Preparedness in America

Research Insights to Increase Individual, Organizational, and Community Action

September 2013

FEMA

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Executive Summary

As disasters continue to impact our Nation, the role of individuals and the importance of engaging all sectors in reducing the impact of disasters has become increasingly evident. Recognizing the need to involve the Nation more fully, Presidential Policy Directive-8 (PPD-8), issued on March 20, 2011, states that "our national preparedness is the shared responsibility of all levels of government, the private and nonprofit sectors, and individual citizens."

The Federal Emergency Management Agency (FEMA) is committed to social and physical science as the foundation for increasing individual and community preparedness and has conducted national household surveys to assess the public's knowledge, attitudes, and behaviors on preparing for a range of hazards since 2007.[1] *Preparedness in America: Research Insights to Increase Individual, Organizational, and Community Action* advances our understanding of the complexities of motivating the public to prepare by examining trend data on personal preparedness behaviors and by providing findings on several new areas of analysis:

- Exploring the relationship between preparedness behaviors and individuals' beliefs and experiences around disasters;
- Identifying profiles of the general public to assist practitioners in conducting more targeted and effective engagement, education, and messaging strategies; and
- Examining the effect of community connections and networks on personal preparedness.

FEMA recognizes that widespread cultural change is a long-term process, and while the national statistics on basic preparedness actions have remained largely constant, findings documented in *Preparedness in America* offer valuable insights for adapting education efforts to increase preparedness. Key findings from the research focus on the public's behaviors, knowledge, and attitudes related to preparing for a range of hazards.

Preparedness Actions

- The percentage of surveyed individuals taking recommended preparedness actions remains largely unchanged since 2007.
- Seventy percent of respondents in 2011 lived in homes (rented or owned) where at least one action was taken to protect the structure; however, of the six mitigation measures analyzed, only two had been completed by more than a quarter of the homes.
- More than a quarter of respondents in 2011 reported they were contemplating or preparing to take action to prepare for emergencies and were likely to be receptive to outreach efforts.
- Cost and not knowing how to prepare were each perceived as barriers by one quarter of those surveyed.

[1] See Appendix A for a description of the FEMA National Survey Methodology and Appendix B for survey questions summarized in this report.

Beliefs About Risk and Efficacy by Hazard

- The data identified clear differences in how survey respondents perceived risk, severity, and efficacy by different categories of hazard. Respondents believed they were at risk for natural disasters and that preparing for them is helpful. Respondents believed terrorist acts, hazardous materials accidents, and disease outbreaks were less likely and that preparedness would not be as helpful.

Beliefs and Experiences Related to Preparedness Behaviors

- All examined beliefs (confidence in one's ability to respond, perceived risk, belief that preparing will help in an event, and belief that a disaster could be severe) related to natural disasters had a positive relationship with preparedness behaviors.
- For terrorist acts, hazardous materials accidents, and disease outbreaks, only the confidence in one's ability to respond had a positive relationship with preparedness behaviors.
- Willingness to consider preparing, knowing how to prepare, and having thought about preparedness had a positive relationship with preparedness behaviors.
- Referencing a personal disaster experience is likely more effective in motivating preparedness behavior than referencing disasters in other locations.
- Talking about preparedness had a strong positive relationship with preparedness behavior, yet less than half of the respondents reported doing so in the previous 2 years.
- Having planning and training encouraged or required at work or school had a positive relationship with other preparedness behaviors.

Preparedness Profiles Based on Beliefs and Experiences

- The public can be placed into Preparedness Profiles based on beliefs and experiences. Sociodemographic attributes have been identified for each Preparedness Profile.

Preparedness Through Social Networks

- The survey data indicated that the workplace, schools, and volunteer organizations that support community preparedness, safety, or emergency response are effective channels for preparedness outreach.
- Exposure to disaster preparedness through each of the three analyzed social networks (workplace, schools and response volunteer organizations) had a positive relationship to preparedness behaviors.

Preparedness Among Sociodemographic Groups

- People with low incomes perceived much greater barriers to preparedness (in terms of time, money, and access to information).
- Differences in preparedness across age, income, race, or population density categories were generally fairly small. Some substantial differences found were:
  - People in high population density areas were more likely to rely on public transportation to evacuate the area in the event of a disaster.
  - Volunteering in disaster preparedness/response was mostly done by people with average to high incomes.
  - Retirement-aged people (75+ category) participated in disaster training much less than people in other age categories.

Next Steps for FEMA

- Revise content and framing for preparedness messaging to include:
  - Re-examining preparedness messages;
  - Validating science base for protective actions;
  - Incorporating insights from disaster survivors; and
  - Providing localized risk data.
- Tailor implementation by stakeholder and sociodemographic group to include:
  - Launching a new community-based campaign, America's PrepareAthon!^{SM};
  - Providing tailored preparedness resources and training;
  - Supporting workplace preparedness;
  - Implementing the National Strategy for Youth Preparedness Education; and
  - Encouraging volunteer opportunities.
- Engage the whole community by:
  - Expanding partnerships at all levels and with all sectors; and
  - Supporting Citizen Corps Councils.
- Refine evaluation and assessment to include:
  - Conducting in-depth assessments of whole community preparedness in large urban cities;
  - Refining national research activities; and
  - Partnering with National Academies of Science to build on the findings in their report, *Disaster Resilience: A National Imperative*.

We each have a role in ensuring the resilience of our communities, our nation, and our way of life. Together, we can guarantee that everyone in America has the knowledge, skills, and resources to respond to the challenges brought by weather, disease, hazardous incidents, and terrorism.

This guide provides examples of good practices and matters to consider for planning and implementation purposes. The guidance does not create any requirements beyond those included in applicable law and regulations, or create any additional rights for any person, entity, or organization. The information presented in this document generally constitutes informal guidance and provides examples that may be helpful. The inclusion of certain references does not imply any endorsement of any documents, products, or approaches. There may be other resources that may be equally helpful.

1 Preparedness Actions

Section Overview: Trend data on recommended preparedness actions is presented, as well as self-reported preparedness behavior, and barriers to preparing.

Key Findings:

- The percentage of surveyed individuals taking recommended preparedness actions remains largely unchanged since 2007.
- Seventy percent of respondents in 2011 lived in homes (rented or owned) where at least one action was taken to protect the structure; however, of the six mitigation measures analyzed, only two had been completed by more than a quarter of the homes.
- More than a quarter of respondents in 2011 reported they were contemplating or preparing to take action to prepare for emergencies and were likely to be receptive to outreach efforts.
- Cost and not knowing how to prepare were each perceived as barriers by one quarter of those surveyed; preparedness messages and outreach strategies should be developed to counter or re-frame these perceptions.

1.1 Recommended Preparedness Actions

Since the tragedy of September 11, 2001, the U.S. Department of Homeland Security (DHS)/FEMA has significantly increased the emphasis on educating individuals on how to prepare for disasters by using the national platform of the *Ready* campaign, grassroots outreach through local Citizen Corps Councils, and coordination with states, territories, tribes, local communities, and other partners across the country.

The Ready.gov website serves as FEMA's clearinghouse for personal preparedness information and organizes this information into four categories.[2]

- **Be Informed**: Know local/community risks and community systems and plans, participate in preparedness training, and practice response skills by participating in drills.
- **Make a Plan**: Develop a household emergency plan and discuss it with household members.
- **Build a Kit**: Set aside and maintain supplies one may need in disasters.
- **Get Involved**: Find local opportunities to volunteer for community safety and disaster response and be a part of the community planning process.

In addition, FEMA works with all partners to promote mitigation measures to help reduce the impact of disasters on individuals and property.

Be Informed

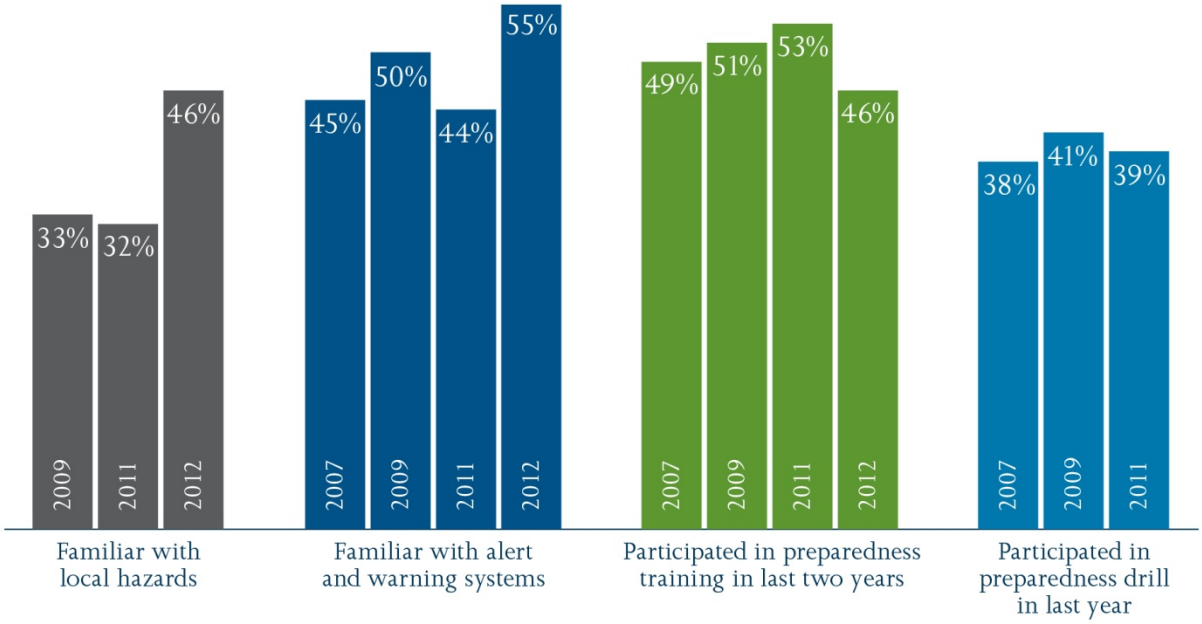
Being informed encompasses risk awareness, the ability to receive notifications, knowledge, training, and practicing skills, and survey questions address each of these elements. In 2011, just one in three (32 percent) of the respondents reported being familiar with their local hazards—in 2012, that number rose to 46 percent (Figure 1). Participants also rated their familiarity with features of their community disaster preparedness and response plans. In 2012, there were sharp increases in respondents' familiarity with local hazards and alerts and warning systems, yet a decrease in any preparedness training in the past 2 years.

To assess knowledge of protective actions for specific hazards, FEMA fielded surveys in 2011 and 2012 that included questions to test respondents' knowledge of risk and protective actions for floods, tornadoes, and earthquakes.[i,ii,iii] Those who believed they were at risk for flooding were more likely to talk to their insurance agent and take steps to prevent or reduce flooding. Ninety-five percent or greater correctly identified protective actions for tornadoes to find shelter and go to a basement or interior windowless room and knew that most deaths and injuries in a tornado are caused by flying debris. Seventy-two percent, however, incorrectly believed that if they are in a vehicle, they should find an overpass and stop underneath it until the tornado passes. When respondents who live in an earthquake risk area were asked six questions on key

[2] The first three informational categories have also been used as the *Ready* campaign's "three step" tagline since its launch in 2003, and have been replicated by many state and local entities. FEMA and its partners are in the process of examining how to increase the effectiveness of preparedness messaging; see Summary Report on Awareness to Action: A Workshop on Motivating the Public to Prepare http://www.fema.gov/media-library/assets/documents/31359?id=7124 for details and the Next Steps for FEMA section.

actions to take during an earthquake, respondents who had received earthquake preparedness information in the preceding 6 months were significantly more likely to answer the knowledge questions correctly.

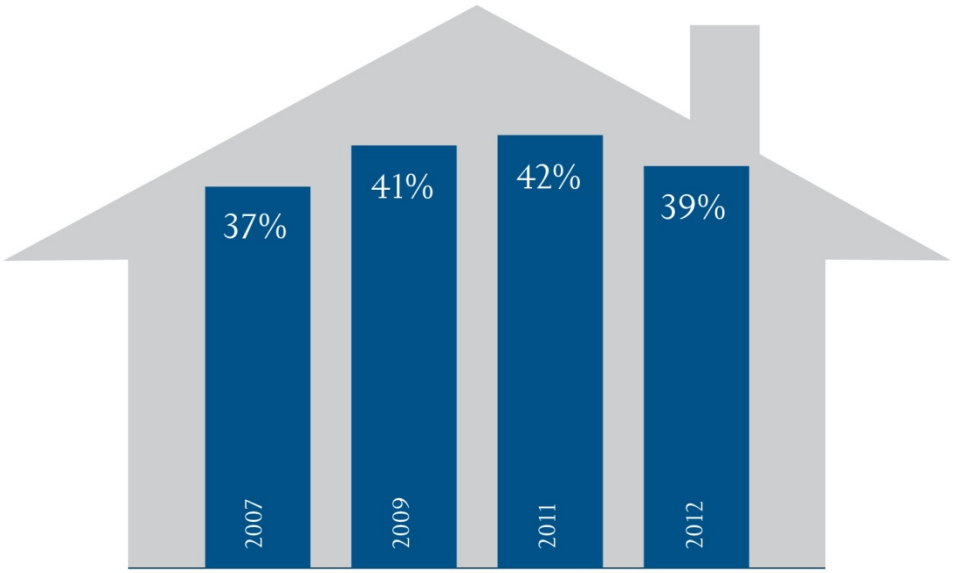
Figure 1: Be Informed



Make a Plan

Since household members may not be together when a disaster strikes, it is important to plan in advance for how they will get to a safe place and how they will contact one another and reunite. The FEMA National Household Survey asked respondents about their household plan and whether or not they had discussed it with members of the household. As shown in Figure 2, 39 percent of participants in 2012 indicated they had a household plan that they had discussed with their household; this represents a slight decline from a gradual increase in prior years.

