill at home, they still make up a very small percentage. Respondents with a disability—prepare (25 percent), respondents with a disability—respond (28 percent) and those who assist (30 percent) were less likely than all other respondents (31 percent) to talk with others in the community about getting prepared.

Stages of Change. As Figure 15 shows, respondents with a disability—prepare and respondents with a disability—respond did not greatly differ from all other respondents in terms of the breakdown into various stages of preparedness. Those who assist individuals with a disability, however, did. They were more likely to have been prepared for at least six months (maintenance). Nearly half of the those who assist individuals with a disability (44 percent) reported being in the maintenance stage, while only 37 percent of all other respondents reported being in this stage. They were also significantly less likely to report that they were not planning to get prepared (precontemplation), with only 17 percent reporting this, compared to all others (24 percent). In addition, both respondents with a disability—respond (11 percent) and those who assist (12 percent) were significantly more likely to report that they intend to prepare in the next month (preparation), compared to all other respondents (6 percent).

*Figure 15: Stages of Change: Progress toward Preparedness of Those Who Indicated Having a Disability or Assisting Someone with a Disability (2011)**



*Respondents were asked, "In thinking about preparing yourself for a major disaster, which best represents your preparedness?" "Precontemplation" was measured as "I am not planning to do anything about preparing." "Contemplation" was measured as "I have not yet prepared but I intend to in the next 6 months." "Preparation" was measured as "I have not yet prepared but I intend to in the next month." "Action" was measured as "I have recently begun preparing." Finally, "Maintenance" was measured as "I have been preparing for at least the past 6 months."

Preparedness Training. As Table 14 shows, respondents with a disability—prepare and with a disability—respond were less likely to participate in training; however, those who assist individuals with a disability were more likely to participate in training. In total, fewer than one-third of the respondents with a disability—prepare (28 percent) or with a disability—respond (29 percent) reported participating in at least one type of training, which is a significantly smaller percentage than the nearly half of those who assist individuals with a disability (47 percent) and the two in five (40 percent) of all other respondents who participated in any type of training. Those who assist individuals with a disability were more likely to attend a meeting on preparedness (8 percent), attend CPR training (38 percent), attend first aid skills training (30 percent), attend training as part of a community emergency response team (15 percent) and attend a meeting on how to better prepare for a disaster (18 percent) than were respondents with a

disability—prepare or with a disability—respond and all other respondents. In particular, attendance at CPR training and first aid skills training was significantly more likely to be reported by those who assist individuals with a disability (38 percent and 30 percent, respectively) compared to respondents with a disability—prepare (17 percent and 15 percent, respectively) and respondents with a disability—respond (18 percent and 16 percent, respectively). All other respondents were also less likely to report having attended these types of training (29 percent and 26 percent, respectively).

Household Plans. Those who assist individuals with a disability were significantly more likely to have reported having a household plan and having discussed it with members of the household (66 percent) than respondents with a disability—prepare (48 percent), respondents with a disability—respond (52 percent) and all other respondents (51 percent). In addition, a slightly higher percentage of individuals who assist others reported being familiar with community alerts and warning systems (74 percent) compared to respondents with a disability—prepare (69 percent), respondents with a disability—respond (67 percent) and all other respondents (68 percent).

Supplies. More than three in five individuals who assist someone with a disability reported having disaster supplies in their home (63 percent), which is a significantly larger percentage than all other respondents (53 percent). Respondents with a disability—prepare (60 percent) and respondents with a disability—respond (59 percent) also reported a larger percentage of those having disaster supplies in their homes than all other respondents (53 percent). Respondents with a disability—prepare (30 percent) and respondents with a disability—respond (32 percent) reported similar percentages to all other respondents (31 percent) in terms of having supplies that have been updated in the past six months. Those who assist individuals with a disability report slightly larger percentages for having updated supplies (37 percent).

*Table 14: Preparedness Behaviors of Those Who Indicated Having a Disability or Being a Caregiver for Someone with a Disability (2011)**

Action | % of Individuals

	Individual with Disability—Prepare	Individual with Disability—Respond	Caring for Someone with a Disability	All Others
Participated in disaster training in past 2 years	28	29	47	40
Has supplies	60	59	63	53
Developed a household plan and discussed it with family	48	52	66	51
Has updated supplies at home	30	32	37	31
Participated in an earthquake drill at home, work or school	9	13	14	14
Familiar with alerts and warning systems in community	69	67	74	68

*The table provides percentage of individuals who reported completing each preparedness behavior.

Mitigation Actions. As Table 15 indicates, those who assist individuals with a disability engaged in a similar percentage of mitigation behaviors and actions (64 percent) as did respondents with a disability—prepare (60 percent) or with a disability—respond (59 percent). Respondents with a disability—prepare (60 percent) or with a disability—respond (59 percent) also reported similar percentages for having taken any mitigation actions compared to all other respondents (57 percent). Individuals with a disability were more likely to have strapped down heavy furniture or equipment to keep it in place (14 percent) than respondents with a disability—prepare (8 percent), respondents with a disability—respond (8 percent) and all other respondents (7 percent). Additionally, they were more likely to have purchased flood insurance (27 percent) than those with a disability—prepare (18 percent), with a disability—respond (17 percent) and all others (21 percent). However, respondents with a disability—prepare reported slightly higher percentages for securing their water heater to the wall (26 percent) than respondents with a disability—respond (22 percent), those who assist (22 percent) and all other respondents (18 percent). Respondents with a disability—prepare and respondents with a disability—respond (36 percent and 38 percent, respectively) and those who assist individuals with a disability (41 percent) were more likely than all others (31 percent) to anchor their home to the foundation.

*Table 15: Activities to Decrease Impact of Earthquake of Those Who Indicated Having a Disability or Being a Caregiver for Someone with a Disability **

Action	% of Individuals			
	Individual with disability – prepare	Individual with disability – respond	Caring for someone with a disability	All Others
Anchored home to foundation to keep home stable	36	38	41	31
Repaired or upgraded structural weaknesses in masonry, brick or stone foundations	24	22	26	23
Purchased flood insurance	18	17	27	21
Secured water heater with straps to wall	26	22	22	18
Strapped down heavy furniture or equipment to keep in place	8	8	14	7
Completed any mitigation activity[†]	60	59	64	57

*Respondents were asked, "Have you taken any of the following steps to protect your home, its structure and furnishings?" The percentage of individuals measured includes those who responded "Yes" or "Done by Other." The final measure is a composite measure of respondents who completed any of the mitigation activities.

[†]Multiple responses have been removed.

Findings and Recommendations

Experts have determined that the risk of the CUS states experiencing an earthquake is real. Residents were exposed to a variety of earthquake preparedness awareness and outreach initiatives over a six-month period from December 2010 to May 2011. Collectively referred to as Earthquake Outreach, these activities included Earthquake Awareness Month, the NMSZ earthquake commemoration and the first Great Central U.S. ShakeOut in April 2011. Knowing how to best educate and prepare these residents to respond to an earthquake will be informed by understanding residents' current attitudes and levels of preparedness behavior.

The 2011 FEMA CUS Earthquake Survey was designed to understand current attitudes and behaviors, as well as to assess awareness of the earthquake preparedness outreach conducted and potential linkages to knowledge, attitudes and actions. The survey is limited to the specific population sampled. The survey did not measure respondents' attitudes and behaviors before Earthquake Outreach or how respondents' preexisting attitudes and behaviors may have made them more receptive to receiving and processing Earthquake Outreach. The results, however, can provide insight to inform future outreach initiatives as well as provide a baseline to demonstrate changes in knowledge, attitudes and behaviors over time.

Below are specific findings and recommendations based on the data analyzed. Findings from other research conducted by FEMA (i.e., the FEMA 2011 National Survey) and CUSEC (i.e., Great Central U.S. ShakeOut Summary) are included to support findings from this survey.

Recommendations for Future Earthquake Outreach

Key Finding 1: Earthquake Outreach reached people. People exposed to Earthquake Outreach had higher measures of awareness, knowledge and behaviors related to earthquakepreparedness and response.

Findings from Personal Preparedness in America: Findings from the 2011 FEMA National Survey [16] indicated that perception of risk to local hazards was positively related to preparedness activities, identifying an important link between perceived risk and preparedness behaviors.

One-quarter of all respondents in the CUS were Outreach Aware. Residents most at risk for a major earthquake (i.e., living in the NMSZ) were more likely to be Outreach Aware (34 percent) than those who do not live in the NMSZ (21 percent). Those who were aware of outreach activities demonstrated substantively higher measures of knowledge of earthquake risk and engagement in preparedness behaviors. Specifically, those who were aware of the preparedness outreach were significantly more likely to believe themselves at risk for an earthquake, understand the correct actions to take during an earthquake and have a preparedness plan in place. Nearly twice as many Outreach Aware respondents than Not Outreach Aware respondents attended a meeting about preparedness (24 percent compared to 13 percent), talked about preparedness with others in their community (43 percent compared to 27 percent) and attended training as part of a community emergency response team (15 percent compared to 8 percent). Nearly three-quarters

[16] Federal Emergency Management Agency (FEMA). (2012). *Personal Preparedness in America: Findings from the 2011 FEMA National Survey*. In Draft.

of Outreach Aware respondents have a household plan compared to slightly more than half of the Not Outreach Aware respondents (71 percent compared to 53 percent).

Data provided by CUSEC found that more than 3 million people participated in the first Great Central U.S. ShakeOut,[17] just one component of Earthquake Outreach, demonstrating the powerful impact of an event such as ShakeOut to reach individuals and encourage disaster preparedness.

Recommendation: Continue locally relevant, hazard-specific outreach initiatives.

- Conduct outreach that provides residents with information on local risks since findings suggest there there is a relationships between knowing locally relevant, hazard-specific information and taking steps to prepare.
- While it is difficult to determine that the earthquake awareness activities specifically caused these higher levels of preparedness, the linkage is substantial and should be supported and further investigated. Additional studies are needed to better understand how effective the outreach initiatives are in producing behavioral and attitude changes and which outreach activities (individually or in concert) are most effective. This survey serves as an important baseline, such that future studies of CUSEC residents will be able to reveal changes in residents' attitudes toward earthquake risk and their preparedness behaviors over time, given continued exposure to Earthquake Outreach generally and ShakeOut events specifically.
- Further, since those who were Outreach Aware were also more likely to report discussing preparedness with others, this hazard-specific outreach initiative can provide support for undertaking steps to increase preparedness across a range of hazards.

Considerations for Practitioners

Outreach is key to changing attitudes within the community. Those that are Outreach Aware are more likely to discuss and engage with others in preparedness-related activities within their community.

Key Finding 2: Those individuals who received Earthquake Outreach from multiple sources, including both media and organizational sources, were more likely to recall outreach messages and participate in preparedness behaviors than those who received Earthquake Outreach from fewer sources.

Respondents who cited both media and community channels were more likely to be familiar with the key phrase "Drop! Cover! Hold on!" Participation in preparedness behaviors among respondents tended to increase as the number of channels increased until about six of the nine possible channels of communication had been cited. Beyond this point, the effects of multiple communication channels tended to plateau.

[17] Central United States Earthquake Consortium. (2011). *The Great Central U.S. ShakeOut™: Overview and Final Report*. Available from: http://www.shakeout.org/centralus/downloads/2011CentralUSShakeOutFinal%20Report.pdf

Recommendation: Conduct preparedness outreach through multiple communication channels. Preparedness campaigns regarding any hazard should consider using a mix of several sources and channels to reach individuals.

- While it is important to get the message out via media outlets, using several communication channels is more effective to support this type of outreach initiative.

Local media networks are important conduits for preparedness information and crisis communications, so building relationships with these venues is critical for effective outreach. Several of the most frequently cited sources of earthquake preparedness information come from local media.

- Although television was the most commonly cited source of preparedness information, several other local media channels were frequently cited as well, including newspapers and radio.

Employers are another method of reaching the majority of the population, as 60 percent of the respondents reported working either full or part time.

- Nearly 40 percent of all respondents reported being exposed to preparedness information at work.
- Work was also the most frequently reported location for participating in an earthquake drill. Although it is best for residents to participate in drills at home as well as at work, having experience in a drill at work is likely to at least improve residents' general knowledge of the appropriate actions to take during an earthquake.
- Next steps could involve prompting employers to encourage their workers to carry over the experience to making preparations at home, perhaps through business organizations.