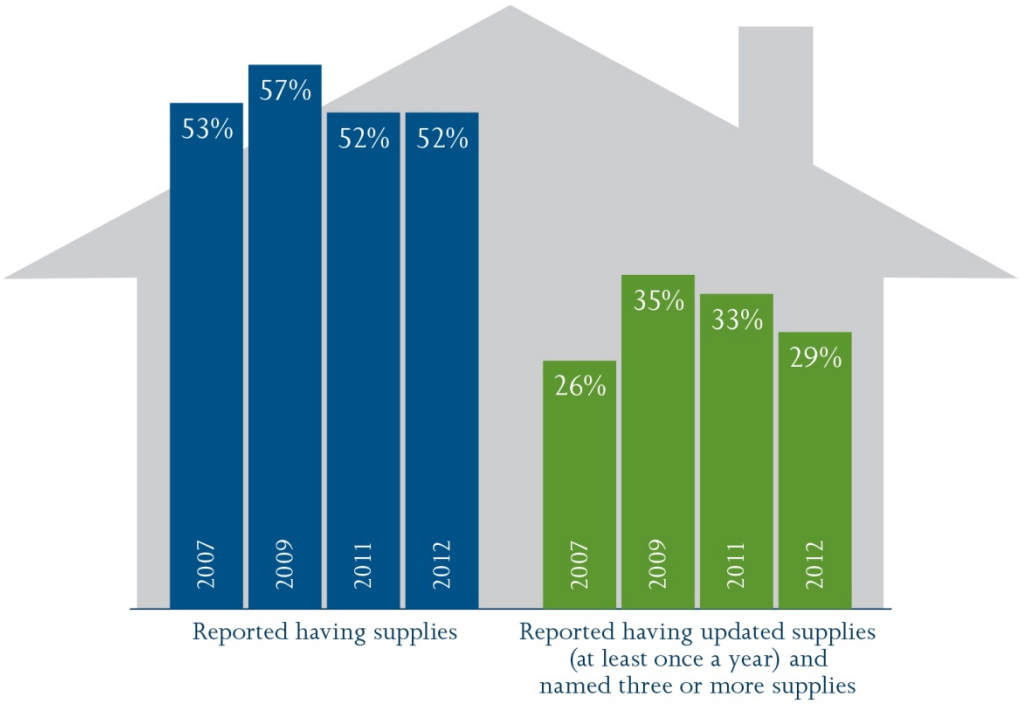
Figure 2: Household Emergency Plans



Build a Kit

In 2012, 52 percent of individuals reported having supplies set aside in their home for use during a disaster—a decrease from 57 percent in 2009 (Figure 3). In all survey years, only a subset of those individuals who reported having supplies in their home were able to name three or more supplies in their home and report that they update them at least once a year.

Figure 3: Disaster Supplies in Homes

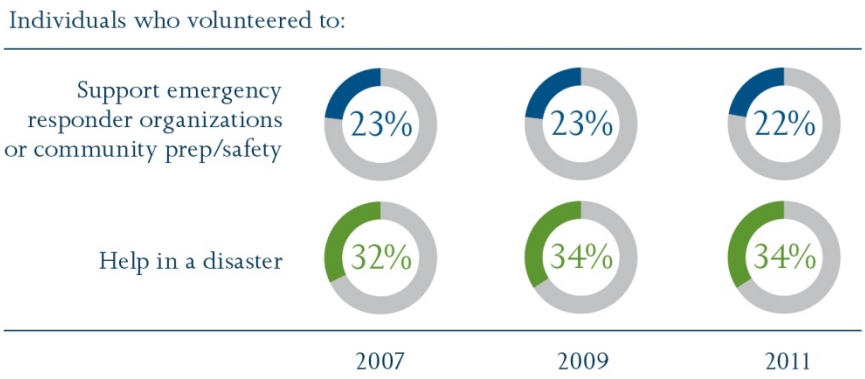


Packaged food and bottled water were consistently the most frequently cited supplies, followed by a flashlight, first aid kit, and blankets/clothing/bedding. In 2012, nearly 70 percent of respondents had packaged food or bottled water while fewer reported having a flashlight (42 percent), first aid kit (32 percent), or blankets/clothing/bedding (18 percent). Although nationwide, 34 percent of individuals take medications to manage chronic health conditions,[iv] only 8 percent of respondents in 2012 mentioned having medications in their emergency supply kit. Having access to financial, insurance, medical, and other records is crucial for starting the process of recovery as quickly as possible. When asked about these items in 2011, 34 percent of the participants reported having stored these items.

Get Involved

FEMA encourages the active participation of trained volunteers to strengthen community safety and to support emergency responders when an incident occurs. As shown in Figure 4, rates of volunteerism to emergency response and community preparedness/safety organizations remained unchanged.

Figure 4: Be Involved

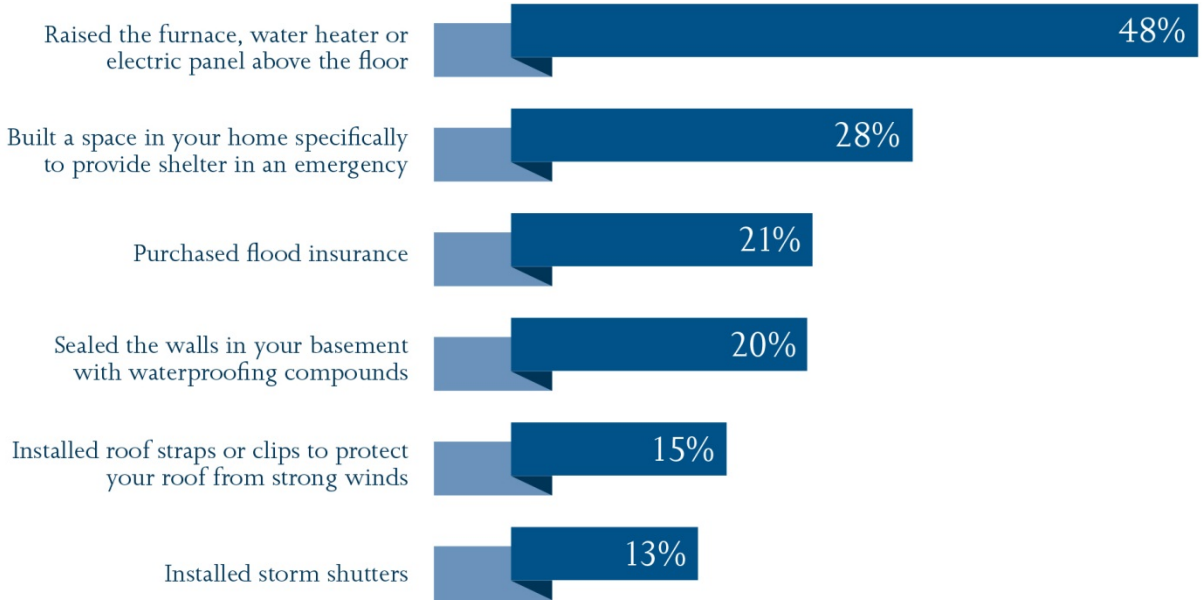


Protecting the Home

In addition to the personal preparedness actions above, FEMA strongly advocates for individuals to protect their home from disasters. In 2011, FEMA asked a series of questions to identify the extent to which individuals were taking actions to mitigate the effects of floods, hurricanes, and tornadoes on their homes. Overall, 70 percent of respondents lived in homes (rented or owned) where mitigation measures had been taken, with raising the furnace, water heater, or electric panel above the floor being the most frequently cited action[3] (Figure 5).

[3] It is important to note that this is national data only, and does not take into account the specific hazard risks at the survey respondent's location.

Figure 5: Mitigation Actions Completed for Survey Respondents' Home (2011)



1.2 Self-Reported Preparedness Behavior

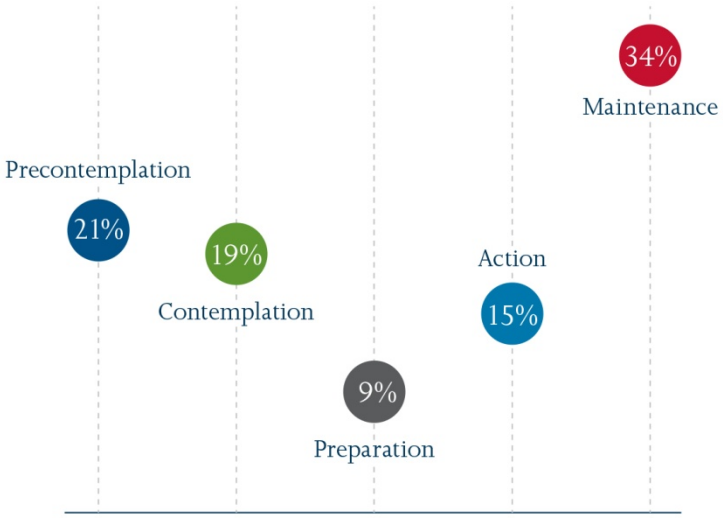
To understand how individuals self-identify around personal preparedness, FEMA developed a survey question on the Stages of Change Model developed by Prochaska and DiClemente,[v] which describes behavior change as a five-stage process to assess preparedness. This type of self-assessment provides insight into an individual's readiness to attempt, make, or sustain behavior changes (Table 1).[4]

Table 1: General Stages of Behavior Change

Stage	Description
Pre-Contemplation	**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 changed and been maintained for more than 6 months.**

FEMA asked respondents to self-report which description best captured their level of preparedness. In 2011, more than a quarter of all respondents reported that they were contemplating preparing in the next 6 months (19 percent) or preparing to take action in the next month (9 percent), 15 percent reported they had recently begun preparing, and about one-third of the participants described themselves in the maintenance stage (i.e., they had been prepared for more than 6 months and were maintaining their preparedness behaviors). Twenty-one percent indicated they were not planning to do anything about preparing, placing them in the pre-contemplation category (Figure 6).[vi]

Figure 6: Stages of Change (2011)

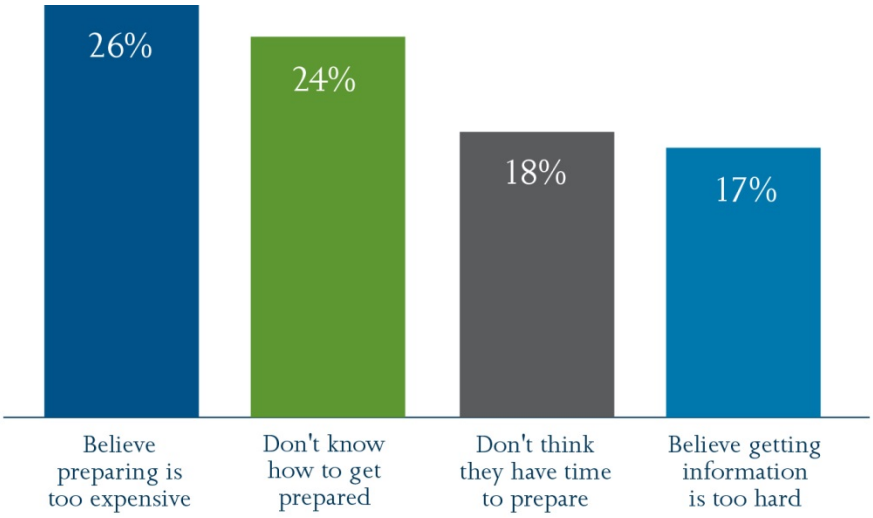


[4] The Stages of Change Model is based on the individual's perception, and is not based on actual or self-reported preparedness behaviors. The "preparation" stage describes planning to change one's behavior and should not be confused with disaster "preparedness."

1.3 Perceived Barriers to Preparedness

There are a number of reasons that may influence people's ability to prepare. FEMA asked respondents to share their perceptions of four commonly cited barriers to preparedness. Respondents most frequently agreed that preparing was too expensive (26 percent) and that they did not know how to get prepared (24 percent). Less than 20 percent of respondents believed that preparing was too hard or that getting information was too hard (Figure 7). By better understanding the issues that may be affecting motivation, preparedness messages and outreach strategies should be developed to counter or re-frame these perceived barriers. Overall, less than one-quarter of respondents in 2011 indicated they did not perceive any barriers to their ability to prepare.

Figure 7: Perceived Barriers to Preparedness (2011)



2 Beliefs About Risk and Efficacy by Hazard

Section Overview: An examination of individuals' beliefs about risk, preparedness, and response for different categories of hazards: natural hazards, hazardous materials accident, disease outbreak, and terrorism. The beliefs examined were:

- Perceived risk—How likely is it that the disaster will happen?
- Perceived severity—How severe will the effects of a disaster be to me?
- Belief that preparing will help—Will what I do now help me in a disaster? and
- Confidence in ability to respond—I will be able to successfully respond to a disaster.

Key Findings:

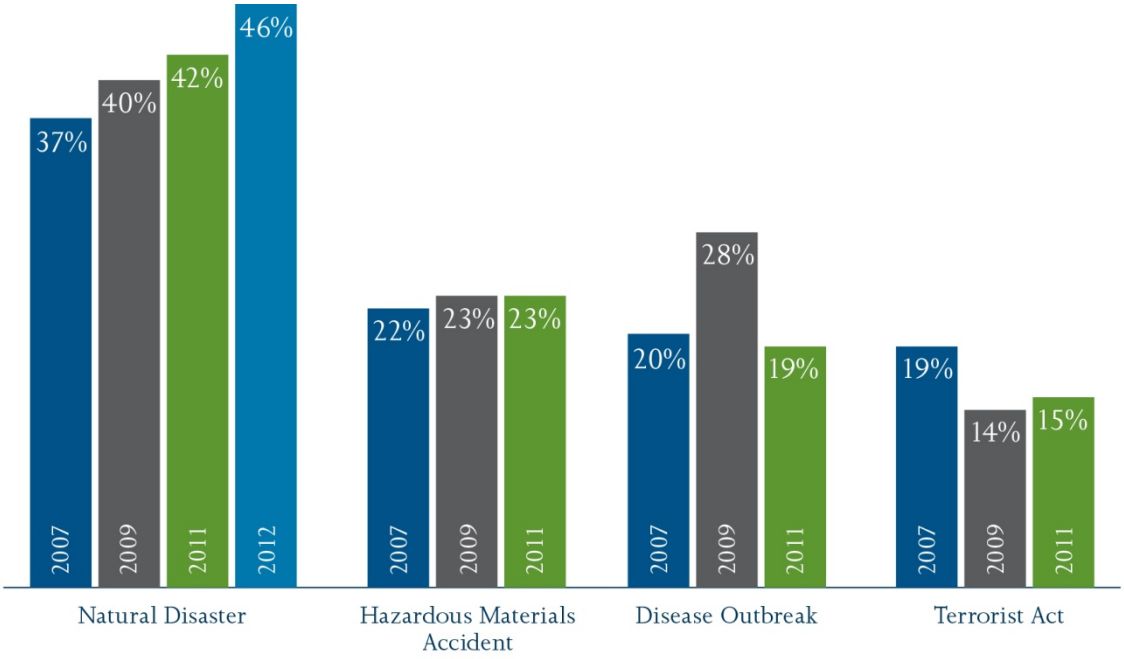
- The data identified clear differences in how survey respondents perceived risk, severity, and efficacy by different categories of hazard. Public beliefs about hazards can be clustered into two groupings:
  - Individuals had similar beliefs about natural disasters, including wildfires, floods, and weather emergencies. Respondents believed they were at risk for these disasters and that preparing for them would be helpful.
  - Individuals had similar beliefs about terrorist acts, hazardous materials accidents, and disease outbreaks. Respondents believed these disasters were less likely and that preparedness would not be as helpful.

2.1 Perceived Risk and Severity

Data from several FEMA national household surveys consistently demonstrated that different categories of hazards were perceived to have different risks. Respondents were asked to rate the likelihood of natural disasters, acts of terrorism, hazardous material accidents, and highly contagious disease outbreaks ever happening in their community. Most respondents in 2012 (57 percent) believed they were at risk for experiencing at least one of these events. As illustrated in Figure 8, nearly half of participants considered it likely that a natural disaster would occur in their community.[5] Respondents considered hazardous materials accidents, disease outbreaks, and terrorist acts substantially less likely.

Overall, this represents a small but steady increase in people's risk perception of natural disasters, possibly due to increased media coverage surrounding several high profile natural disasters that have occurred in the past few years. Based on data from 2007–2011, people's perceived risk of disease outbreaks peaked at 28 percent during the H1N1 outbreak in 2009.[vii] Perceived risk of hazardous materials accidents remained constant, while perceived risk of terrorist acts decreased over that same period.

Figure 8: Perceived Risk

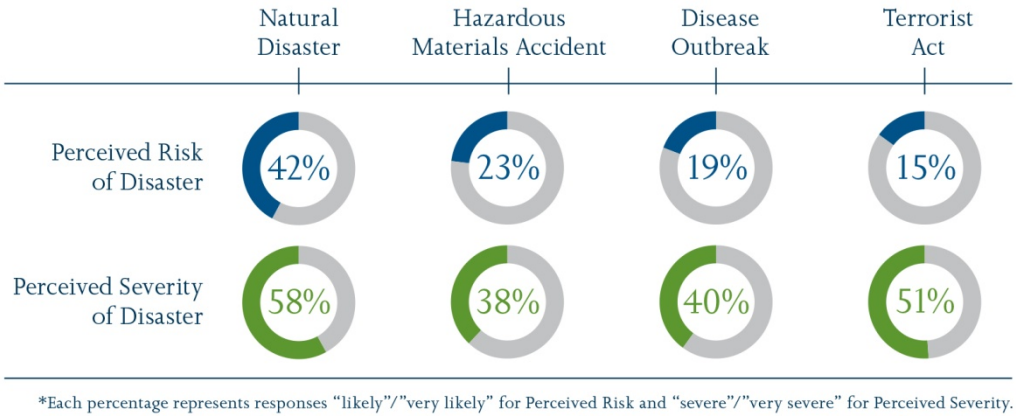


To enhance the understanding of how people think about different categories of disaster, in 2011, FEMA asked respondents to consider the same four categories of disasters, and then rate how severe the impact would be to them personally if the event were to occur. For all disaster categories, more participants perceived higher severity than higher likelihood of a disaster occurrence (Figure 9). This gap was most pronounced for a terrorist act: while fewer people

[5] These surveys were national in scope; all respondents were asked questions on all hazards and were not matched to actual hazard risk for the respondent's location.

thought they were at risk for a terrorist act, more people thought that *if* such an act occurred, the impact to them personally would be severe or very severe.

Figure 9: Perceived Risk and Severity (2011)*



*Each percentage represents responses "likely"/"very likely" for Perceived Risk and "severe"/"very severe" for Perceived Severity.

2.2 Perceived Efficacy

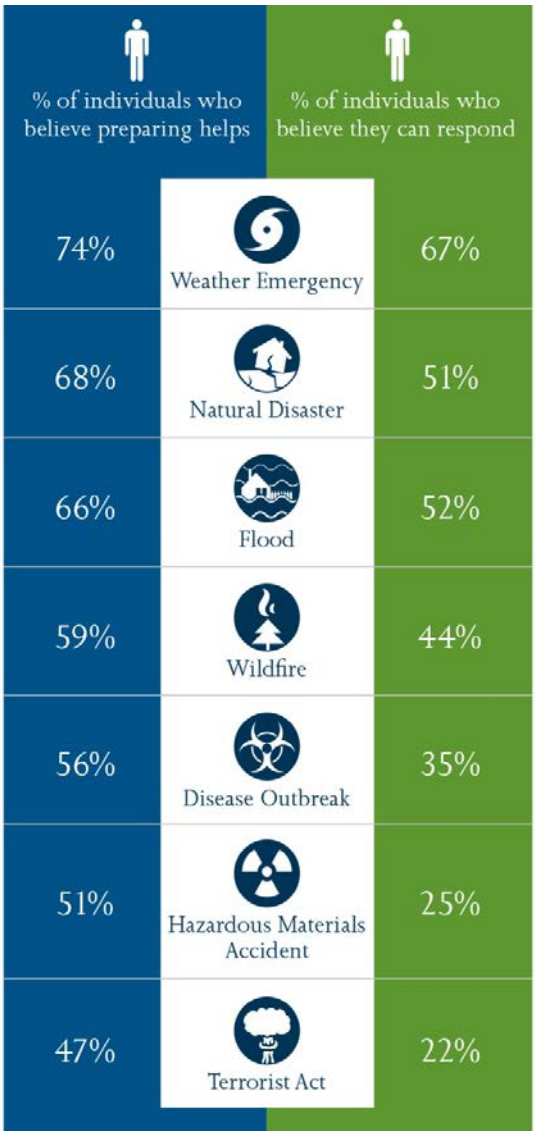
To better understand how to motivate the public to take action, it is important to understand whether or not people think they can do anything to prevent or mitigate the effects of a disaster. Thus, FEMA developed survey questions to examine respondents' beliefs related to the following:

- **Belief That Preparing Will Help**: The belief that preparedness actions will be useful in the event of a disaster; and
- **Confidence in Ability to Respond**: The belief that I will be able to successfully respond to a disaster.

Figure 10 presents these findings for a range of hazards.

In 2011, 68 percent of respondents believed that preparing in advance for a natural disaster would help them during/after the event. When asked to rate their confidence in knowing how to respond to different types of disasters, individuals were more confident in their ability to react to natural disasters than to terrorist

Figure 10: Perceived Efficacy: Preparing Helps and I Can Respond (2011)



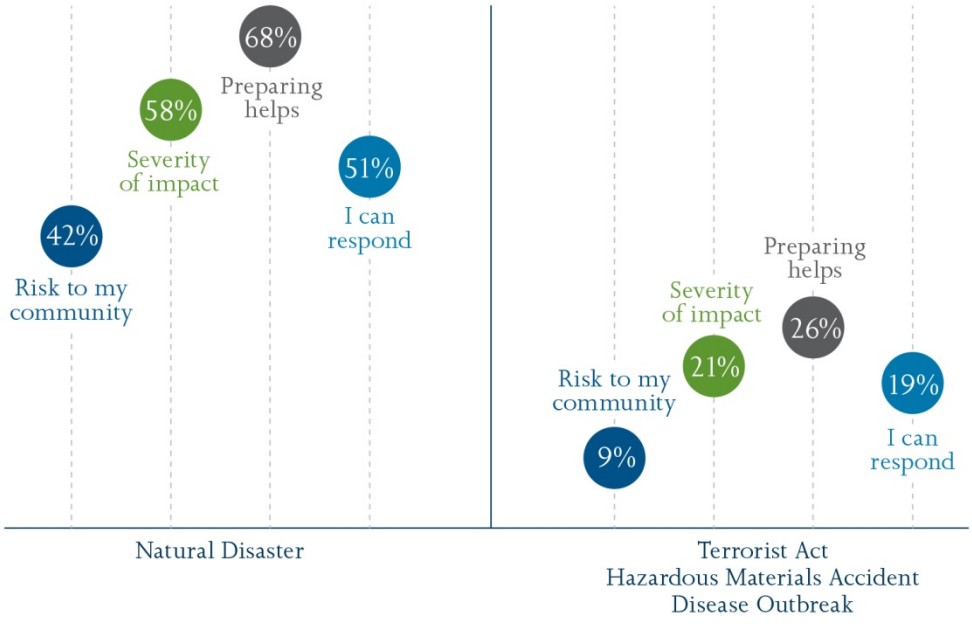
acts, hazardous materials accidents, or disease outbreaks. In 2011, two-thirds of individuals (67 percent) expressed confidence in their ability to respond to a weather emergency like a snowstorm or hurricane (disasters that tend to occur with advanced warning), while the other half were confident in their ability to respond to a natural disaster that occurred with no warning, such as an earthquake/tornado (51 percent). Even fewer individuals expressed confidence in the case of a disease outbreak (35 percent), hazardous materials accident (25 percent), or a terrorist act (22 percent).

2.3 Disaster Groups

Individuals' attitudes toward different hazards may affect their preparedness. To examine response patterns to the four belief questions across disasters, a factor analysis was performed. The analysis indicated that disaster types fall into two groupings (Grouping 1: Natural Disasters and Grouping 2: Terrorism/Hazardous Materials Accident/Disease Outbreak). This means that if someone has a certain belief towards a hazardous materials accident, he or she is likely to hold the same belief towards a disease outbreak or a terrorist act but not necessarily towards a natural disaster.

Figure 11 presents perceived risk, severity, usefulness of preparing, and confidence in ability to respond for each grouping. Future research to examine disasters from the perspective of notice versus no-notice events may provide additional findings to inform preparedness messaging.

Figure 11: Belief by Disaster Groups (2011)



3 Beliefs and Experiences Related to Preparedness Behaviors

Section Overview: An analysis of which personal beliefs and experiences have a positive relationship to preparedness behaviors to determine which beliefs and experiences should be reinforced and enhanced.