Schools are an important avenue for reaching a significant percentage of the population.

- Nearly 40 percent of the respondents in this survey reported having children under the age of 18 living in their homes, and 79 percent of those reported that their children are enrolled in school.
- Although about half of the respondents with a child in school reported receiving preparedness information from their child's school, a much smaller minority reported having their children bring materials home or talk about preparedness at home (14 percent). Greater focus should be placed on leveraging this channel not only to reach out to the parents but also to get the children involved, for example, in future ShakeOuts, encourage discussions of preparedness and family preparedness planning.

Considerations for Practitioners

Utilize multiple avenues for outreach including local media networks, employers, schools and community organizations. Outreach efforts will be more effective when multiple channels are used.

Key Finding 3: Community connections, including outreach from organizations and informal discussions, are linked with earthquake preparedness behaviors.

Community organizations were a source of Earthquake Outreach for more than one-third of the respondents who were Outreach Aware. These communication channels appear to be particularly effective for individuals with a disability and for individuals who care for someone with a disability. Nearly one-third of the respondents reported that they had talked about preparedness with others in their community, and close to half of those who were Outreach Aware spoke about preparedness with others in the community.

Similar findings were found in the FEMA 2011 National Survey, where those individuals who received information, encouragement or promotion about preparedness through a community organization, including school, work and volunteerism opportunities, were more likely than those who had not received information through these organizations to report participation in a number of preparedness behaviors. The Personal Preparedness in America: Findings from the 2011 FEMA National Survey also found that a strong positive relationship existed between talking about preparedness and reported preparedness behaviors.

Recommendation: Expand outreach through social networks and community organizations. Encourage individuals to spread the word on the importance of earthquake and disaster preparedness.

- Demonstrating preparedness behaviors and talking to others in the community and within social networks about preparedness will support those who are considering taking action. Hearing about the need to prepare for an earthquake and the ways in which preparations can be undertaken from trusted individuals in the community is an important method of getting the word out.
- All training courses and volunteer service programs should incorporate a segment on the importance of speaking with others and encouraging them to prepare. In addition, the media and community outreach efforts should also include a focus on spreading the word to others.

Recommendation: Develop outreach methods and messages tailored for individuals with disabilities and those who assist for them.

- Individuals with disabilities may need specific guidance for preparing for and responding to an earthquake. One in 10 residents in the CUS region (12 percent of respondents with a disability—prepare; 10 percent of respondents with a disability—response) need to be given appropriate instructions for what they should do in an earthquake situation. These individuals may require specific guidance to be able to take the appropriate precautionary steps and mitigation actions.

Considerations for Practitioners

Social networks and community organizations are key to the effective dissemination of earthquake and disaster preparedness information. This is especially true for individuals with disabilities and those who assist them.

Key Finding 4: Individuals' perceptions of risk may not be connected with their actual risk.

Despite having an average of six presidentially declared disasters per year, nearly one-third of individuals living in the CUS region did not believe a natural disaster is likely to ever occur in their community. While at risk for an earthquake, only one-third of those respondents living within the NMSZ believed a major earthquake was likely to ever occur in their community. Almost one-quarter of those living in the NMSZ believed it is not at all likely that a major earthquake will occur in their community. Increasing individuals awareness of risk paired with appropriate preparedness and protective actionsis an important element of disaster preparedness outreach campaigns that seek to increase solution-oriented responses (e.g., the objective is for individuals to take preparedness steps rather than denying or avoiding thinking about the risk).

Recommendation: Provide additional information about local risks.

- The ShakeOut and other Earthquake Outreach initiatives should continue to promote information about local risks. Being informed about one's local risks is linked to increased levels of preparedness.
- Coupled with information about local risks, ShakeOut and other Earthquake Outreach initiatives should give specific information about steps to take to become prepared for local disasters such as earthquakes.

Recommendation: Focus communications on clearly linking how preparing in advance can help individuals respond in the event of an earthquake.

- Messaging and outreach efforts should continue to highlight the importance of residents taking action in advance of a disaster. Preparing in advance is the key to knowing what to do and where to go during an earthquake and having the necessary supplies to cope after an earthquake occurs.
- Residents need to appreciate the limited capacity of emergency responders in a catastrophic event and understand that preparedness is a shared responsibility. More residents need to be able to take the appropriate responses themselves. This includes thinking through and planning appropriately for sheltering and evacuation.
- To help residents prepare, emergency managers must provide clear guidance on how they can become prepared, what the local disaster response plans are and how to get information about local assistance following an earthquake.
- Messages should
  - continue to emphasize appropriate immediate protective actions for earthquakes, as well as correcting misinformation;
  - provide information supporting response efficacy (i.e., individual's belief that a specific preparedness behavior will be useful in the event of a disaster); and
  - preparedness self-efficacy (i.e., individual's belief that they can complete the response).

Considerations for Practitioners

Individuals may not understand the level of risk associated with natural hazards in their community. Outreach should be tailored locally to provide citizens information on local risks linked with appropriate preparedness behaviors.

Key Finding 5: Individuals are in different phases of earthquake preparedness, so various outreach methods are needed.

Individuals' perceived readiness to participate in preparedness behaviors also differed. Nearly one-quarter of the respondents (13 percent) indicated they intended to prepare in the next one to six months. An additional 17 percent reported that they had recently begun to prepare, and 23 percent were not planning on getting prepared.

Considerations for Practitioners

Those individuals that are not yet prepared but are willing to consider preparing are optimal audiences for outreach. Outreach strategies should consider messages and tools to support these individuals in taking taking their initial preparedness steps.

Recommendation: Use different outreach methods to support individuals in different stages of readiness to become prepared.

- Communication and outreach efforts can be designed specifically toward targeting those in the contemplation and preparation stages of the Stages of Change Model to leverage their interest and

intention to prepare and to support them in moving from contemplation to action. These individuals have not yet acted, but they are considering it.

- Messaging and community outreach efforts for this group should be designed to do two things: Increase awareness of vulnerabilities to earthquakes that may boost their motivation to continue preparing, and support these individuals in beginning those first steps.
- On the other hand, trying to educate individuals who have no intention of preparing about proper preparedness methods is not likely to yield results. Outreach efforts geared toward the nearly one-quarter of respondents in the precontemplation stage should be low-cost, focusing simply on promoting awareness of the risk. Outreach that increases awareness of vulnerabilities to earthquakes paired with appropriate preparedness steps including personal protective actions and steps that decrease the personal or financial impact in the event of an earthquake may help boost the motivation to prepare.

Recommendations for Future Evaluation

- **Use the 2011 FEMA CUS Earthquake Survey results as a baseline to test the effectiveness of future outreach initiatives.**

This survey has provided information about attitudes and behaviors toward earthquake preparedness among residents of the CUS states. Conducting another survey once more Earthquake Outreach has been done will provide the opportunity to show the effects of continued outreach. By comparing the results from a future survey to the results of this survey, it will be possible to determine which attitudes and behaviors have changed as a result of Earthquake Outreach and which attitudes and behaviors still need to be targeted in future outreach efforts. This will help determine the effectiveness of annual focused outreach efforts such as the Great Central U.S. ShakeOut.

- **Conduct surveys about other disasters in local areas to provide further insight into preparedness for that hazard and preparedness in general.**

The 2011 FEMA CUS Earthquake Survey provided insights into the effectiveness of Earthquake Outreach. Other preparedness activities are occurring throughout the nation to help individuals prepare for local risks. Conducting surveys in regions with outreach and preparedness activities (e.g., residents in coastal communities preparing for hurricanes, residents in the Northeast preparing for winter weather emergencies) will provide additional information to link outreach activities to preparedness actions. Outreach and other preparedness activities may be enhanced by identifying commonalities across disasters.

- **Refine the survey to include items that would better link outreach activities to behavioral outcomes.**

The 2011 FEMA CUS Earthquake Survey has suggested the effectiveness of outreach in general, as Outreach Aware respondents had greater knowledge of earthquake risk and engagement in preparedness behaviors. To expand on this knowledge, future survey items should focus on better understanding which, if any, outreach activities had a causal relationship to attitudes and behaviors.

- **Examine process and cost data to assist in determining the most cost-effective methods of outreach.**

Gathering outreach process and cost data on reach, frequency and type of outreach intervention, paired with the recommendation above to include items in the survey to better link specific outreach activities to behavioral outcomes, would provide important information for guiding future outreach efforts. Some outreach activities are more costly in terms of time and money, so determining whether those activities garner a worthwhile level of behavioral outcomes is important.

- **Further investigate the link between the type and number of outreach channels used for Outreach Awareness and the engagement in preparedness behaviors.**

The 2011 FEMA CUS Earthquake Survey showed that awareness of Earthquake Outreach was related to the respondents' attitudes toward preparedness and their preparedness behaviors. Future surveys should examine which aspects of the outreach initiative were most helpful in bringing about the attitudinal and behavioral changes seen among Outreach Aware respondents. It may be that awareness of multiple outreach initiatives is most likely to link with the behavioral changes in general; however, there may be specific outreach initiatives that link to specific preparedness behaviors. Also, specific links may exist between outreach done through community outlets and certain behavioral or attitudinal changes that are not found when the outreach is done via media outlets. Knowing this information may prove fruitful in determining which types of outreach initiatives are best at reaching specific segments of the populations such as residents in the *precontemplation* stage or residents with children.

Conclusion

The 2011 FEMA Central States Disaster and Earthquake Preparedness Survey provides benchmarks of the CUS region residents' knowledge of earthquake risks, knowledge of the appropriate actions to take during an earthquake and protective and preparedness actions already being taken. In addition, it offers a snapshot of the residents' awareness of the six-month earthquake preparedness outreach that was conducted in 2010–2011. These findings are useful both in providing a baseline for demonstrating changes in knowledge, attitudes and behaviors over time and in providing guidance to inform future outreach initiatives.

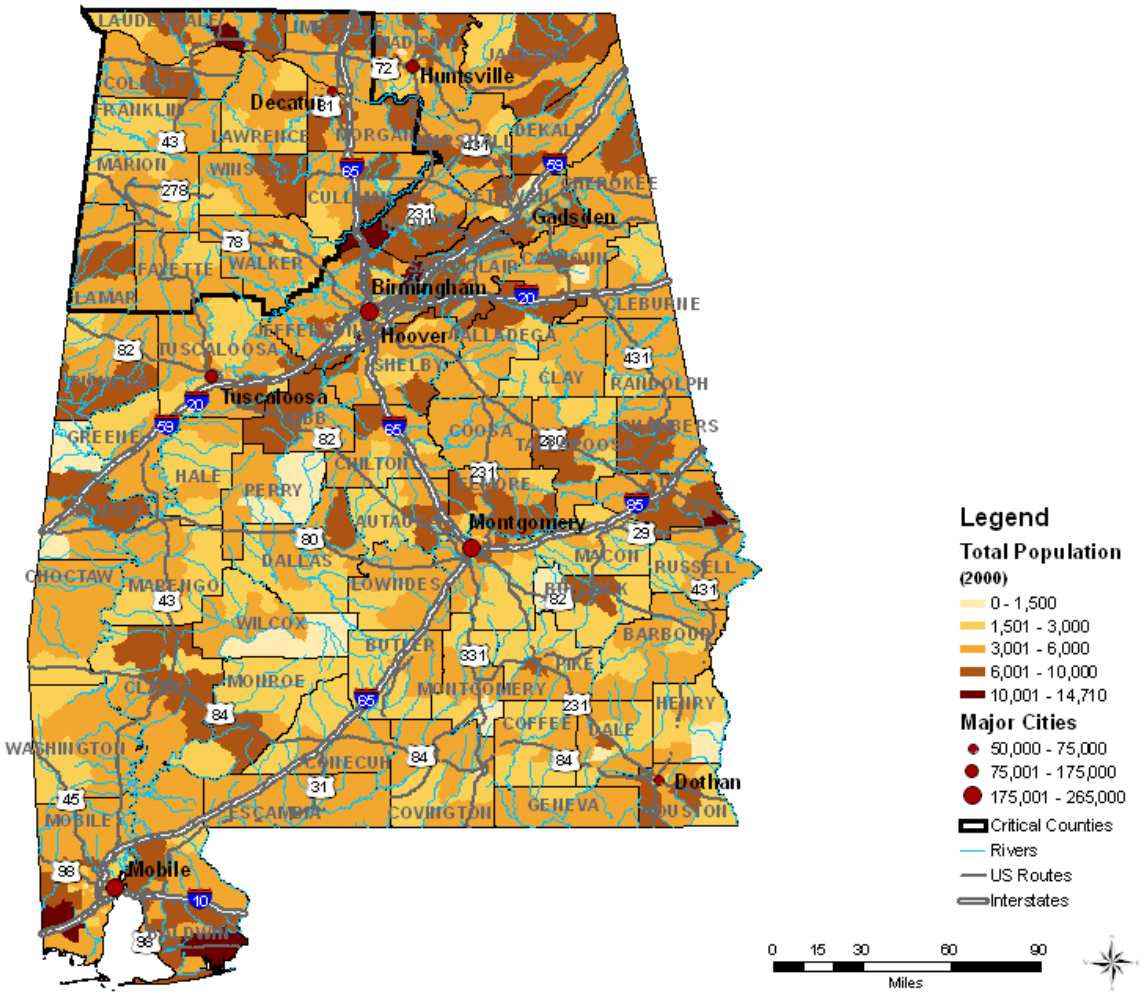
Awareness of the preparedness outreach was influential in determining whether residents believe they are at risk of experiencing an earthquake and whether residents are taking action to get themselves and their families prepared. Although some residents have already begun taking action to prepare for an earthquake, additional outreach efforts are needed.