Key Findings:

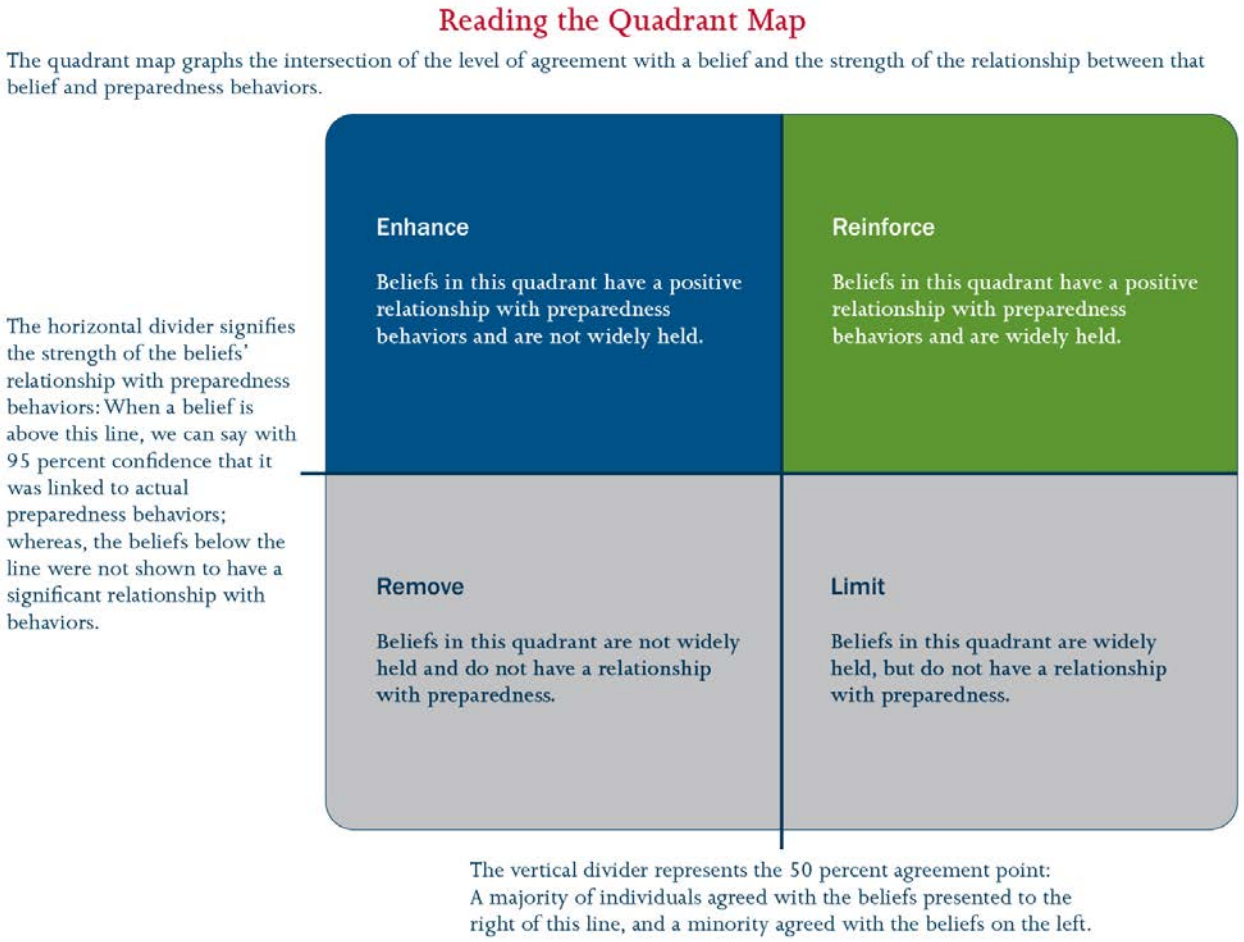
- All examined beliefs related specifically to natural disasters had a positive relationship with preparedness behaviors. Of the examined beliefs related to terrorist acts, hazardous materials accidents, and disease outbreaks, only the confidence in one's ability to respond had a positive relationship with preparedness behaviors.
- Willingness to consider preparing, knowing how to prepare, and having thought about preparedness are three beliefs that had a positive relationship to preparedness behaviors.
- Referencing a personal disaster experience was likely more effective in motivating preparedness behavior than referencing disasters in other locations.
- Leveraging social networks to provide opportunities to discuss preparedness and to encourage planning and training should be reinforced and enhanced.

3.1 Relationships With Preparedness Behaviors

To identify possible levers to increase preparedness behaviors, FEMA completed two driver analyses[6] to examine the relationship between:

- Respondents' agreement with a belief and their preparedness behaviors; and
- Respondents' personal and social experiences and their preparedness behaviors.

The results from this analysis are visually presented in two quadrant maps. The quadrant maps illustrate (1) the degree to which a percentage of the population agrees with each belief/experience and (2) the strength of the relationship between the belief/experience and a composite preparedness behavior measure.[7, 8] In addition, pairings or clusters of beliefs/experiences have been highlighted with ovals and a narrative explanation to help practitioners apply this research to increase preparedness.

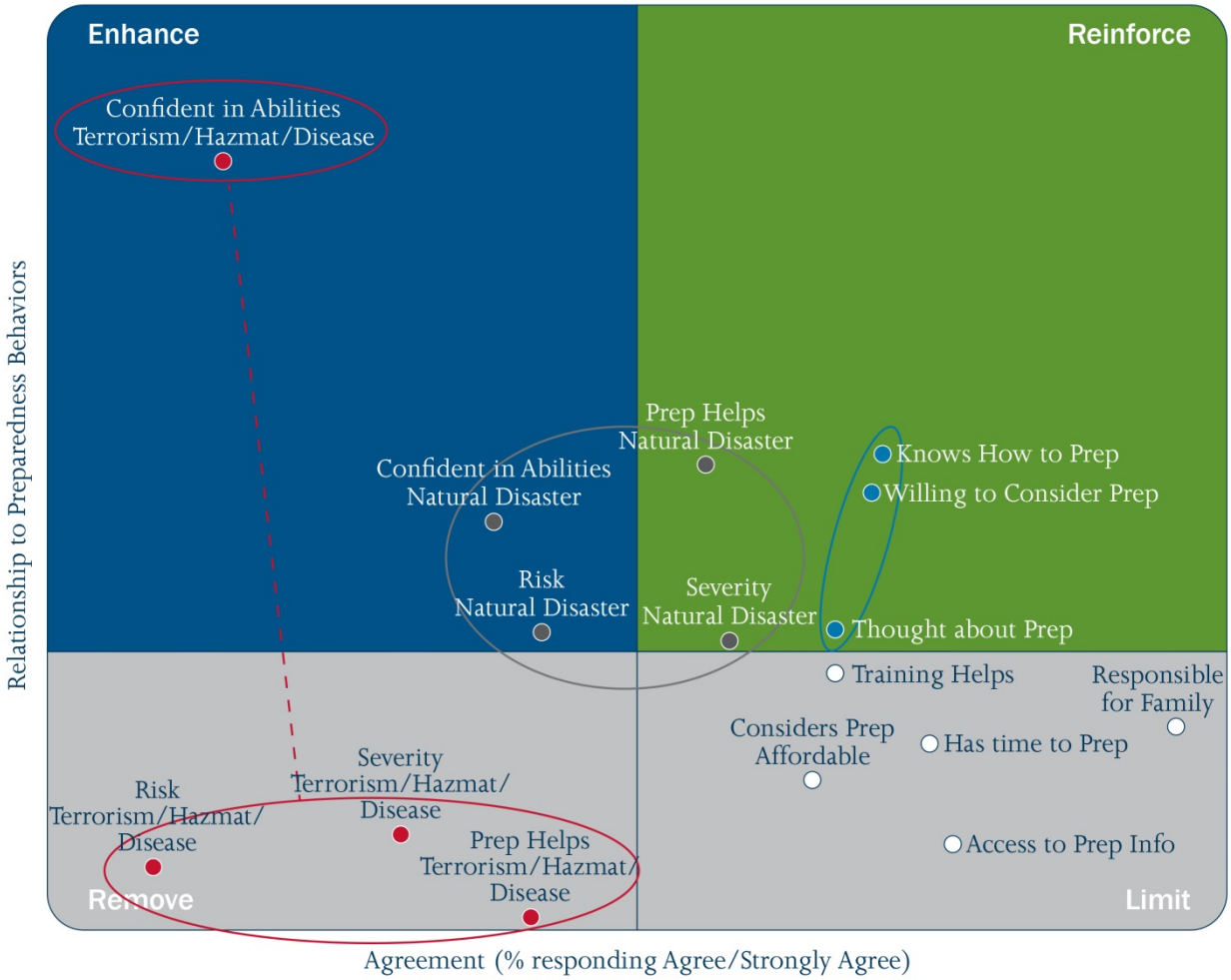


[6] Driver analysis is a method of determining which concepts are related to another desired behavior.
[7] This composite preparedness behavior measure counted each of the following reported behaviors: knowing about alerts and warnings systems, participating in trainings and meetings, participating in drills, having a plan and having discussed the plan with family members, and having supplies and naming three or more updated supplies.
[8] Different findings may have resulted if the sample was segmented for this analysis. For example, the analysis was not conducted separately for those respondents who live in regions at higher risk for terrorism or those with household incomes below the national average.

3.2 Beliefs: Relationship to Preparedness Behaviors

The 2011 FEMA National Survey contained 16 questions about beliefs, which were analyzed in terms of their relationship with preparedness behaviors. The results of this analysis are presented in Figure 12.

Figure 12: Key Findings About Beliefs and Preparedness Behaviors (2011)



Natural Disasters:[9] The gray oval (center) highlights that all examined beliefs related to *natural disasters* had a positive relationship with preparedness behaviors: confidence in one's ability to respond, perceived risk to natural disasters, belief that preparing will help in an event, and belief that a natural disaster could be severe. This means people who held these beliefs had also taken preparedness actions. Increasing the number of people who hold these beliefs through messaging and education may increase preparedness behaviors.

[9] Natural disasters were not separately grouped by notice and no-notice events.

Terrorism, Hazardous Materials, Disease Outbreak: Of the examined beliefs related to terrorist acts, hazardous materials accidents, and disease outbreaks (the red ovals, upper and lower left), only the confidence in one's ability to respond had a positive relationship with preparedness behaviors. Messages that increase confidence in one's ability to respond to these types of disasters should be ***enhanced*** and any messages relating to these hazards that address risk or severity should be paired with information to increase confidence in one's ability to respond. Of all the beliefs analyzed, increasing the number of people who had confidence in their ability to respond to terrorism, hazardous materials, and disease outbreaks had the highest likelihood of increasing preparedness behaviors.

Beliefs About Preparedness: Willingness to consider preparing, knowing how to prepare, and having thought about preparedness (the blue oval, upper right) are three beliefs that had a strong positive relationship with preparedness behaviors. These beliefs are already held by more than half of the U.S. population, but should continue to be ***reinforced***.

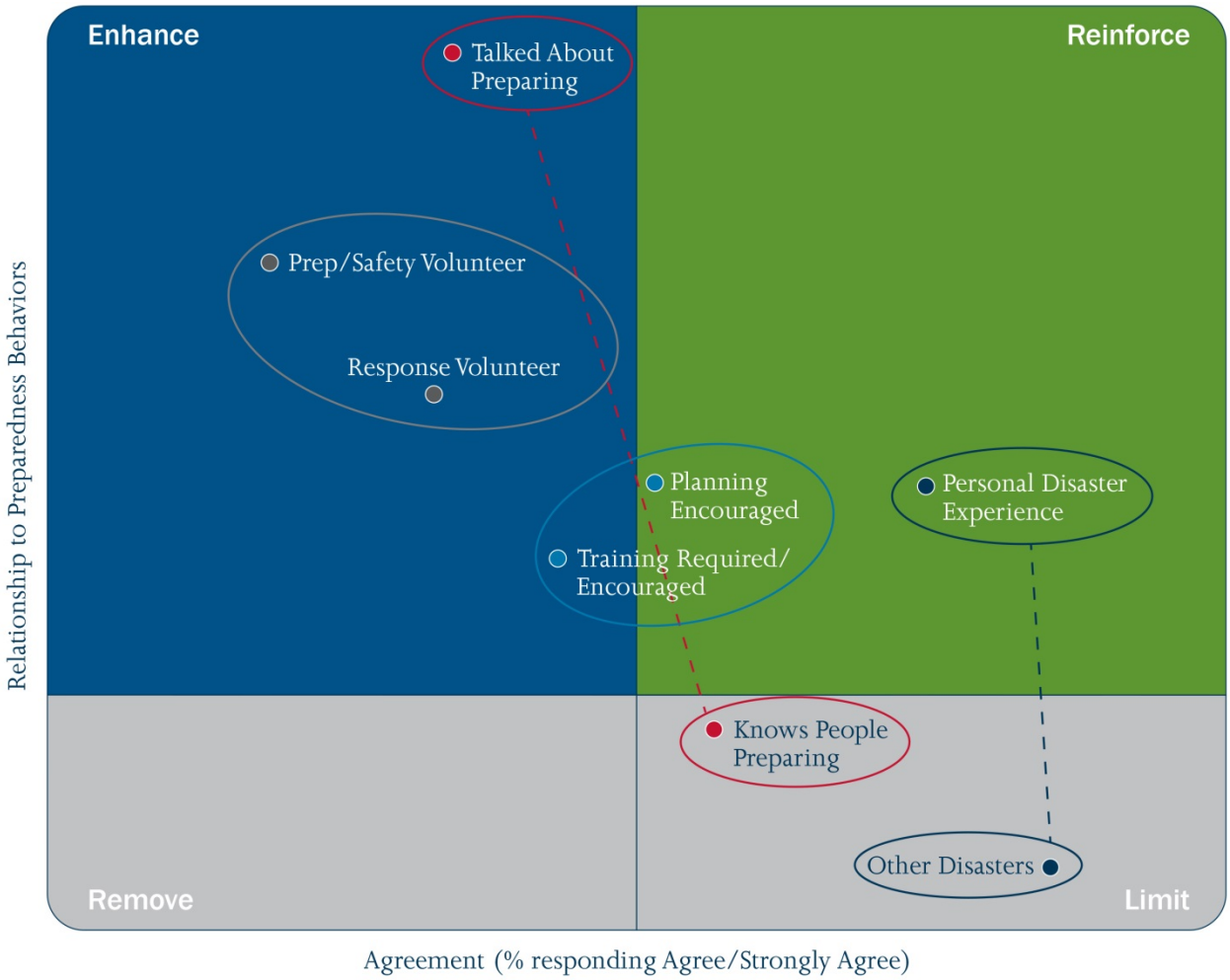
Beliefs With No Positive Relationship to Preparedness Behavior. Several beliefs were widely held, but did not have a relationship to preparedness behavior. For example, 96 percent of respondents agreed with the belief "It is my responsibility to take care of my family in a disaster," but this belief did not show a positive relationship with preparedness behaviors. Thus, while emphasizing family responsibility in communications may elicit agreement, it is unlikely by itself to increase preparedness actions. Emergency managers should consider ***limiting*** or ***removing*** emphasis on these factors in their outreach and preparedness message strategies, as they are not empirically linked to increased preparedness or engagement in preparedness behaviors. The beliefs without a positive relationship to preparedness behavior are:

- Feels responsible for one's family (responsible for family);
- Believes that one has access to preparedness information (access to prep info);
- Believes that one has time to prepare (has time to prep);
- Believes that training helps (training helps); and
- Believes that preparedness is affordable (considers prep affordable).

3.3 Experiences: Relationship to Preparedness Behaviors

The 2011 FEMA National Survey contained eight questions about personal, social, and other experiences, which were analyzed in terms of their relationship with preparedness behaviors. The results of this analysis are presented in Figure 13. Ovals and explanatory narrative have again been used to highlight pairings to help practitioners apply this research.

Figure 13: Key Findings About Experiences and Preparedness Behaviors (2011)



Disaster Experience: Personal disaster experience had a positive relationship with preparedness behaviors, but disasters occurring in other places did not (dark blue ovals, upper and lower right).[10] Well over half the respondents indicated experience with some type of disaster and referencing past experiences should be ***reinforced***.

[10] This analysis did not explore whether thinking about disasters that happen elsewhere could be related to preparedness if information about disasters that happen elsewhere were accompanied by information about the effectiveness of preparedness.

Discussing Preparedness/Encouragement From Social Networks:

- Talking about preparedness had a highly positive relationship with preparedness behavior, yet less than half of the respondents reported doing so in the previous 2 years. Opportunities for people to discuss preparedness should be ***enhanced***. Simply knowing someone who is prepared did not have a positive relationship with preparedness behaviors; having the opportunity to discuss preparedness appears to be crucial (red oval, upper left and lower right).

- Having planning and training encouraged or required at work or school had a positive relationship with other preparedness behaviors (light blue oval, center). Encouraging community and faith-based organizations, schools, and workplaces to provide opportunities for discussing preparedness and organizing opportunities for disaster planning and training should be ***reinforced*** and ***enhanced***.

Volunteerism: Increasing opportunities for people to volunteer to support emergency responder organizations, organizations that focus on community preparedness and safety, and volunteering after a disaster may help increase preparedness (gray oval, upper left). Volunteer opportunities should be ***enhanced*** since few people reported having these experiences and volunteering had a positive relationship to other preparedness behaviors.

4 Preparedness Profiles Based on Beliefs and Experiences

Section Overview: An analysis to segment the survey respondents into different groups or Preparedness Profiles based on patterns of beliefs and experiences.

Key Findings:

- The public can be placed into Preparedness Profiles based on beliefs and experiences.
- Emergency managers can use the sociodemographic attributes identified for each Preparedness Profile to identify channels and outreach methods for each Profile and to develop tailored messages and outreach.

4.1 Preparedness Profiles

Building on Section 3: How Beliefs and Experiences Relate to Preparedness Behaviors, FEMA used a latent class analysis (LCA)[11] to develop Preparedness Profiles to identify groups of people who have similar beliefs and experiences related to preparedness. The LCA segmented 2011 FEMA National Survey respondents into different groups based on similar response patterns: each survey participant was assigned to a profile based on his/her survey responses.

As a result of the LCA, four different groups or Preparedness Profiles were identified and, for ease of discussion, a descriptive name was assigned to each profile. The next four pages present detailed information on the characteristics of each Profile and provide points of comparison to the other Profiles.

These Preparedness Profiles can be used to tailor preparedness campaigns and help identify key segments of the population that may be receptive to preparedness messages and opportunities to discuss preparedness, receive training, participate in exercises, and volunteer.

[11] An LCA was conducted. LCA is a modeling technique that classifies individuals based on a set of defined variables. To conduct LCA, variables that are very highly correlated with each other are combined to create a smaller set of variables before the analysis takes place. The variables used in the LCA for preparedness profiles were drawn from the factor analysis conducted to understand how individuals think about disasters across a range of hazards, the stages of change survey question (which correlates strongly with reported preparedness behaviors), and a composite variable based on responses to a range of potential preparedness barriers.

Part of Life Preparedness Profile

14% of the U.S. population is categorized in the **"Part of Life"** Preparedness Profile.

People in this Profile were more likely to have started preparing or have been preparing for an extended period of time. They were more likely to engage in a host of preparedness behaviors and believe that preparing helps in case of a disaster. They were more likely to be White, male, and earn more money than the other profiles. While this Profile was most likely to participate in training, respondents were the least likely to think that training helps people get through a disaster.

Beliefs and Experiences

Respondents were MORE likely to:

- Perceive risk of natural disasters
- Be confident in responding to a natural disaster
- Be confident in responding to terrorism/hazmat/disease
- Believe that preparing for a natural disaster helps
- Believe that preparing for a terrorism/hazmat/disease helps
- Believe they have the time, knowledge, and access to information to prepare
- Have talked about preparing
- Have been encouraged by work or school to have a family disaster plan
- Have had personal disaster experience
- Have volunteered for disaster preparedness/safety or response

Respondents were LESS likely to:

- Perceive severity of terrorism/hazmat/disease

Demographics

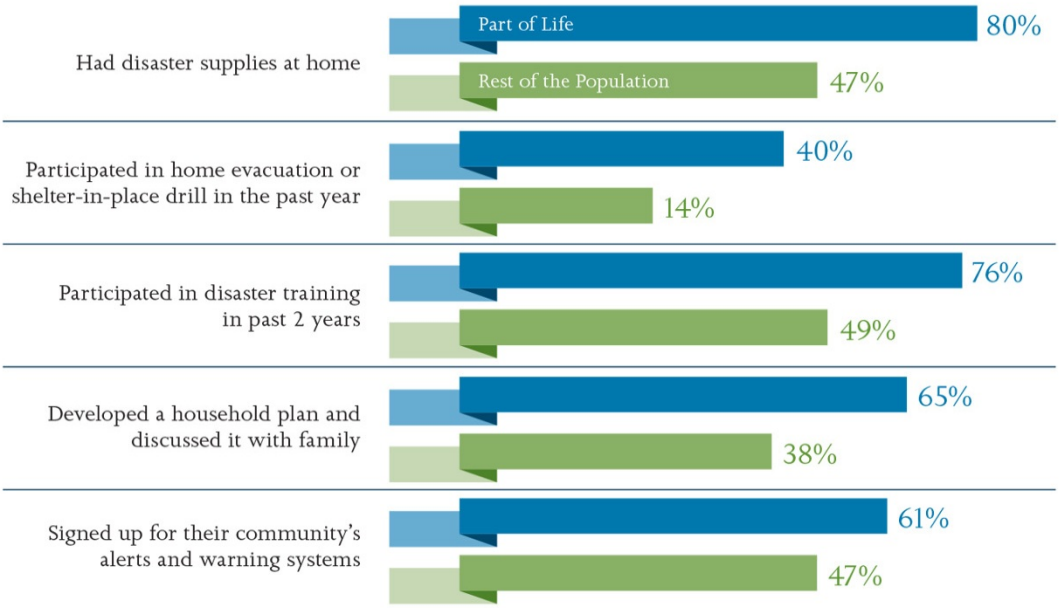
Respondents were MORE likely to:

- Be male
- Own a home
- Have a college degree or more
- Work full time
- Earn $75,000 or more
- Be between the ages of 35–64
- Be White
- Live in a low/medium population density area

Respondents were LESS likely to:

- Be Black or Hispanic
- Have less than a high school diploma
- Work part time or be unemployed
- Earn $25,000 or less

Preparedness Behaviors



Working On It Preparedness Profile

21% of the U.S. population is categorized in the **"Working On It"** Preparedness Profile.

Beliefs and behaviors of people in this Profile were generally similar to individuals in the Part of Life Profile, but at a somewhat lower level. However, this Profile did exhibit the following interesting exceptions: they were the most likely to believe that training helps and the least likely to perceive barriers to preparedness, and nearly none of the people in this Profile believed they were at risk for terrorism/hazmat/disease.

Beliefs and Experiences

Respondents were MORE likely to:

- Believe they have time and access to information to preparing
- Consider preparing affordable
- Be willing to consider preparing
- Have thought about preparing
- Have talked about preparing
- Believe that preparedness training helps
- Know people who have taken steps to get prepared
- Have had personal disaster experience
- Have volunteered for disaster preparedness/safety or response

Respondents were LESS likely to:

- Perceive risk of natural disasters
- Perceive risk of terrorism/hazmat/disease
- Believe that preparing for terrorism/hazmat/disease helps
- Be confident in responding to a natural disaster
- Have been encouraged by work or school to have a family disaster plan

Demographics

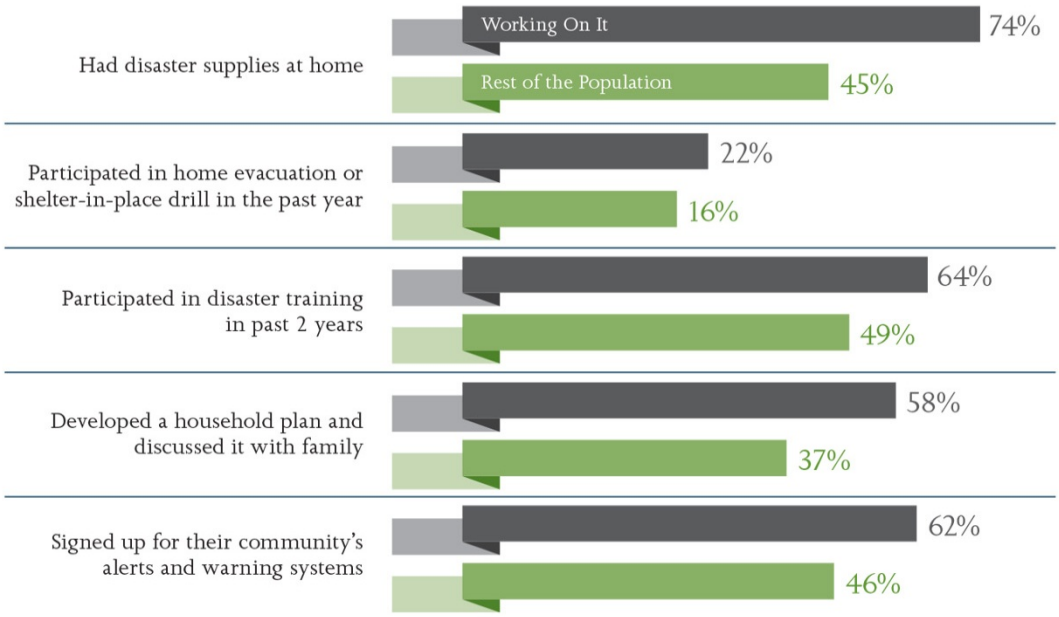
Respondents were MORE likely to:

- Be female
- Own a home
- Have a college degree or more
- Work full time or be retired
- Earn $25,000 or more
- Be between the ages of 35–54 or 65+
- Be White
- Live in a low population density area

Respondents were LESS likely to:

- Be Hispanic
- Have less than a high school diploma
- Earn $25,000 or less

Preparedness Behaviors



On Their Mind Preparedness Profile

18% of the U.S. population is categorized in the **"On Their Mind"** Preparedness Profile.