These findings indicate that a multichannel outreach initiative that harnesses the power of community connections, as well as media, will have the greatest impact on awareness and potential for behavior change. Outreach activities should focus on educating and training individuals to understand their local risks and how to be prepared for those local risks.

Appendices

Appendix A: New Madrid Seismic Zone Population Distribution

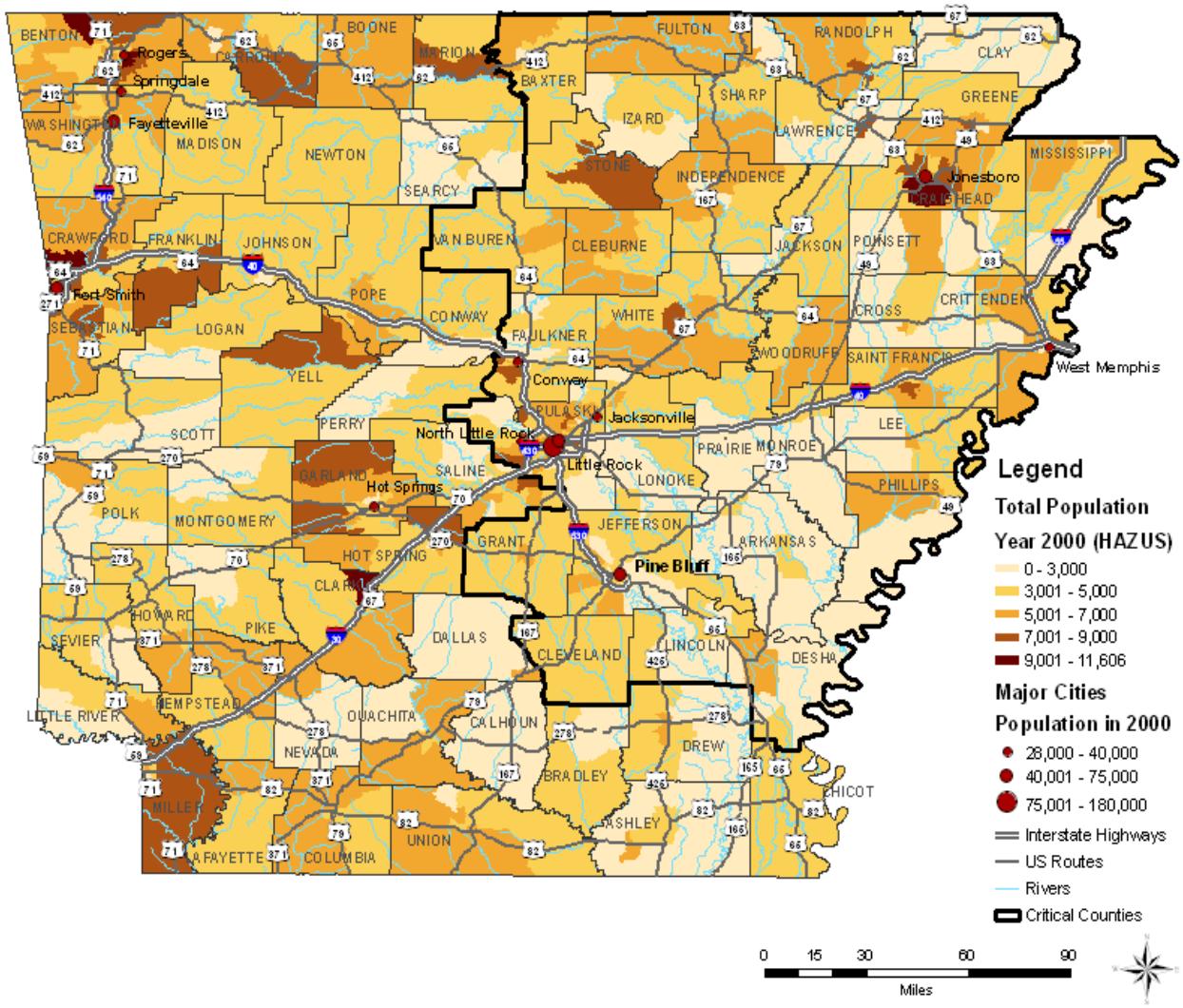
Population Distribution for Alabama[18]



Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

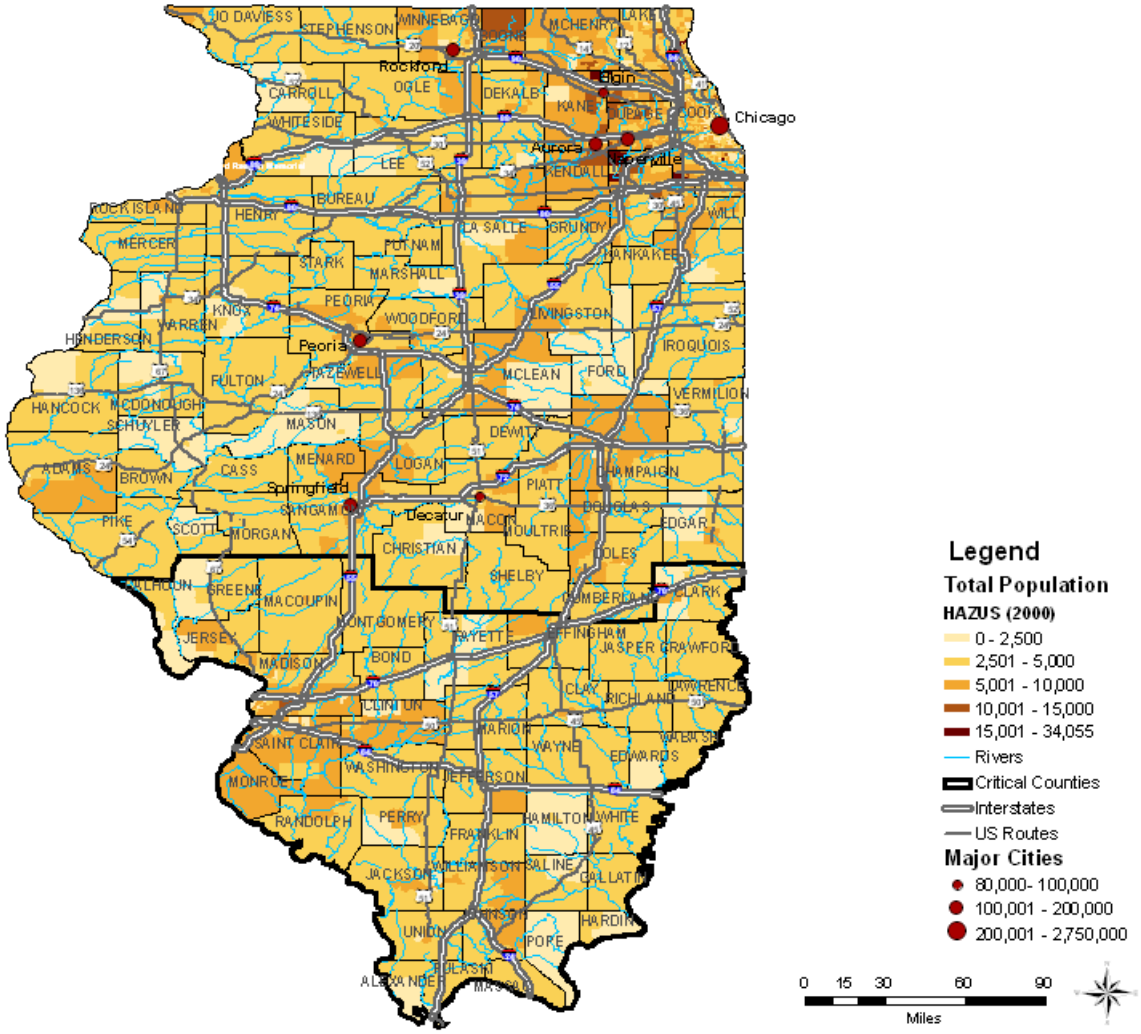
[18] All maps presented in Appendix A were extracted from: Elnashai, A., Jefferson, T., Cleveland, L., & Harrald, J. (2008). Impact of Earthquakes on the Central USA. Mid-America Earthquake Center Report 08-02.

Population Distribution for Arkansas



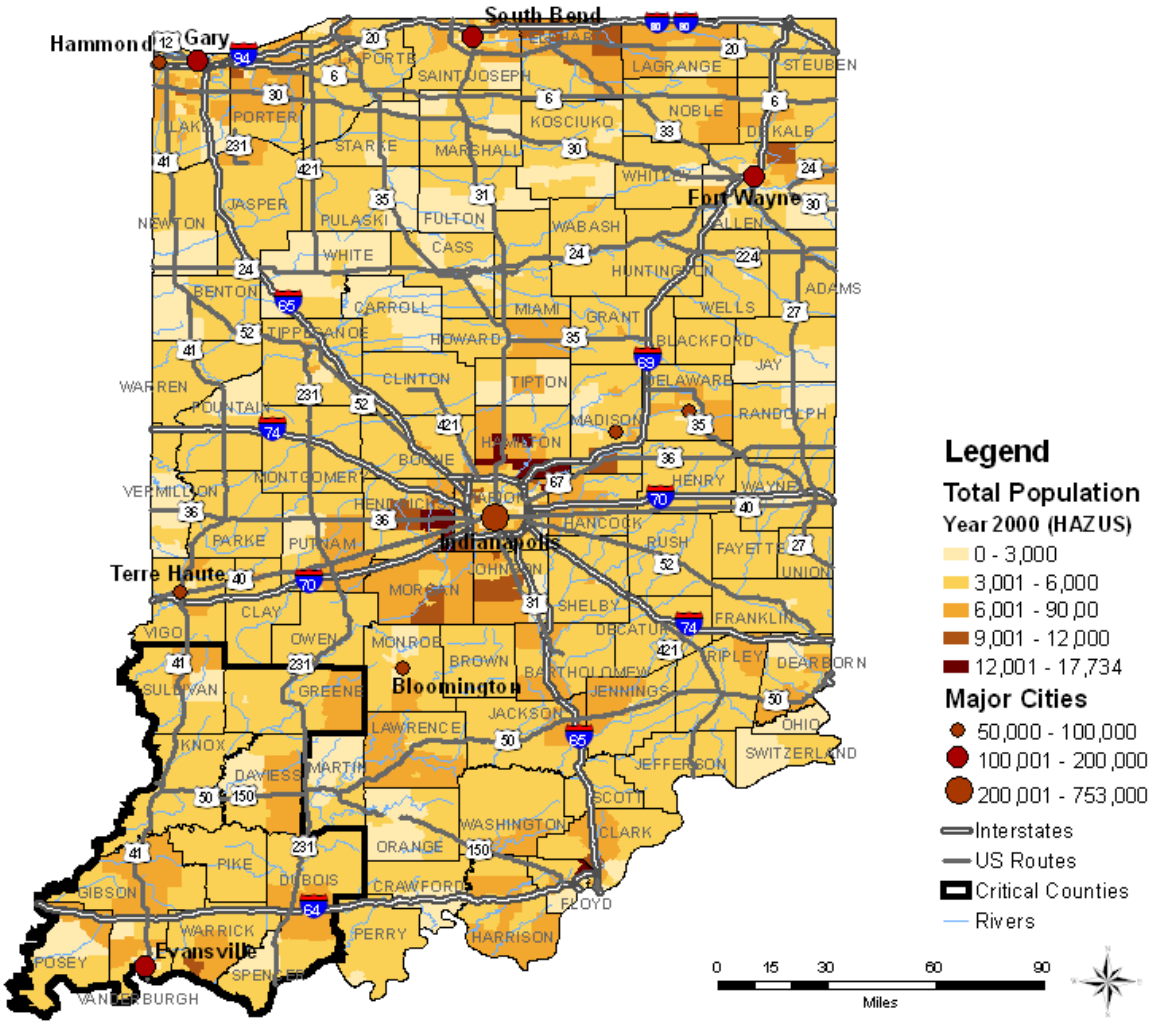
Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Illinois