What sets people in this category apart is that they were much more likely to perceive a high risk of terrorism/hazmat/disease disasters and high severity of all disasters, but were less likely to act on those fears and perform preparedness behaviors. This may be related to the fact that they perceived more barriers (access, time, cost) to preparedness and were more likely to live in high population density areas. Of all the Profiles, respondents were the most likely to be unemployed, be Black, earn a low income, and complete only a high school education or less. They were the least likely to own a home.

Beliefs and Experiences

Respondents were MORE likely to:

- Perceive risk of terrorism/hazmat/disease
- Perceive severity of terrorism/hazmat/disease
- Perceive severity of natural disasters
- Believe that preparedness training helps

Respondents were LESS likely to:

- Believe they have access to information to prepare
- Believe that preparing is affordable
- Have talked about preparing

Demographics

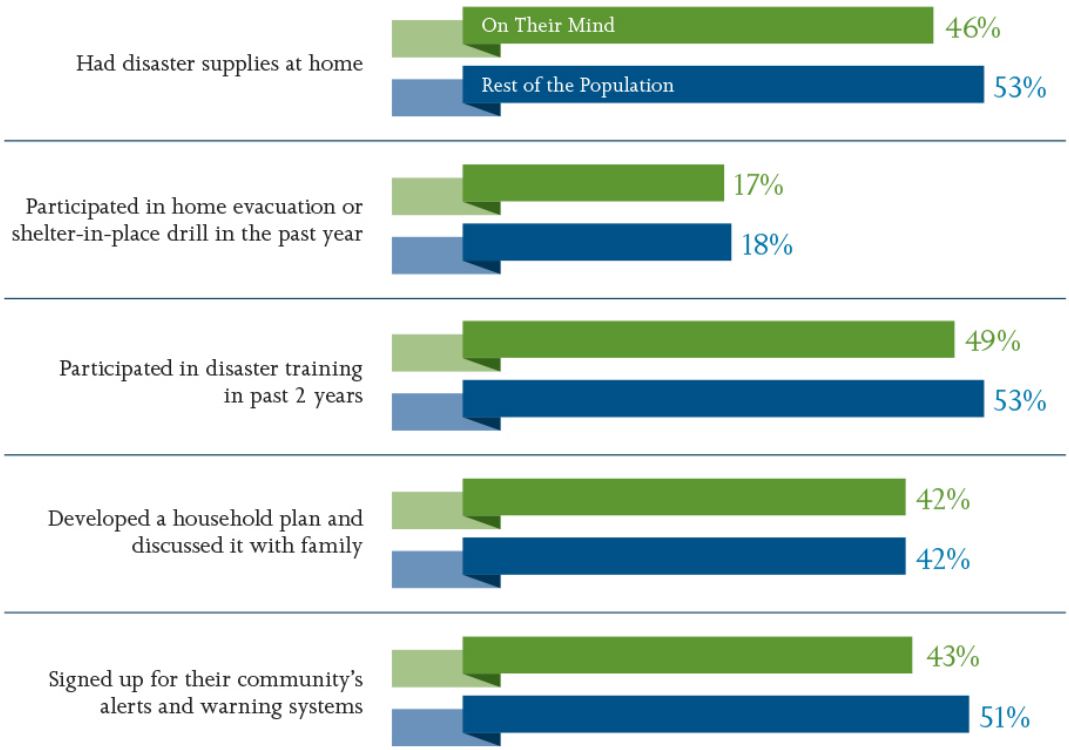
Respondents were MORE likely to:

- Live in a high population density area
- Have a high school diploma or less
- Be unemployed
- Earn $25,000 or less
- Be female
- Be Black or Hispanic
- Be between the ages of 35–64
- Have children at home

Respondents were LESS likely to:

- Have a bachelor's degree or more
- Own a home
- Live in a low population density area

Preparedness Behaviors



Not On Their Radar Preparedness Profile

46% of the U.S. population is categorized in the **"Not On Their Radar"** Preparedness Profile.

This Profile comprises people who were less likely than people in the other Profiles to perceive high risk or severity of disasters, and less likely to engage in preparedness behaviors. Because this category is so large, it has very few demographics that stand out. People in this Profile were more likely to be younger and live in medium to high population density areas than the other groups.

Beliefs and Experiences

Respondents were MORE likely to:

- Perceive barriers to preparedness (cost, time, access to information)

Respondents were LESS likely to:

- Perceive risk for natural disasters
- Perceive severity of terrorism/hazmat/disease
- Perceive severity of natural disasters
- Perceive severity of terrorism/hazmat/disease
- Be confident in responding to natural disasters
- Be confident in responding to terrorism/hazmat/disease
- Believe that preparing for disasters helps
- Be willing to consider preparing or have thought about preparing
- Have talked about preparing
- Know people who have taken steps to get prepared
- Have had personal disaster experience
- Have volunteered for disaster preparedness/safety or response

Demographics

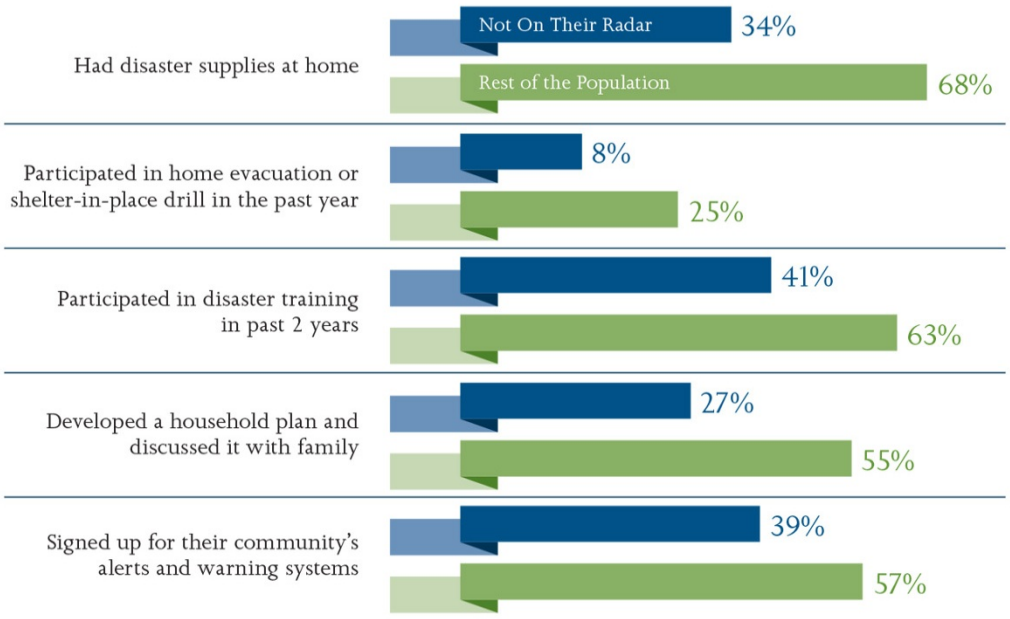
Respondents were MORE likely to:

- Be between the ages of 18–34
- Be students and/or work part time

Respondents were LESS likely to:

- Have children at home
- Own a home

Preparedness Behaviors



5 Preparedness Through Social Networks

Section Overview: An analysis of three key networks of social connection within a community: the workplace, school, and volunteering in preparedness/safety/disaster-related organizations.

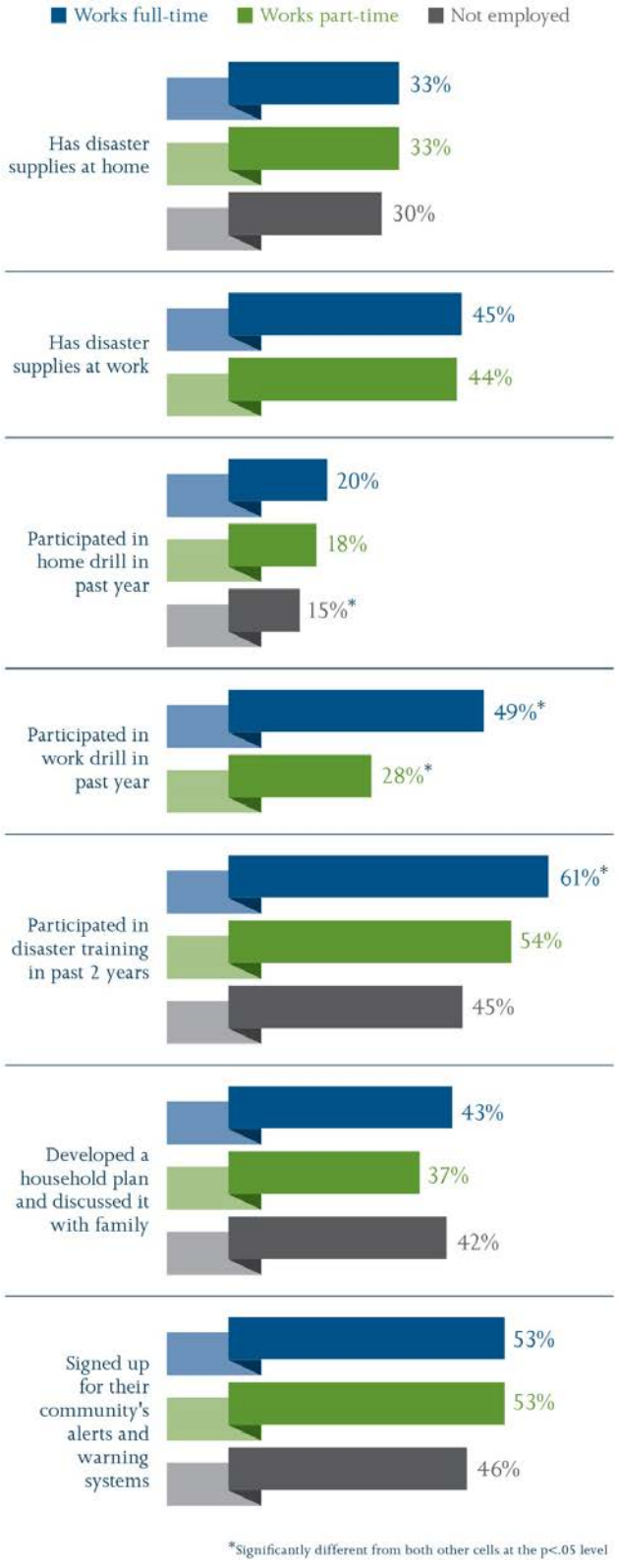
Key Findings:

- The survey data indicated that the workplace, schools, and volunteer organizations that support community preparedness, safety, or emergency response are effective channels for preparedness outreach.
- Each of the three analyzed social networks represents significant opportunity to expand and enhance messaging, training, exercises, and volunteer opportunities to increase individual, household, and organizational preparedness nationwide, such as:
  - Encouraging or requiring participation in trainings and drills at work had a positive relationship to preparedness behaviors;
  - Providing children with materials at school to give their parents may enhance preparedness; and
  - Providing and marketing preparedness/safety and disaster response volunteer opportunities may help increase community preparedness overall.

5.1 Select Social Networks

Data was collected for three key social connection networks within a community: the workplace, school, and volunteering in preparedness/safety/disaster-related organizations. Nearly the entire U.S. population can be reached through these three channels: 57 percent of Americans age 16 and older are employed,[viii] approximately 33 percent of households have at least one school-aged child,[ix] and a quarter of the population (27 percent) covering individuals from all age groups volunteered in the Nation in 2010.[x] These connections can have a powerful influence on preparedness behavior, and may represent an opportunity for local emergency managers to collaborate with community members on disaster preparedness outreach and training.

Figure 14: Preparedness Behaviors by Job Status (2011)



5.2 The Workplace

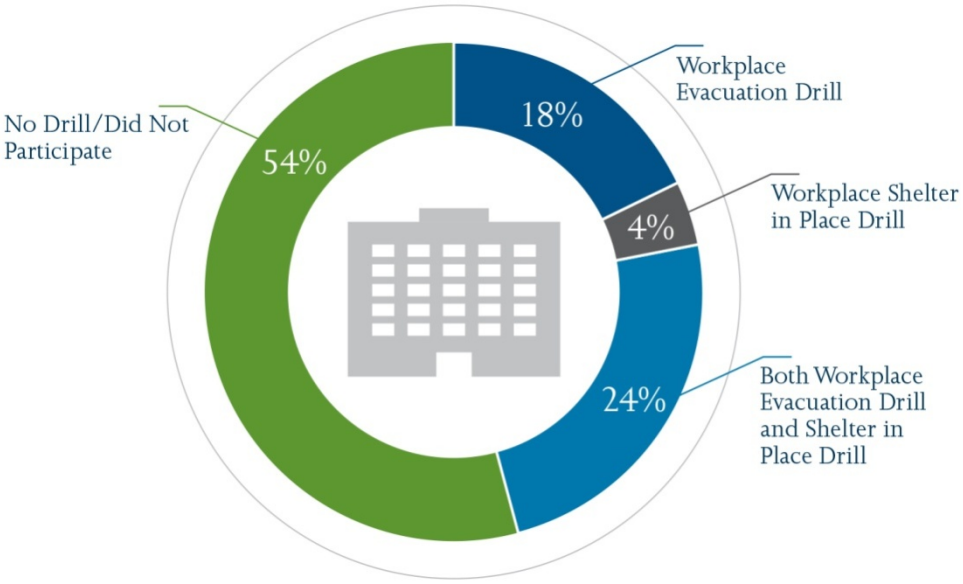
The workplace may be one of the most effective channels through which to encourage individual and family preparedness. Survey results indicate a positive relationship between work status (full or part time) and emergency preparedness.

People who were encouraged by their employer to have a plan or participate in training were 76 percent and 86 percent more likely to do so, respectively. In addition, employed respondents participated in more home drills than unemployed participants (Figure 14). Employed respondents were also more

likely to participate in training than those who were not employed.

Of individuals who work full or part time, 46 percent reported participating in a workplace evacuation or shelter in place drill—respondents also reported completing both of these drills more often than not (Figure 15).

Figure 15: Participation in Workplace Drills (2011)



Full-time employees were significantly more confident in their ability to know how to respond to certain disasters (Figure 16) and were more familiar with a number of community emergency plans and systems (Table 2).

Figure 16: Confidence in Ability to Respond by Job Status (2011)

Confidence responding in case of a	Works full-time	Works part-time	Not employed
Terrorist Act	23%*	16%*	21%
Hazardous Materials Accident	26%	22%	23%
Natural Disaster	53%*	45%*	50%
Disease Outbreak	37%	34%	35%
Weather Emergency	70%*	68%	65%*
Wildfire	47%*	33%*	46%
Flood	56%#	46%	48%

*Significantly different from each other at the p<.05 level
#Significantly different from both other cells at the p<.05 level

Table 2: Familiarity With Local Community Plans and Systems by Job Status

Familiarity with:	Works full time	Works part time	Not employed
Alert and warning systems	**47%***	**40%***	**43%**
Evacuation plan	**17%**	**15%**	**17%**
Sheltering plan	**20%***	**16%***	**20%**
Local hazards	**35%***	**32%***	**30%**
Emergency transportation and shelter plans for pets	**9%**	**10%**	**9%**

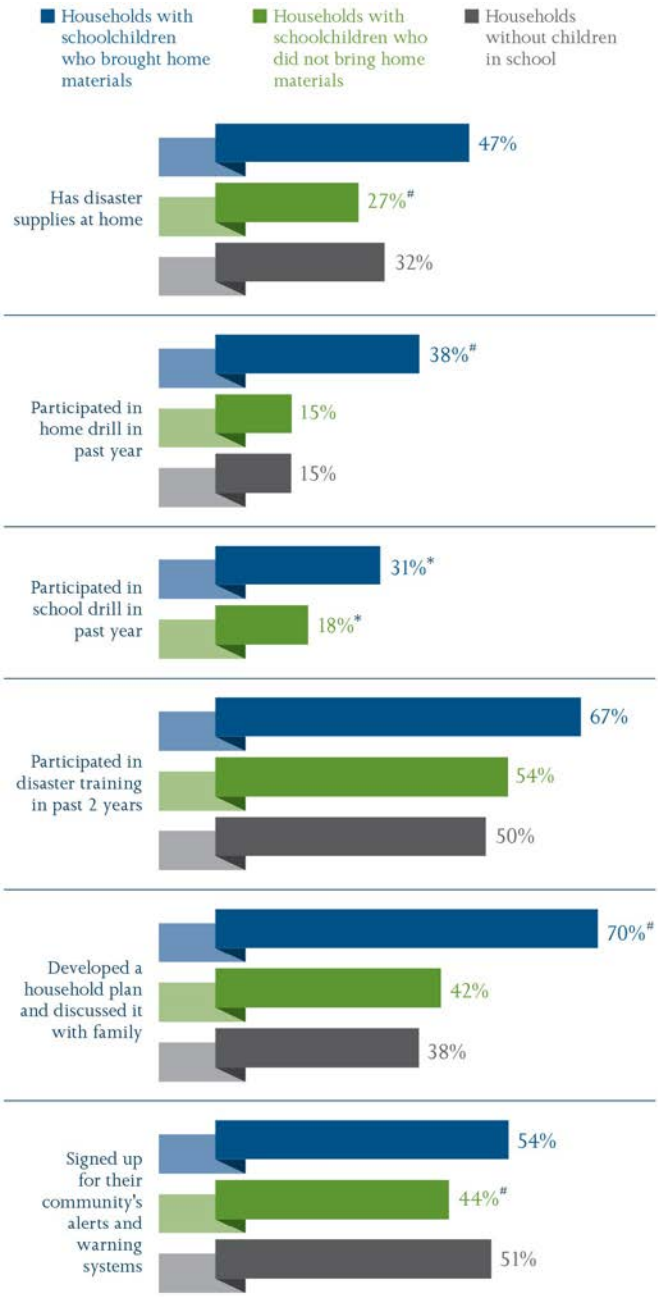
Responses were measured on a scale of 1 to 5; with 5 being "very familiar" and 1 being "not at all familiar."
*Cells with a * are significantly different from each other at the p<.05 level.*
Cells with a # are significantly different from both other cells at the p<.05 level.

5.3 School

Schools are also an effective channel to reach both youth and families with preparedness messages. Households with school children who brought home preparedness materials were significantly more likely to report preparing than those who did not receive materials: they were 75 percent more likely to have a household plan they had discussed as a family, and twice as likely to have participated in a home drill (Figure 17). Interestingly, households with children who *did not* bring home materials were less likely to complete several behaviors than households with no children at all.

Of respondents with at least one child in school, 32 percent reported that they had received information on the school's disaster preparedness plan, and 34 percent had received materials through their child's school on household preparedness. Respondents who reported that schoolchildren brought home materials were more likely to believe they knew what to do in case of several types of disasters than other respondents (Figure 18).

Figure 17: Preparedness Behaviors by Household Type (2011)



*Significantly different from each other at the p<.05 level
#Significantly different from both other cells at the p<.05 level

Figure 18: Confidence in Ability to Respond by Household Type (2011)

Confidence responding in case of a	Households with schoolchildren who brought home materials	Households with schoolchildren who did not bring home materials	Households without children in school
Terrorist Act	26%	17%#	22%
Hazardous Materials Accident	33%#	20%	25%
Natural Disaster	53%	50%	51%
Disease Outbreak	44%#	32%	35%
Weather Emergency	77%#	65%	67%
Wildfire	44%	41%	45%
Flood	55%	50%	52%

#Significantly different from both other cells at the p<.05 level

In addition, respondents who reported that schoolchildren brought home materials were more familiar with their community's disaster plans and warning systems (Table 3).

Table 3: Familiarity With Local Community Plans and Systems by Household Type

Familiarity with:	Households with schoolchildren—brought home materials	Households with schoolchildren—did not bring home materials	Households without children in school
Alert and warning systems	56#	37	44
Evacuation plan	29#	12	17
Sheltering plan	34#	13	20
Local hazards	40*	25*	33
Emergency transportation and shelter plans for pets	11	4*	11*

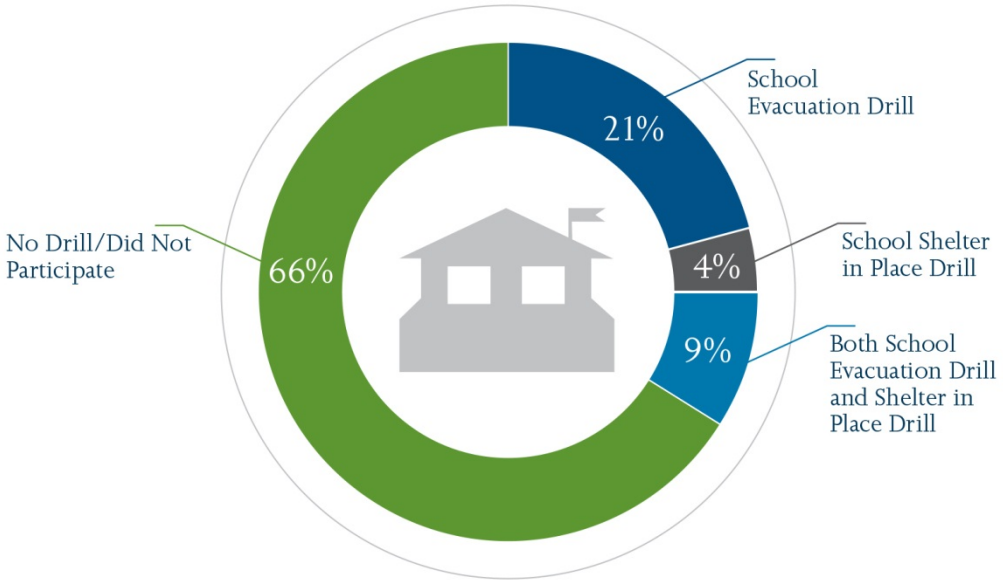
Responses were measured on a scale of 1 to 5; with 5 being "very familiar" and 1 being "not at all familiar."
*Cells with a * are significantly different from each other at the p<.05 level.*
Cells with a # are significantly different from both other cells at the p<.05 level.

Impact of School on Adult Students

Adult students who reported being encouraged either at work or at school to have a family emergency plan were almost three times more likely to have a household plan, 63 percent more likely to have disaster supplies, and 28 percent more likely to know their local hazards than those not receiving such encouragement.

Of respondents who attend school, 34 percent reported participating in a school evacuation or shelter in place drill (Figure 19). With regard to adult students, those who participated in school drills were 75 percent more likely to participate in drills at home.

Figure 19: Participation in School Drills

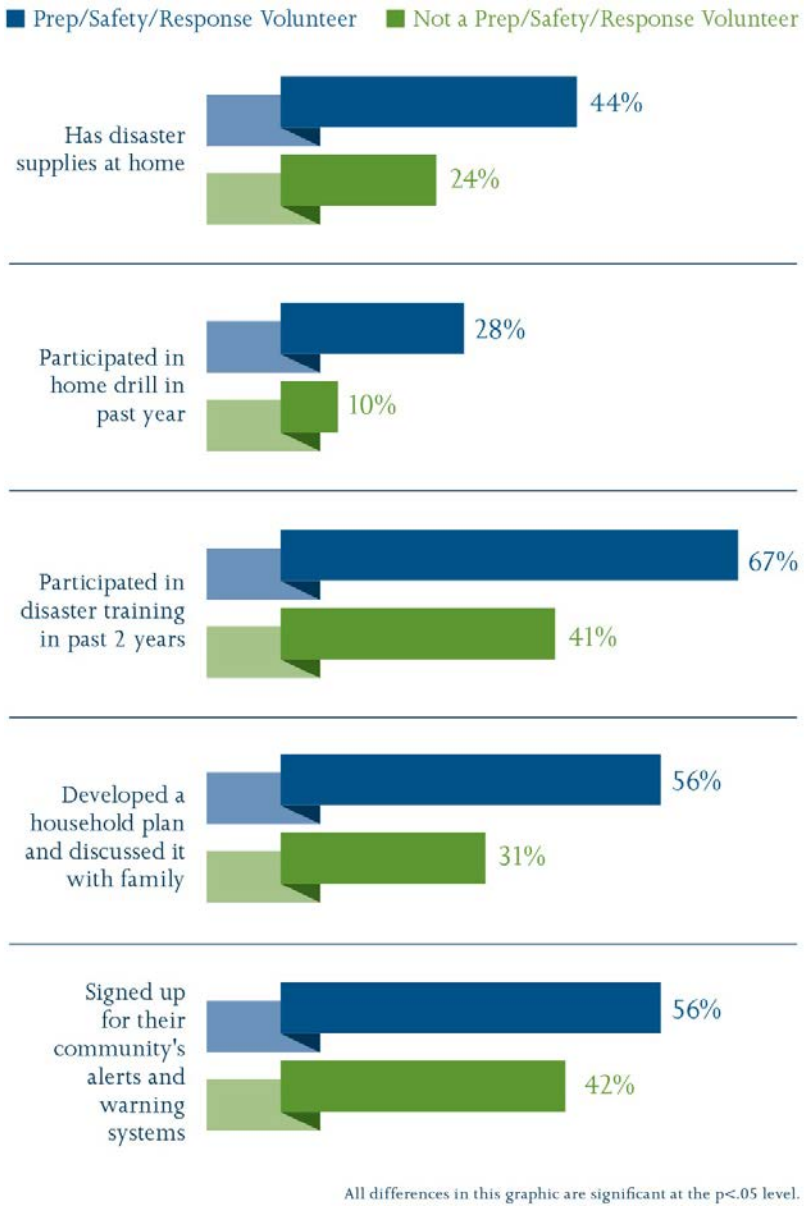


5.4 Volunteerism in Preparedness/Safety/Disasters

Volunteers play a critical role in helping communities prepare for and respond to disasters. The 2011 FEMA National Survey explored two types of volunteerism: volunteers who helped in a disaster and those who volunteered with a response agency or organization focused on community safety and preparedness.[12] As described in Section 3.3, serving as a preparedness/safety and disaster response volunteer were experiences that positively related to preparedness behaviors.[13]

Overall, there was a substantive difference between those who reported volunteering and those who did not across all preparedness behaviors (Figure 20), as well as across measures of confidence (Figure 21) and familiarity (Table 4). Volunteers were more than 80 percent more likely to have a household plan that had been discussed and to have emergency supplies at home compared to non-volunteers. Volunteers also participated in many more trainings and drills.