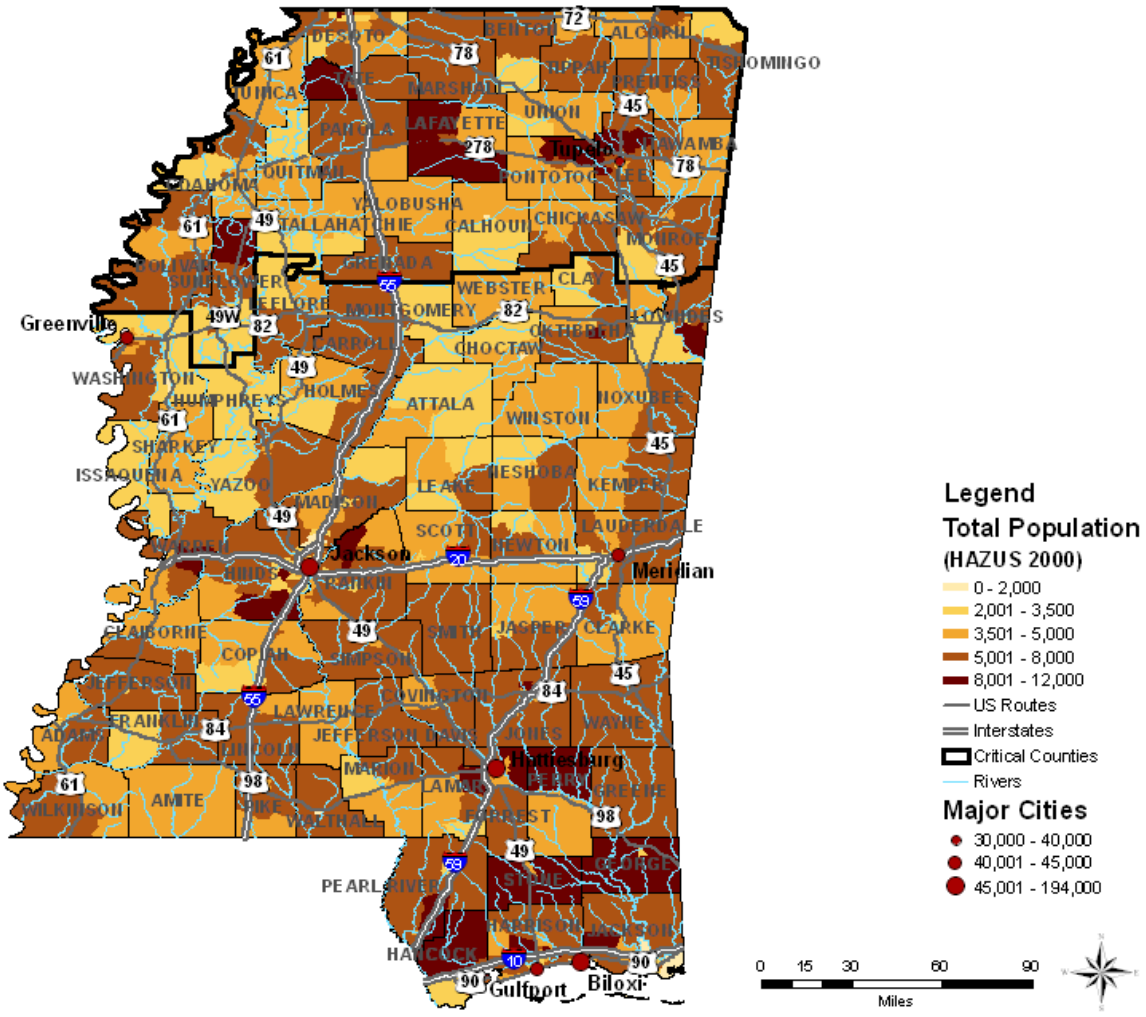
Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Indiana



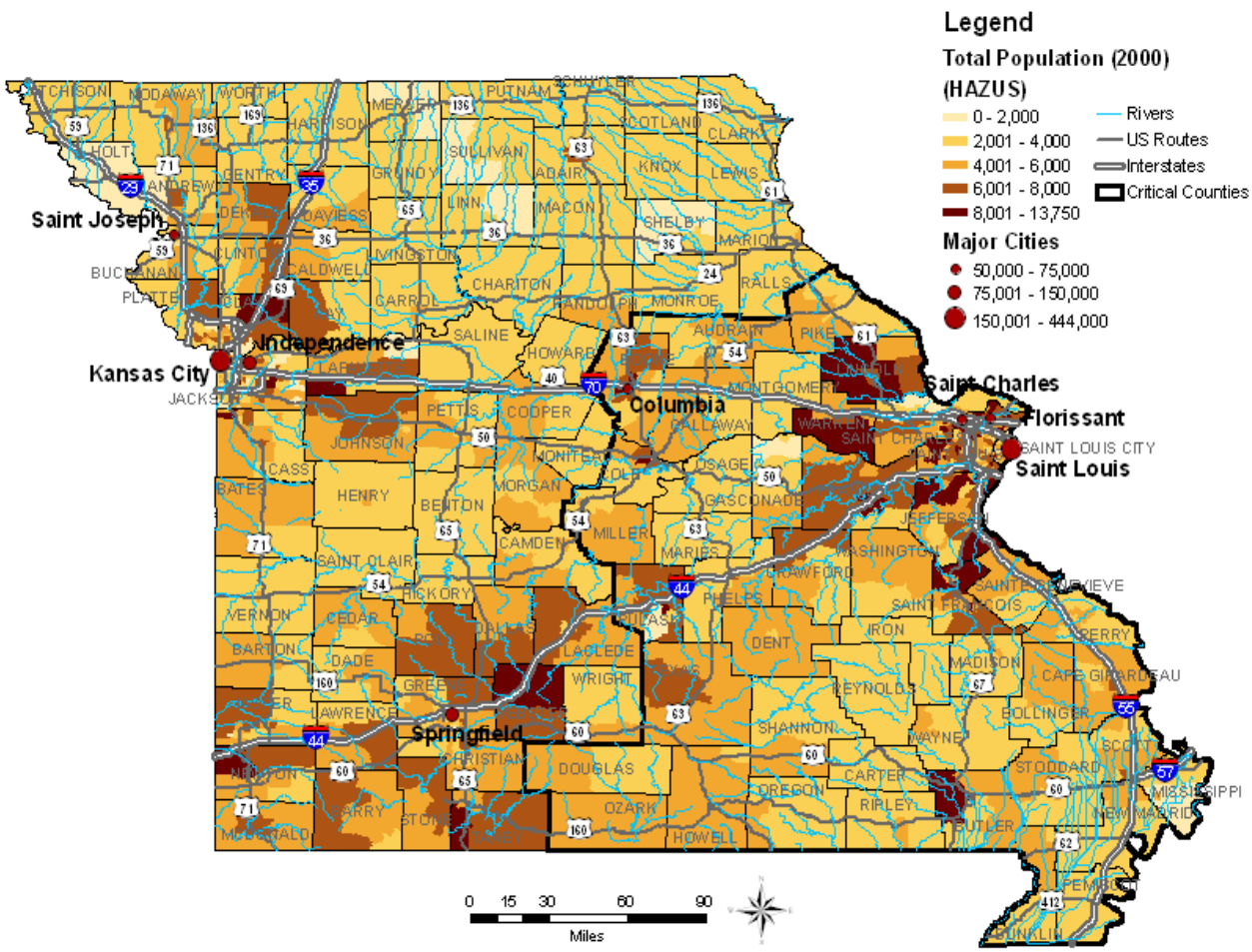
Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Mississippi



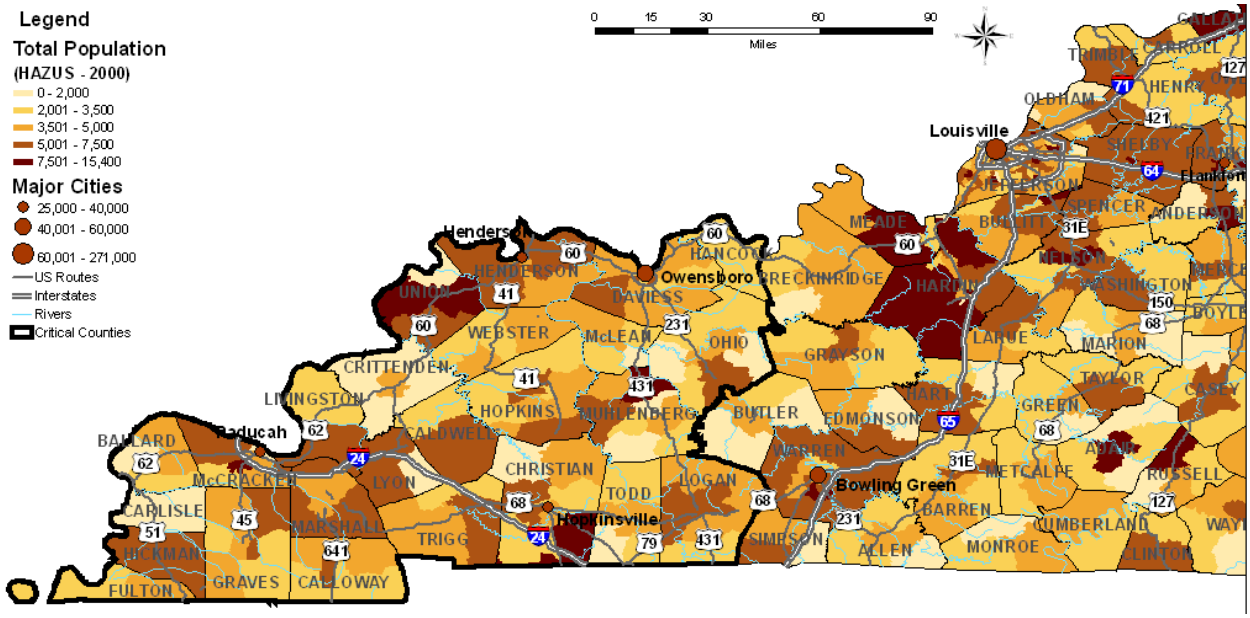
Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Missouri



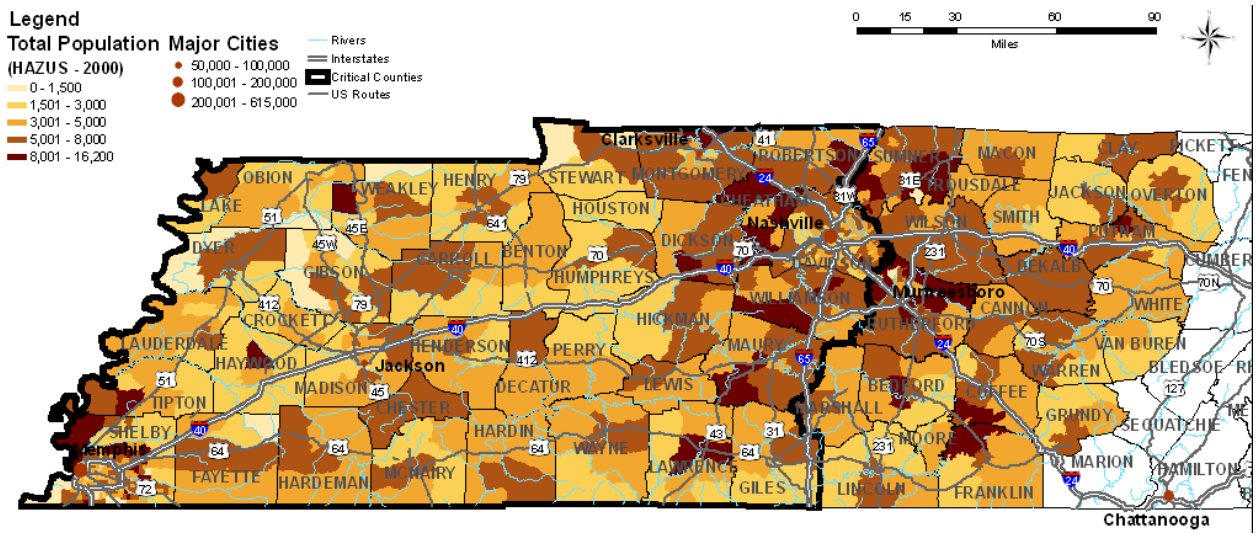
Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Kentucky



Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Population Distribution for Tennessee



Note: "Critical Counties," designated by black outline are part of the New Madrid Seismic Zone

Appendix B: 2011 Central States Disaster and Earthquake Preparedness Survey Script

2011 Central States Disaster and Earthquake Preparedness Survey Script

OMB Control #:

Expiration Date:

INTRODUCTION

S1. Hello, my name is _____ and I am calling from ICF International. We are conducting public opinion research under contract with the Federal Emergency Management Agency (FEMA). For this research, we are obtaining people's views about how well prepared they are for an emergency or disaster in their communities.

S1a. Is this a private residence?

01 YES
02 NO

If it is not a private residence:

Thank you very much, but we are only interviewing private residences. Thank you for your time.

S2. I would like to speak with an adult, age 18 or older, who lives in the household. Would that be you?

01	YES	Continue
02	NO	Ask to transfer to an adult
99	REFUSED	End Interview

NEWS2. May I speak with an adult member of the household?

01	YES, transferring	
02	NOT AVAILABLE	Schedule callback
99	REFUSED	End Interview

S3. Hello, my name is _____ and I am calling from ICF International. We are conducting public opinion research under contract with the Federal Emergency Management Agency (FEMA). For this research, we are obtaining people's views about how well prepared they are for an emergency or disaster in their communities. Can you confirm that you are at least 18 years of age or older?

N11. What state do you live in? _ _

If the respondent does not live in AL, AR, IL, IN, KY, MS, MO, or TN:

N11TERM Thank you for your time, those are all the questions that I have for you.

Cell Phone Screener

CELSCRN1.Your safety is important. Are you driving in a car, walking down the street, in a public place or other location where talking on the phone might distract you or jeopardize your safety and/or confidentiality?

01	YES	GO TO CELSCRN2
02	NO	GO TO CELSCRN3
97	DON'T KNOW	GO TO CELSCRN3
99	REFUSED	GO TO CELSCRN3

CELSCRN2.I would like to call you at a more convenient time. What day and time would be best? [INTERVIEWER: set up call-back].

01	SCHEDULE CALLBACK	
99	REFUSED	END INTERVIEW

CELSCRN3. Are you at least 18 years old?

01	YES	
02	NO	END INTERVIEW
97	DON'T KNOW	END INTERVIEW
99	REFUSED	END INTERVIEW

If respondent is not 18, doesn't know, or refuses to respond:
Thank you very much for your time.

SCREENER

INTRO2A. The survey will only take about 15 minutes.
Your telephone number was chosen randomly. I will not ask for your name, address, or other personal information that can identify you. You do not have to answer any question you do not want to, and you can end the interview at any time. Your participation in this survey is entirely voluntary. Your answers to the survey questions will be held confidential by ICF International. Your name or any other information that could identify you will not be associated with your responses or used in any reports.
If you have any questions, I will provide a telephone number—either here at ICF International or FEMA—for you to call to get more information or to validate this research.
This interview may be monitored or recorded for quality assurance purposes.

01 CONTINUE
02 RESPONDENT WANTS MORE INFORMATION
99 REFUSED END INTERVIEW

Contact information was provided to respondents wanting more information about the survey.

Section A

A2. Are there children under the age of 18 living in your residence?
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Ask those with children under the age of 18 in the residence.
A3. Does at least one of the children currently attend a school outside of your home, including day care or part-time kindergarten?
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

UTILITY

B1T. I'd like to ask you some questions about different kinds of disasters. Throughout this survey, when I use the term "disaster", I am referring to events that could disrupt public services, threaten lives, or damage property.

RISK AWARENESS / PERCEPTION

On a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all," how likely do you think…?

A major earthquake **will ever occur** in your community?

05 VERY LIKELY
04
03
02
01 NOT LIKELY AT ALL
97 DON'T KNOW
99 REFUSED

C1. Any type of natural disaster such as an earthquake, a hurricane, a flood, a tornado, or wildfires **will ever occur** in your community?

05 VERY LIKELY
04
03
02
01 NOT LIKELY AT ALL
97 DON'T KNOW
99 REFUSED

SELF EFFICACY In DISASTER RESPONSE

G1Ac. How confident are you in your ability to know what to do in the first five minutes of a sudden natural disaster such as an earthquake that occurs without warning? Please use a scale of 1 to 5, with 5 being "very confident" and 1 being "not at all confident.

05 VERY CONFIDENT
04
03
02
01 NOT VERY CONFIDENT
97 DON'T KNOW
99 REFUSED

STAGES OF CHANGE

E2. In thinking about preparing yourself for a major disaster, which best represents your preparedness?

01 I have not yet prepared but I intend to in the next 6 months
02 I have not yet prepared but I intend to in the next month
03 I just recently began preparing
04 I have been prepared for at least the past 6 months
05 I am not planning to do anything about preparing
97 DON'T KNOW
99 REFUSED

Training

G3. In the past 6 months, have you done any of the following? Have you…

G3a. Attended a meeting on how to be better prepared for a disaster?
G3b. Attended CPR training?
G3c. Attended first aid skills training?
G3d. Attended training as part of a Community Emergency Response Team or CERT?
G3e. Talked about getting prepared with others in your community?
G3f. Attended a meeting on earthquake preparedness?
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

DISASTER SUPPLIES

I1. For this next set of questions, I'd like to ask you about some specific things you may or may not have done to prepare yourself and/or your household.

Do you have supplies set aside in your home to be used only in the case of a disaster?
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Ask those who have disaster supplies in their home:

I2. Could you tell me the disaster supplies you have in your home?
[DO NOT READ LIST]
[PROBE: ANYTHING ELSE?. RECORD ALL RESPONSES]

01 BOTTLED WATER
02 PACKAGED FOOD
03 A FLASHLIGHT
04 A PORTABLE, BATTERY-POWERED RADIO
05 BATTERIES
06 A FIRST AID KIT
07 EYEGLASSES
08 MEDICATIONS
09 PHOTOCOPIES OF PERSONAL IDENTIFICATION
10 FINANCIAL DOCUMENTS
11 CASH
12 BLANKETS/CLOTHING/BEDDING
13 GENERATOR/ELECTRICAL BACKUP/ALTERNATIVE POWER
14 CANDLES/MATCHES
15 STOVE/LANTERN/LAMPS
16 FUEL (INCLUDES GAS,PROPANE,FIREWOOD,KEROSENE,COOKING FUEL)
17 CAMPING GEAR/TENTS/SLEEPING BAGS
18 GUNS,AMMO,WEAPONS,HUNTING GEAR
19 BOOTS
20 WHISTLE
95 OTHER (SPECIFY)
97 DON'T KNOW
99 REFUSED

Ask those who have disaster supplies in their home:

UPDATE. Have you updated these supplies in the last 6 months?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

MITIGATION

I4. Have you taken any of the following steps to protect your home, its structure and furnishings?

[Items below should be randomized]

I4A Purchased flood insurance?
I4G Secured your water heater with straps to the wall?
I4H Strapped down heavy furniture or equipment to keep in place?
I4I Repaired or upgraded structural weaknesses in masonry, brick or stone foundations?
I4J Anchored your home to your foundation to keep your home stable?

01 YES
02 NO
03 DONE BY OTHER (LANDLORD, PRIOR OWNER, CONTRACTOR, ETC.)
97 DON'T KNOW
98 DON'T HAVE
99 REFUSED

Household Plan

J1. Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Ask if the household has an emergency plan:

J2. Have you discussed this plan with other members in your household?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

COMMUNITY PLAN

K1. Using a scale of 1 to 5 with 5 being "very familiar" and 1 being "not at all familiar," how familiar are you with alert and warning systems in your community?

05 VERY FAMILIAR
04
03
02
01 NOT AT ALL FAMILIAR
97 DON'T KNOW
99 REFUSED

OUTREACH CONTACT

UNAID_1. In the past 6 months, have you read, seen or heard anything about preparing for earthquakes?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Ask if respondent has read, seen, or heard about preparing for an earthquake:
UNAID_2. Was the information you read, saw or heard about earthquakes that might or have occurred here in the United States or about earthquakes somewhere else?

01 HERE IN THE UNITED STATES
02 SOMEWHERE ELSE
03 [UNREAD] INFORMATION WAS ABOUT EARTHQUAKES THAT CAN HAPPEN ANYWHERE.
97 DON'T KNOW
99 REFUSED

AIDAWR. In the past 6 months, there have been drills, education, and advertising activities to raise awareness of the risk of earthquakes in [N11] and to help people prepare for the possibility of an earthquake in [N11]. Have you read, seen, or heard anything about that?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Ask if respondent had read, seen, or heard about drills, education, or advertising for awareness:

AWRSRC. We're specifically interested in where you may have read, seen or heard this information. Was it…

> IF NECESSARY: We're not interested in coverage you have seen about earthquakes that might have happened recently such as the earthquake in Japan. We're interested in coverage of earthquakes that happened where you live.

[Items below should be randomized]

AWRSRC1. On TV?
AWRSRC2. On the internet?
AWRSRC3. Through e-mail?
AWRSRC4. On the radio?
AWRSRC5. In the newspaper?
AWRSRC6. At church or from a faith-based organization?
AWRSRC7. From another community organization?
AWRSRC8. At work?

01	YES
02	NO
97	DON'T KNOW
99	REFUSED

Ask if the respondent reported having a child in school:

AWRSRC9. From your child's school?

01	YES
02	NO
97	DON'T KNOW
99	REFUSED

Ask if the respondent reported having a child in school:

CIS1: In the past 6 months, have your children brought home any materials or talked about preparing your family for an earthquake?

01	YES
02	NO
97	DON'T KNOW
99	REFUSED

Ask if the respondent reported having a child in school that brought home materials or information about preparedness:

CIS2. Did they receive that information from…

01 SCHOOL
02 A PROGRAM OUTSIDE OF SCHOOL
03 SOMEWHERE ELSE
97 DON'T KNOW
99 REFUSED

ACTION. I'm going to read you a list of actions you could take during an emergency. For each, tell me whether you think it is true or false that the government recommends this action?

[Items below should be randomized]

ACTION1. In an earthquake, you should get down close to the ground.
ACTION2. In an earthquake, you should get under a big piece of furniture or other cover.
ACTION3. In an earthquake, you should hold on to something.
ACTION4. If you are indoors during an earthquake, you should run out of the building.
ACTION5. If you are in bed during an earthquake, you should lie on the floor next to the bed.
ACTION6. In an earthquake, you should get in a doorway.

01 TRUE
02 FALSE
97 DON'T KNOW
99 REFUSED

DCH. Is the phrase, "Drop! Cover! Hold on!" familiar to you?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

SDCH. Thanks, I just have a few more questions. The Federal Emergency Management Agency wants you to know that during an earthquake, you should Drop, Cover, and Hold on. That means, you should drop to the ground, take cover by getting under a sturdy desk or table, and hold on to it until the shaking stops. If you are inside during an earthquake, do not go outside until it is safe to do so.

DRILLS/EXERCISES

L1. In the past 6 months, have you participated in any of the following?
IF NECESSARY: This is a drill where you practice your ability to drop, cover, and hold on.

[Items below should be randomized]

DRILL1 An earthquake drill at home
DRILL2 An earthquake drill at work
DRILL3 An earthquake drill at school
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Demographics and Context

These last questions are about you and your household. Again, all information that you provide will be held confidential.

N2. Is your home?
01 OWNED
02 RENTED
03 [DO NOT READ] LIVE THERE WITHOUT PAYING RENT
97 DON'T KNOW
99 REFUSED

N3. What is the highest level of education that you attained? Would it be…?
01 Less than 12th Grade (no diploma)
02 High School Graduate or GED
03 Some College but No Degree
04 Associate Degree in College
05 Bachelor's Degree
06 Masters Degree
07 Doctorate Degree
97 DON'T KNOW
99 REFUSED

N4. Which best describes your job status?
[INTERVIEWER: READ LIST, CHOOSE UP TO TWO RESPONSES]
01 Work full-time
02 Work part-time
03 Student
04 Unemployed
05 Retired
95 Other
97 DON'T KNOW
99 REFUSED

DIS1. Do you have a disability or a health condition that might affect your capacity to prepare for an emergency situation?
IF NECESSARY: A mobility, hearing, vision, cognitive, or intellectual disability or physical, mental or health condition
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

DIS2. Do you have a disability or a health condition that might affect your capacity to respond to an emergency situation?
IF NECESSARY: A mobility, hearing, vision, cognitive, or intellectual disability or physical, mental or health condition
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

DIS3. Do you currently live with or have primary responsibility for assisting someone with a disability who requires assistance?
01 YES
02 NO
97 DON'T KNOW
99 REFUSED

N7. Which of the following best describes your race? Would you consider yourself to be…?

01 White
02 Black or African American
03 Asian
04 American Indian or Alaska Native
05 Native Hawaiian or Other Pacific Islander
95 Something else (Specify)
97 DON'T KNOW
99 REFUSED

N8. Are you of Hispanic or Latino or Spanish origin?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

N9. In what year were you born?

Enter response _ _ _ _ [RANGE 1900-1993]

9997 DON'T KNOW
9999 REFUSED

N10. Which of the following income ranges represents your annual household income in 2010? Feel free to stop me at the correct range. Was your household income…?

01 Less than $25,000
02 $25,000 to less than $50,000
03 $50,000 to less than $75,000
04 $75,000 or more
97 DON'T KNOW
99 REFUSED

N12. What is your zip code? _ _ _ _ _ //RANGE 00000-99996//

99997 DON'T KNOW
99999 REFUSED

COUNTY. What county do you live in?

001 [INSERT] COUNTY
777 DON'T KNOW/NOT SURE
999 REFUSED

N13. Record gender [DO NOT ASK]

01 MALE
02 FEMALE

QUESTIONS ABOUT PHONES

Cell1. Do you personally use a cell phone?

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

LL1. Do you have at least one landline telephone line in your home that you use for making and receiving phone calls?

IF NECESSARY: A landline is a traditional phone, not a cell phone.
IF NECESSARY: We only want to know about the lines you actually use to make calls, not lines dedicated to internet or fax.

01 YES
02 NO
97 DON'T KNOW
99 REFUSED

Dual1. Of all the telephone calls that you receive, are…

01 All or almost all calls received on cell phones
02 Some received on cell phones and some on regular phones, or
03 Very few or none on cell phones
97 DON'T KNOW
99 REFUSED

CLOSE1. Those are all of the questions that I have. On behalf of ICF International and FEMA, I would like to thank you for your time and participation. Thank you again.

Appendix C: State-Level Survey Findings

2011 Central States Earthquake and Disaster Preparedness Survey Top line Assessment											
*Note: All numbers have been rounded off.											
**Note: 'Don't Know' and 'Refused' responses under 2% are not shown.											
Landline/Cell											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Landline	70%	80%	64%	70%	70%	70%	70%	70%	70%	70%	70%
Cell	30%	20%	36%	30%	30%	30%	30%	30%	30%	30%	30%
Base=All respondents											
New Madrid Seismic Zone											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Lives in the New Madrid Seismic Zone	24%	100%	0%	14%	48%	11%	8%	15%	27%	48%	46%
Lives outside the New Madrid Seismic Zone	76%	0%	100%	86%	52%	89%	92%	85%	73%	52%	54%
Base=All respondents											
A2. Are there children under the age of 18 in your residence?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	38%	40%	37%	38%	37%	36%	37%	35%	39%	39%	45%
No	62%	60%	63%	62%	63%	64%	63%	64%	61%	60%	55%
Base=All respondents											

A3. Does at least one of the children currently attend a school outside of your home, including day care or part-time kindergarten?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=938	N=353	N=585	N=115	N=105	N=115	N=120	N=113	N=122	N=127	N=121
Yes	79%	82%	78%	84%	72%	80%	73%	79%	76%	82%	80%
No	21%	18%	22%	16%	28%	20%	27%	21%	24%	18%	20%

Base=Respondents who said "Yes" to having children under the age of 18 in their residence (A2)

On a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all," how likely do you think…?

RISK1. …A major earthquake **will ever occur** in your community?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
1 Not Likely at All	35%	24%	39%	52%	30%	40%	34%	28%	44%	21%	32%
2	25%	16%	28%	22%	21%	30%	26%	24%	21%	26%	22%
3	19%	27%	17%	12%	23%	15%	22%	24%	14%	25%	24%
4	8%	15%	6%	4%	14%	5%	10%	12%	6%	12%	9%
5 Very Likely	10%	16%	9%	10%	12%	9%	8%	11%	11%	15%	11%

Base=All respondents

C1. …Any type of natural disaster such as an earthquake, a hurricane, a flood, a tornado, or wildfires **will ever occur** in your community?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
1 Not Likely at All	7%	4%	8%	3%	5%	12%	8%	4%	5%	5%	4%
2	9%	5%	10%	2%	6%	12%	11%	8%	7%	7%	7%
3	22%	19%	23%	14%	17%	25%	26%	26%	14%	22%	22%
4	21%	22%	21%	16%	24%	21%	23%	24%	14%	26%	21%
5 Very Likely	41%	49%	38%	64%	49%	30%	31%	38%	59%	40%	45%

Base=All respondents

SELF EFFICACY IN DISASTER RESPONSE

G1A. How confident are you in your ability to know what to do in the first five minutes of a sudden natural disaster such as an earthquake that occurs without warning? Please use a scale of 1 to 5, with 5 being "very confident" and 1 being "not at all confident."

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401

1 Not At All Confident	8%	8%	8%	12%	7%	8%	5%	7%	14%	6%	9%
2	10%	11%	10%	9%	13%	11%	9%	9%	12%	11%	11%
3	27%	28%	26%	26%	26%	30%	26%	26%	24%	24%	23%
4	27%	26%	27%	27%	26%	26%	31%	28%	19%	27%	27%
5 Very Confident	28%	28%	28%	26%	28%	25%	29%	29%	31%	32%	29%
Base=All respondents											
STAGES OF CHANGE											
E2. In thinking about preparing yourself for a major disaster, which best represents your preparedness?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
I have not yet prepared but I intend to in the next 6 months	13%	12%	13%	11%	12%	14%	14%	13%	12%	13%	13%
I have not yet prepared but I intend to in the next month	7%	6%	7%	9%	8%	8%	7%	6%	7%	7%	6%
I just recently began preparing	17%	18%	16%	28%	15%	16%	14%	14%	18%	13%	19%
I have been prepared for at least the past 6 months	39%	43%	37%	37%	40%	35%	36%	43%	43%	43%	40%
I am not planning to do anything about preparing	23%	20%	24%	14%	23%	26%	28%	24%	18%	22%	21%
Base=All respondents											
Training											
G3. In the past 6 months, have you done any of the following?											
Training Summary (Response: Yes)	**ALL**	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401

Talked about getting prepared with others in your community	30%	35%	29%	43%	36%	25%	22%	32%	32%	35%	31%
Attended CPR training	28%	28%	29%	25%	28%	31%	26%	26%	34%	31%	26%
Attended first aid skills training	25%	26%	25%	23%	23%	22%	27%	27%	29%	26%	25%
Attended a meeting on how to be better prepared for a disaster	15%	18%	15%	20%	15%	15%	12%	16%	17%	16%	16%
Attended training as part of a Community Emergency Response Team or CERT	9%	10%	9%	12%	10%	10%	7%	9%	12%	9%	8%
Attended a meeting on earthquake preparedness	5%	9%	4%	2%	6%	4%	4%	8%	3%	9%	7%
Base=All respondents											
G3. In the past 6 months, have you done any of the following?											
a. Attended a meeting on how to be better prepared for a disaster											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	15%	18%	15%	20%	15%	15%	12%	16%	17%	16%	16%
No	85%	82%	85%	80%	85%	85%	88%	84%	83%	84%	84%
Base=All respondents											
b. Attended CPR training											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	28%	28%	29%	25%	28%	31%	26%	26%	34%	31%	26%
No	72%	72%	71%	75%	72%	69%	74%	74%	66%	69%	74%
Base=All respondents											

c. Attended first aid skills training											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	25%	26%	25%	23%	23%	22%	27%	27%	29%	26%	25%
No	75%	74%	75%	77%	77%	78%	72%	73%	71%	74%	75%
Base=All respondents											
d. Attended training as part of a Community Emergency Response Team or CERT											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	9%	10%	9%	12%	10%	10%	7%	9%	12%	9%	8%
No	90%	90%	91%	88%	90%	90%	92%	91%	88%	91%	91%
Base=All respondents											
e. Talked about getting prepared with others in your community											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	30%	35%	29%	43%	36%	25%	22%	32%	32%	35%	31%
No	70%	65%	71%	57%	64%	75%	77%	68%	68%	65%	69%
Base=All respondents											
f. Attended a meeting on earthquake preparedness											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	5%	9%	4%	2%	6%	4%	4%	8%	3%	9%	7%
No	95%	91%	96%	98%	94%	96%	96%	92%	97%	91%	93%
Base=All respondents											

DISASTER SUPPLIES											
For this next set of questions, I'd like to ask you about some specific things you may or may not have done to prepare yourself and/or your household.											
I1. Do you have supplies set aside in your <u>home</u> to be used only in the case of a disaster?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	55%	62%	53%	66%	54%	49%	52%	52%	63%	61%	55%
No	45%	38%	47%	33%	46%	50%	47%	48%	37%	38%	45%
Base=All respondents											
I2. Could you tell me the disaster supplies you have in your home?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=1815	N=744	N=1071	N=260	N=219	N=207	N=220	N=215	N=233	N=248	N=213
A supply of bottled water	72%	73%	71%	70%	70%	71%	77%	64%	79%	78%	64%
A supply of packaged food	71%	75%	70%	65%	68%	69%	73%	65%	78%	78%	71%
A flashlight	50%	48%	51%	54%	49%	51%	51%	54%	51%	46%	47%
A first aid kit	32%	34%	32%	31%	35%	27%	40%	31%	23%	36%	36%
Batteries	27%	26%	28%	30%	28%	32%	21%	30%	33%	19%	27%
Blankets/clothing/ bedding	22%	24%	22%	17%	30%	22%	30%	21%	22%	20%	21%
A portable, battery-powered radio	20%	20%	20%	19%	19%	21%	16%	18%	24%	20%	21%
Candles/matches	15%	16%	14%	19%	15%	15%	10%	10%	13%	14%	17%
Generator/electrical backup/ alternative power	11%	10%	11%	17%	11%	10%	5%	11%	19%	7%	11%
Medications	8%	10%	7%	5%	8%	11%	5%	4%	7%	9%	10%
Fuel (Gas, propane, wood, kerosene, cooking fuel)	7%	6%	8%	8%	6%	5%	6%	9%	11%	9%	7%
Stove/lantern/lamps	6%	7%	6%	9%	9%	5%	5%	8%	5%	5%	9%

Camping gear/tents/sleeping gear	4%	4%	4%	4%	3%	4%	3%	4%	1%	4%	5%
Guns, ammo, weapons, hunting gear	3%	2%	3%	3%	2%	2%	4%	5%	6%	2%	3%
Cash	2%	2%	2%	1%	2%	2%	2%	3%	2%	3%	1%
Financial documents	1%	1%	<1%	1%	<1%	<1%	1%	2%	1%	1%	1%
Photocopies of personal identification	<1%	<1%	1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Eyeglasses	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Boots	<1%	1%	<1%	1%	<1%	<1%	0%	0%	1%	1%	<1%
Whistle	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	1%	<1%
Other	13%	12%	13%	10%	16%	17%	7%	11%	13%	12%	11%
Base=Respondents who reported having disaster supplies set aside in the home (I1)											
Note: Response options were not provided											
UPDATE. Have you updated these supplies in the last 6 months?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=1815	N=744	N=1071	N=260	N=219	N=207	N=220	N=215	N=233	N=248	N=213
Yes	74%	77%	73%	82%	82%	66%	74%	72%	77%	79%	76%
No	25%	23%	26%	18%	18%	33%	24%	27%	23%	20%	24%
Base=Respondents who reported having disaster supplies set aside in the home (I1)											
MITIGATION											
I4. Have you taken any of the following steps to protect your home, its structure and furnishings?											
Mitigation Summary (Response: Yes, Done by Other)	**ALL**	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Anchored your home to your foundation to keep your home stable	33%	35%	32%	42%	35%	28%	28%	43%	37%	28%	34%

Repaired or upgraded structural weaknesses in masonry, brick or stone foundations	24%	21%	25%	26%	19%	28%	22%	26%	24%	21%	20%
Purchased flood insurance	21%	22%	21%	21%	19%	22%	19%	22%	25%	20%	18%
Secured your water heater with straps to the wall	19%	24%	18%	26%	25%	14%	18%	22%	27%	17%	19%
Strapped down heavy furniture or equipment to keep in place	8%	10%	7%	9%	7%	8%	5%	12%	11%	8%	7%
Base=All respondents											
I4. Have you taken any of the following steps to protect your home, its structure and furnishings?											
a. Purchased flood insurance											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	21%	22%	20%	21%	19%	22%	19%	22%	25%	20%	18%
No	77%	76%	77%	74%	78%	75%	77%	74%	73%	78%	81%
Done by other (landlord, prior owner, contractor, etc.)	<1%	0%	<1%	1%	0%	<1%	<1%	0%	0%	0%	0%
Don't Know	2%	2%	3%	4%	3%	3%	3%	3%	1%	1%	1%
Don't Have	<1%	<1%	<1%	<1%	<1%	0%	1%	2%	<1%	<1%	0%
Base=All respondents											
g. Secured your water heater with straps to the wall											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	18%	23%	16%	26%	24%	12%	16%	20%	26%	17%	19%
No	77%	74%	78%	71%	71%	81%	79%	73%	70%	80%	79%

Done by other (landlord, prior owner, contractor, etc.)	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	<1%
Don't Know	3%	2%	3%	2%	4%	3%	3%	5%	2%	2%	1%
Don't Have	1%	1%	1%	<1%	<1%	1%	<1%	0%	<1%	<1%	1%
Base=All respondents											
h. Strapped down heavy furniture or equipment to keep in place											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	8%	10%	7%	9%	7%	8%	5%	12%	11%	8%	7%
No	91%	90%	92%	91%	93%	91%	94%	88%	89%	91%	93%
Done by other (landlord, prior owner, contractor, etc.)	<1%	<1%	<1%	<1%	0%	0%	0%	0%	0%	0%	0%
Don't Know	<1%	0%	<1%	0%	0%	1%	<1%	0%	<1%	<1%	0%
Don't Have	<1%	0%	<1%	0%	0%	1%	0%	0%	0%	1%	0%
Base=All respondents											
i. Repaired or upgraded structural weaknesses in masonry, brick or stone foundations											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	23%	21%	24%	25%	19%	27%	20%	25%	23%	19%	20%
No	73%	76%	72%	72%	78%	69%	74%	70%	75%	75%	75%
Done by other (landlord, prior owner, contractor, etc.)	1%	1%	1%	<1%	1%	2%	1%	2%	<1%	2%	1%
Don't Know	2%	1%	2%	2%	<1%	2%	3%	2%	<1%	2%	3%
Don't Have	1%	2%	1%	<1%	1%	1%	1%	1%	2%	3%	2%
Base=All respondents											

j. Anchored your home to your foundation to keep your home stable											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	28%	30%	27%	38%	30%	24%	23%	35%	34%	24%	28%
No	60%	59%	61%	53%	57%	63%	65%	52%	54%	65%	60%
Done by other (landlord, prior owner, contractor, etc.)	5%	5%	5%	5%	4%	5%	5%	7%	3%	4%	6%
Don't Know	6%	5%	6%	4%	6%	7%	6%	5%	6%	5%	6%
Don't Have	1%	1%	1%	1%	1%	2%	1%	0%	1%	1%	1%
Base=All respondents											

HOUSEHOLD PLAN

J1. Does your household have an emergency plan that includes instructions for household members about where to go and what to do in the event of a disaster?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	57%	59%	56%	66%	59%	53%	54%	51%	57%	63%	59%
No	42%	40%	42%	32%	41%	46%	45%	46%	42%	37%	39%
Base=All respondents											

J2. Have you discussed this plan with other members in your household?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=1918	N=770	N=1148	N=273	N=233	N=224	N=225	N=232	N=227	N=261	N=243
Yes	91%	92%	91%	93%	92%	87%	91%	91%	89%	91%	96%
No	9%	7%	9%	6%	7%	13%	9%	9%	11%	8%	4%
Base=Respondents who reported having an emergency plan in household (J1)											

COMMUNITY PLAN											
K1. Using a scale of 1 to 5 with 5 being "very familiar" and 1 being "not at all familiar," how familiar are you with alert and warning systems in your community?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
1 Not at all familiar	8%	10%	8%	6%	10%	10%	4%	10%	7%	7%	9%
2	6%	5%	7%	4%	6%	8%	6%	7%	5%	4%	8%
3	16%	10%	18%	14%	8%	19%	14%	16%	19%	14%	16%
4	19%	22%	18%	14%	24%	19%	21%	16%	19%	23%	17%
5 Very familiar	50%	52%	49%	61%	50%	43%	54%	49%	49%	51%	48%
Base=All respondents											
OUTREACH CONTACT											
UNAID_1. In the past 6 months, have you read, seen or heard anything about preparing for earthquakes?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	28%	36%	25%	18%	38%	27%	27%	31%	21%	37%	26%
No	72%	64%	75%	82%	62%	73%	73%	69%	79%	63%	74%
Base=All respondents											
UNAID_2. Was the information you read, saw or heard about earthquakes that might or have occurred here in the United States or about earthquakes somewhere else?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=1028	N=511	N=517	N=69	N=167	N=121	N=126	N=142	N=102	N=174	N=127
Here in the United States	55%	65%	51%	34%	75%	50%	52%	52%	41%	66%	61%
Somewhere else	27%	20%	31%	32%	11%	34%	25%	27%	46%	24%	21%
Information was about earthquakes that can happen anywhere	16%	15%	16%	22%	13%	16%	22%	19%	12%	10%	16%
Don't know	1%	<1%	2%	12%	1%	<1%	0%	1%	1%	0%	2%
Base=Respondents who have read, seen, or heard anything about preparing for earthquakes (UNAID=1)											

AIDAWR. In the past 6 months, there have been drills, education, and advertising activities to raise awareness of the risk of earthquakes in [STATE] and to help people prepare for the possibility of an earthquake in [STATE]. Have you read, seen, or heard anything about that?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	23%	33%	20%	10%	43%	19%	22%	23%	14%	36%	25%
No	77%	67%	80%	90%	57%	81%	77%	77%	86%	64%	74%
Base=All respondents											
AWRSRC. We're specifically interested in where you may have read, seen, or heard this information. Was it…											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=891	N=461	N=430	N=47	N=189	N=91	N=100	N=110	N=74	N=165	N=115
On TV	68%	70%	67%	81%	70%	66%	69%	68%	47%	71%	65%
In the newspaper	47%	53%	44%	66%	54%	40%	51%	52%	48%	38%	53%
From your child's school (if respondent has child in the home attending schools (A3))	47%	39%	53%	48%	33%	56%	64%	62%	20%	36%	44%
On the Internet	40%	42%	39%	38%	33%	45%	31%	37%	27%	40%	51%
On the radio	40%	38%	41%	50%	44%	39%	36%	52%	35%	37%	34%
At work	37%	37%	38%	24%	35%	39%	33%	43%	37%	38%	40%
From another community organization	30%	32%	28%	33%	25%	31%	21%	42%	23%	36%	24%
Through email	16%	12%	19%	15%	14%	16%	18%	23%	7%	15%	17%
At church or from a faith-based organization	14%	15%	14%	36%	12%	8%	9%	19%	22%	15%	18%
Base=Respondents who have read, seen, or heard about drills, education, or advertising activities in [STATE] to raise awareness of the risk of earthquakes (AIDAWR)											
Note: AWRSCR was asked as a series of Yes/No questions.											
CIS1. In the past 6 months, have your children brought home any materials or talked about preparing your family for an earthquake?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=747	N=279	N=468	N=98	N=83	N=94	N=95	N=91	N=89	N=102	N=95

Yes	14%	20%	11%	11%	20%	14%	14%	17%	4%	17%	11%
No	85%	78%	88%	89%	80%	84%	85%	82%	96%	81%	88%
Base= Respondents who have children in the home attending schools (A3)											
CIS2. Did they receive that information from … ?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=116	N=57	N=59	N=10	N=17	N=15	N=16	N=17	N=6	N=25	N=10
School	96%	98%	94%	100%	85%	92%	94%	100%	100%	100%	100%
A Program Outside of School	4%	2%	6%	0%	15%	8%	6%	0%	0%	0%	0%
Base=Respondents who reported that their children brought home materials about preparing the family for a disaster (CIS1)											
Note: Respondents were allowed to select multiple responses											
ACTION. I'm going to read you a list of actions you could take during an emergency. For each, tell me whether you think it is true or false that the government recommends this action?											
Action Summary (Response: True)	**ALL**	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
In an earthquake, you should get down close to the ground. **(TRUE STATEMENT)**	71%	67%	72%	63%	69%	73%	71%	72%	73%	73%	67%
In an earthquake, you should get in a doorway. **(FALSE STATEMENT)**	64%	66%	64%	55%	68%	65%	65%	66%	58%	70%	64%
In an earthquake, you should get under a big piece of furniture or other cover. **(TRUE STATEMENT)**	59%	61%	58%	51%	61%	56%	62%	63%	61%	64%	56%
In an earthquake, you should hold on to something. **(TRUE STATEMENT)**	55%	52%	55%	65%	55%	53%	47%	53%	62%	53%	57%

If you are indoors during an earthquake, you should run out of the building. **(FALSE STATEMENT)**	43%	41%	43%	42%	47%	43%	49%	38%	46%	42%	40%
If you are in bed during an earthquake, you should lie on the floor next to the bed. **(FALSE STATEMENT)**	35%	41%	34%	37%	38%	34%	32%	34%	41%	37%	37%
Base=All respondents											
ACTION. I'm going to read you a list of actions you could take during an emergency. For each, tell me whether you think it is true or false that the government recommends this action?											
ACTION1. In an earthquake, you should get down close to the ground. (TRUE STATEMENT)											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	71%	67%	72%	63%	69%	73%	71%	72%	73%	73%	67%
FALSE	24%	27%	23%	29%	24%	23%	22%	23%	23%	23%	28%
Don't Know	5%	6%	5%	8%	7%	4%	7%	5%	5%	4%	5%
Base=All respondents											
ACTION2. In an earthquake, you should get under a big piece of furniture or other cover. (TRUE STATEMENT)											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	59%	61%	58%	51%	61%	56%	62%	63%	61%	64%	56%
FALSE	38%	37%	39%	45%	36%	41%	36%	35%	33%	34%	42%
Don't Know	3%	2%	3%	4%	3%	3%	2%	2%	5%	2%	3%
Base=All respondents											

ACTION3. In an earthquake, you should hold on to something. (TRUE STATEMENT)											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	55%	52%	55%	65%	55%	53%	47%	53%	62%	53%	57%
FALSE	40%	44%	39%	32%	43%	41%	48%	42%	33%	41%	39%
Don't Know	5%	4%	5%	4%	2%	5%	5%	5%	5%	6%	4%
Base=All respondents											
ACTION4. If you are indoors during an earthquake, you should run out of the building. (FALSE STATEMENT)											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	43%	41%	43%	42%	47%	43%	49%	38%	46%	42%	40%
FALSE	53%	56%	52%	52%	47%	53%	47%	59%	50%	54%	55%
Don't Know	4%	3%	5%	6%	6%	4%	4%	3%	5%	4%	5%
Base=All respondents											
ACTION5. If you are in bed during an earthquake, you should lie on the floor next to the bed. (FALSE STATEMENT)											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	35%	41%	34%	37%	38%	34%	32%	34%	41%	37%	37%
FALSE	58%	53%	59%	57%	54%	60%	62%	60%	51%	54%	55%
Don't Know	7%	6%	7%	6%	8%	6%	5%	6%	8%	9%	8%
Base=All respondents											
ACTION6. In an earthquake, you should get in a doorway. (FALSE STATEMENT)											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
TRUE	64%	66%	64%	55%	68%	65%	65%	66%	58%	70%	64%
FALSE	32%	31%	33%	42%	29%	31%	32%	31%	37%	27%	33%
Don't Know	3%	3%	3%	3%	4%	4%	2%	3%	5%	3%	2%
Base=All respondents											

DCH. Is the phrase, "Drop! Cover! Hold on!" familiar to you?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	35%	41%	33%	31%	32%	32%	36%	35%	33%	39%	43%
No	64%	58%	66%	68%	68%	68%	63%	65%	67%	60%	57%
Base=All respondents											

DRILLS/EXERCISES

L1. In the past 6 months, have you participated in any of the following?											
Drill Summary (Response: Yes)	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
An earthquake drill at home	3%	4%	3%	3%	4%	2%	6%	4%	2%	3%	4%
An earthquake drill at work	9%	11%	8%	2%	9%	7%	10%	12%	5%	16%	10%
An earthquake drill at school	6%	5%	7%	3%	2%	8%	4%	9%	5%	10%	6%
Base=All respondents											

L1. In the past 6 months, have you participated in any of the following?											
DRILL1. An earthquake drill at home	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	3%	4%	3%	3%	4%	2%	6%	4%	2%	3%	4%
No	97%	96%	97%	97%	96%	98%	94%	96%	98%	97%	96%
Base=All respondents											

DRILL2. An earthquake drill at work	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	9%	11%	8%	2%	9%	7%	10%	12%	5%	16%	10%
No	91%	89%	91%	98%	90%	92%	90%	88%	95%	84%	90%
Base=All respondents											

DRILL3. An earthquake drill at school	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	6%	5%	7%	3%	2%	8%	4%	9%	5%	10%	6%
No	93%	94%	93%	95%	98%	92%	95%	91%	95%	90%	93%
Base=All respondents											

DEMOGRAPHICS AND CONTEXT

N2. Is your home … ?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Owned	73%	74%	73%	79%	76%	72%	74%	72%	69%	70%	75%
Rented	25%	25%	25%	18%	22%	27%	25%	26%	29%	28%	25%
Live There Without Paying Rent	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Base=All respondents											

N3. What is the highest level of education that you attained? Would it be…?

	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Less than 12th grade (no diploma)	7%	6%	7%	8%	7%	5%	7%	7%	8%	8%	6%
High School Graduate or GED	21%	22%	20%	23%	29%	15%	22%	26%	24%	17%	23%
Some College but No Degree	24%	26%	23%	27%	23%	24%	22%	25%	24%	19%	25%
Associate Degree in College	12%	11%	12%	12%	13%	11%	12%	12%	11%	14%	11%
Bachelor's Degree	22%	21%	22%	19%	16%	26%	26%	16%	16%	24%	21%
Master's Degree	11%	10%	12%	8%	10%	14%	10%	9%	11%	13%	10%
Doctorate Degree	3%	3%	4%	2%	2%	5%	2%	3%	4%	4%	4%
Base=All respondents											

N4. Which best describes your job status?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Work Full-Time	51%	48%	52%	48%	49%	52%	53%	47%	56%	53%	48%
Work Part-Time	9%	11%	9%	10%	9%	10%	7%	9%	7%	10%	10%
Student	7%	6%	7%	4%	6%	8%	6%	8%	6%	7%	6%
Unemployed	8%	8%	8%	7%	6%	9%	6%	9%	7%	8%	7%
Retired	20%	21%	19%	23%	19%	18%	20%	22%	21%	19%	21%
Other	9%	9%	9%	9%	13%	6%	11%	10%	8%	7%	12%
Base=All respondents											
Note: This question allowed respondents to provide multiple responses.											
DIS1. Do you have a disability or a health condition that might affect your capacity to prepare for an emergency situation?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	12%	14%	11%	12%	15%	10%	11%	11%	12%	12%	14%
No	88%	86%	88%	88%	84%	89%	89%	89%	88%	88%	85%
Base=All respondents											
DIS2. Do you have a disability or a health condition that might affect your capacity to respond to an emergency situation?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	10%	13%	10%	12%	13%	8%	10%	11%	12%	11%	11%
No	89%	87%	89%	87%	86%	91%	89%	89%	87%	88%	89%
Base=All respondents											
DIS3. Do you currently live with or have primary responsibility for assisting someone with a disability who requires assistance?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	12%	13%	12%	20%	13%	12%	9%	8%	15%	11%	13%
No	87%	86%	88%	80%	86%	88%	91%	92%	85%	88%	87%
Base=All respondents											

N7. Which of the following best describes your race? Would you consider yourself to be…?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
White	77%	79%	77%	71%	79%	70%	84%	90%	63%	84%	81%
Black or African American	14%	14%	13%	25%	14%	15%	5%	8%	32%	8%	13%
Asian	2%	1%	2%	1%	1%	4%	<1%	<1%	1%	3%	2%
American Indian or Alaska Native	2%	3%	2%	1%	3%	1%	3%	2%	3%	2%	3%
Native Hawaiian or Other Pacific Islander	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Something else	4%	1%	5%	1%	2%	10%	4%	1%	1%	1%	2%
Refused	2%	3%	2%	2%	1%	1%	4%	1%	2%	3%	2%
Base=All respondents											
Note: Respondents could provide multiple responses											

N8. Are you of Hispanic or Latino or Spanish origin?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Yes	5%	2%	5%	1%	2%	11%	3%	1%	4%	2%	3%
No	93%	96%	93%	97%	96%	88%	93%	97%	95%	95%	95%
Refused	2%	3%	1%	1%	1%	1%	4%	1%	1%	2%	2%
Base=All respondents											

N9. Age	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
18-24	10%	8%	11%	10%	12%	13%	10%	13%	12%	5%	7%
25-34	20%	18%	21%	19%	18%	18%	20%	17%	21%	24%	23%
35-44	18%	19%	17%	18%	18%	19%	17%	18%	16%	17%	18%
45-54	19%	19%	19%	18%	18%	19%	19%	19%	18%	19%	18%
55-64	14%	15%	14%	15%	15%	13%	14%	15%	14%	14%	15%
65+	16%	18%	16%	17%	17%	16%	16%	16%	17%	17%	15%
Refused	3%	3%	3%	4%	3%	2%	5%	2%	3%	4%	4%
Base=All respondents											

N10. Which of the following income ranges represents your annual household income in 2010?											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Less than $25,000	21%	22%	20%	22%	23%	16%	21%	28%	25%	22%	21%
$25,000 to less than $50,000	21%	23%	20%	22%	25%	13%	25%	21%	23%	21%	29%
$50,000 to less than $75,000	18%	18%	18%	17%	16%	16%	19%	20%	20%	17%	20%
$75,000 or more	26%	24%	27%	24%	24%	39%	22%	20%	18%	22%	21%
Don't Know	3%	3%	4%	3%	4%	6%	2%	3%	3%	3%	1%
Refused	11%	11%	11%	13%	9%	11%	11%	9%	11%	15%	8%
Base=All respondents											
N13. Gender	**ALL**	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=3211	N=1263	N=1948	N=400	N=403	N=404	N=402	N=400	N=399	N=402	N=401
Male	48%	48%	48%	48%	48%	49%	49%	48%	48%	48%	48%
Female	52%	52%	52%	52%	52%	51%	51%	52%	52%	52%	52%
Base=All respondents											
Questions about Phone Usage											
Cell1. Do you personally use a cell phone?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=2253	N=1012	N=1241	N=282	N=283	N=283	N=283	N=280	N=280	N=281	N=281
Yes	81%	80%	81%	83%	74%	86%	76%	77%	82%	77%	81%
No	18%	19%	18%	14%	25%	13%	23%	22%	16%	22%	19%
Base=Landline respondents											
LL1. Do you have at least one landline telephone line in your home that you use for making and receiving phone calls?											
	ALL	**In NMSZ**	**Outside NMSZ**	**AL**	**AR**	**IL**	**IN**	**KY**	**MS**	**MO**	**TN**
	N=958	N=251	N=707	N=118	N=120	N=121	N=119	N=120	N=119	N=121	N=120
Yes	32%	30%	33%	39%	22%	32%	29%	26%	29%	41%	33%
No	68%	69%	67%	61%	78%	68%	70%	74%	71%	59%	66%
Base=Cell respondents											

Dual1. Of all the telephone calls that you receive, are…											
	ALL	In NMSZ	Outside NMSZ	AL	AR	IL	IN	KY	MS	MO	TN
	N=2335	N=960	N=1375	N=303	N=290	N=291	N=290	N=274	N=293	N=300	N=294
All or almost all calls received on cell phones	33%	29%	34%	35%	38%	34%	30%	32%	36%	30%	33%
Some received on cell phones/some on regular phones	43%	46%	43%	43%	40%	43%	47%	33%	42%	47%	45%
Very few or none on cell phones	22%	24%	22%	21%	21%	21%	23%	34%	21%	23%	21%
Base=Asked if landline respondents personally use a cell phone OR cell respondents have at least one landline telephone line in their home											

Appendix D: Survey Respondents Profile

In what state do you live?	Weighted
Alabama	10%
Arkansas	6%
Illinois	28%
Indiana	14%
Kentucky	9%
Missouri	13%
Mississippi	6%
Tennessee	14%

Are there children under the age of 18 living in your residence?	Weighted
Yes	38%
No	62%

Does at least one of the children currently attend a school outside of your home, including day care or part-time kindergarten?	Weighted
Yes	79%
No	21%

Is your home?	Weighted
Owned	73%
Rented	25%
Live there without paying rent	<1%

What is the highest level of education you have received?	Weighted
Less than 12th grade	7%
High School Graduate or GED	21%
Some College but No Degree	24%
Associate Degree in College	12%
Bachelor's Degree	22%
Master's Degree	11%
Doctorate Degree	3%

Which best describes your job status?	Weighted
Work full-time	51%
Work part-time	9%
Student	7%
Unemployed	8%
Retired	20%
Other	9%

Do you have a disability or health condition that might affect your capacity to prepare for to an emergency situation?	Weighted
Yes	12%
No	88%

Do you have a disability or health condition that might affect your capacity to respond to an emergency situation?	Weighted
Yes	10%
No	89%

Do you currently live with or have primary responsibility for assisting someone with a disability who requires assistance?	Weighted
Yes	12%
No	87%

Which of the following best describes your race? Would you consider yourself to be…?	Weighted
White	77%
Black or African American	14%
Asian	2%
American Indian or Alaska Native	2%
Native Hawaiian or Other Pacific Islander	<1%
Other	4%

Are you of Hispanic, Latino, or Spanish origin?	Weighted
Yes	5%
No	93%

Which of the following income ranges represents your annual household income in 2010?	Weighted
Less than $25,000	21%
$25,000 to less than $50,000	21%
$50,000 to less than $75,000	18%
$75,000 or more	26%

Gender	Weighted
Male	48%
Female	52%

In what year were you born? (Reported in age clusters)	Weighted
18-24	10%
25-34	20%
35-44	18%
45-54	19%
55-64	14%
65+	16%

In the last 6 months, have you read, seen, or heard anything about preparing for an earthquake?	Weighted
Yes	28%
No	72%

Was the information you read, saw, or heard about earthquakes that might or have occurred here in the United States, or about earthquakes somewhere else?	Weighted
United States	55%
Somewhere Else	27%
Earthquakes that can happen anywhere	16%