Figure 20: Preparedness Behaviors by Volunteer Status (2011)



All differences in this graphic are significant at the p<.05 level.

[12] Fifty-nine percent of respondents reported volunteering for both preparedness/safety and response. Since preparedness/safety volunteers and response volunteers provided similar responses, content summarizes both types of volunteers.

[13] It should be noted that while the relationship between volunteering and preparedness was a positive one, this analysis does not indicate causality—it is possible that people who are more aware and knowledgeable about disaster preparedness are also more likely to volunteer for disasters and/or community safety organizations.

Table 4: Familiarity With Local Community Plans and Systems by Volunteer Status

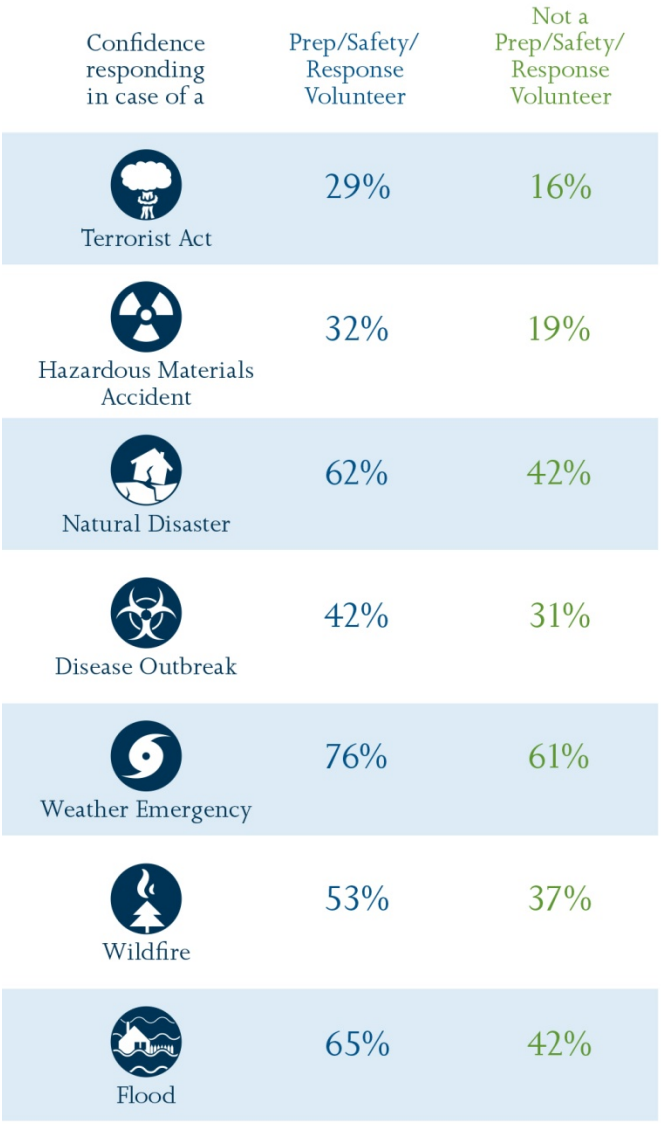
Familiarity with:	Prep/Safety/ Response Volunteer	Not a Prep/Safety/ Response Volunteer
Alert and warning systems	58%	33%
Evacuation	25%	11%
Sheltering	29%	12%
Local hazards	46%	22%
Emergency transportation and shelter plans for pets	14%	6%

Responses were measured on a scale of 1 to 5, with 5 being "very familiar" and 1 being "not at all familiar."
All differences in this table are significant at the p<.05 level.

There were also substantive differences in confidence in ability to respond between volunteers and non-volunteers. As shown in Figure 21, volunteers were more likely to report confidence in their knowledge of what to do across all hazards.

Similarly, volunteers reported considerably higher levels of familiarity with community plans and systems (Table 4). They were 74 percent more likely to be familiar with community alerts and warning systems and to know their local hazards, and they were more than twice as likely to be familiar with plans for evacuating and sheltering.

Figure 21: Confidence in Ability to Respond by Volunteer Status (2011)

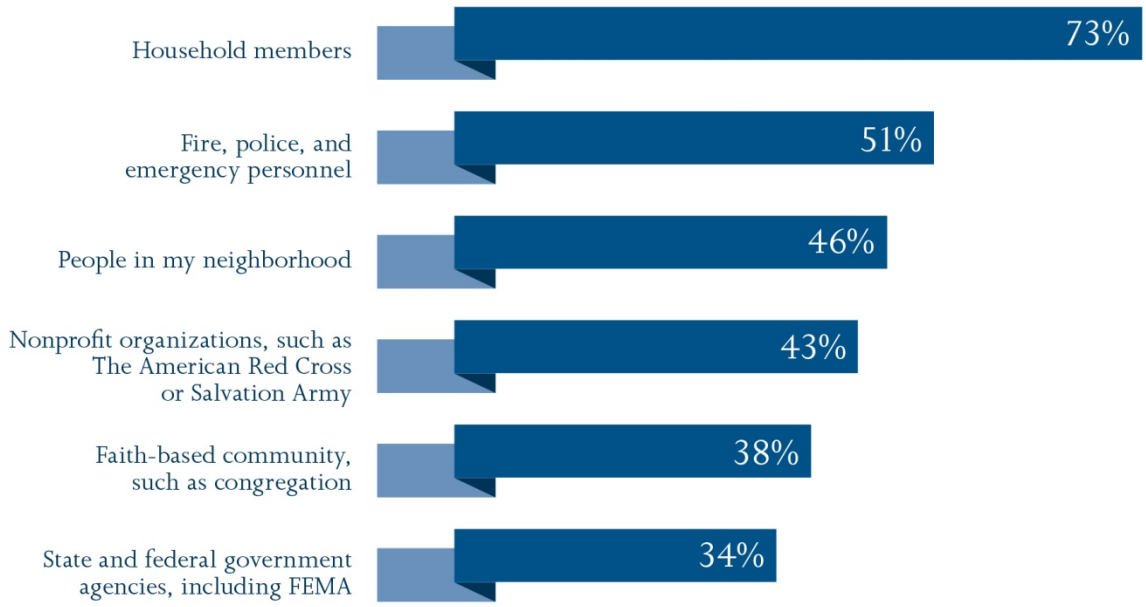


All differences in this table are significant at the p<.05 level.

5.5 Expectations for Assistance

Social networks are critical both as a preparedness channel and as support for response. Respondents were asked how much they would expect to rely on others for assistance in the first 72 hours following a disaster. As illustrated in Figure 22, most people (73 percent) reported that they would rely on household members, similar to prior years. In 2011, the reported expectation of relying on fire, police, and emergency personnel dropped to just over half of respondents (51 percent), a significant drop from 61 percent in 2009 as the understanding of whole community preparedness takes hold.

Figure 22: Perceived Reliance (2011)



6 Preparedness Among Sociodemographic Groups

Section Overview: Summary sheets of 2011 FEMA National Survey preparedness data by four sociodemographic traits asked of each respondent: age, income, population density, and race/ethnicity.

Key Findings:

- People with low incomes perceived much greater barriers to preparedness (in terms of time, money, and access to information). Practitioners should consider focusing on people of low-income with opportunities to discuss preparedness and take free training.
- Differences in preparedness across age, income, race, or population density categories are generally fairly small. Some substantial differences found were:
  - People in high population density areas were more likely to rely on public transportation to evacuate the area in the event of a disaster.
  - Volunteering in disaster preparedness/response was mostly done by people with average to high incomes.
  - Retirement-aged people (75+ category) participated in disaster training much less than people in other age categories.
  - People who are Hispanic were half as likely to have signed up for community alerts and warning systems as people who are White.

Sociodemographic Differences in Preparedness: Age

18–34

Respondents ages 18–34 were more likely to:

- Make less than $25,000 per year
- Be a student
- Be unemployed
- Rent their home

35–74

Respondents ages 35–74 were more likely to:

- Make more than $25,000 per year
- Work full time
- Own their home
- Have children in the household

75+

Respondents ages 75+ were more likely to:

- Make less than $25,000 per year
- Be retired
- Be female
- Have a disability

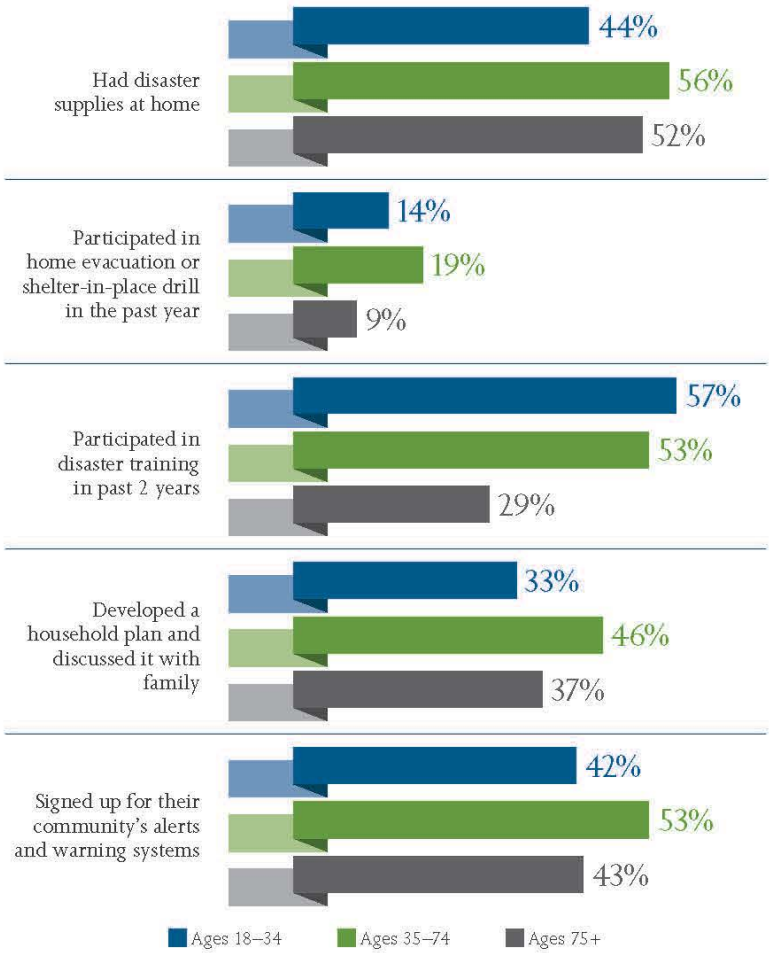
Key Findings

Individuals ages **18–34** were not prepared and less likely to perceive risk of disasters.

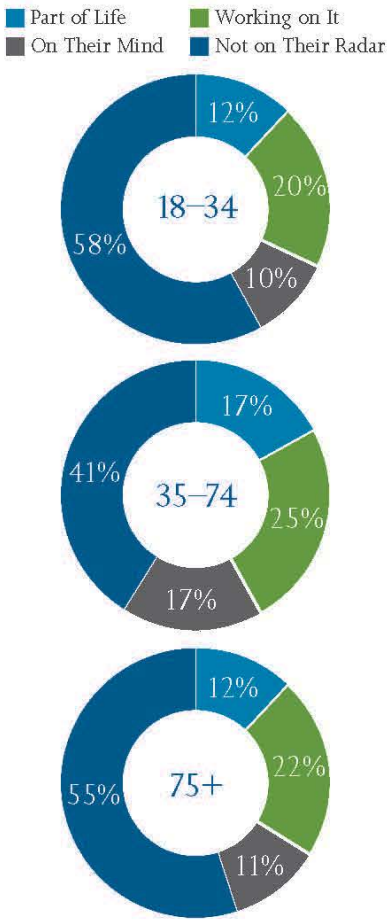
Individuals ages **35–74** were prepared and supportive of disaster training and preparedness.

Individuals ages **75+** were not prepared or confident that preparing would help and reliant on community organizations following a disaster.

Preparedness Behaviors

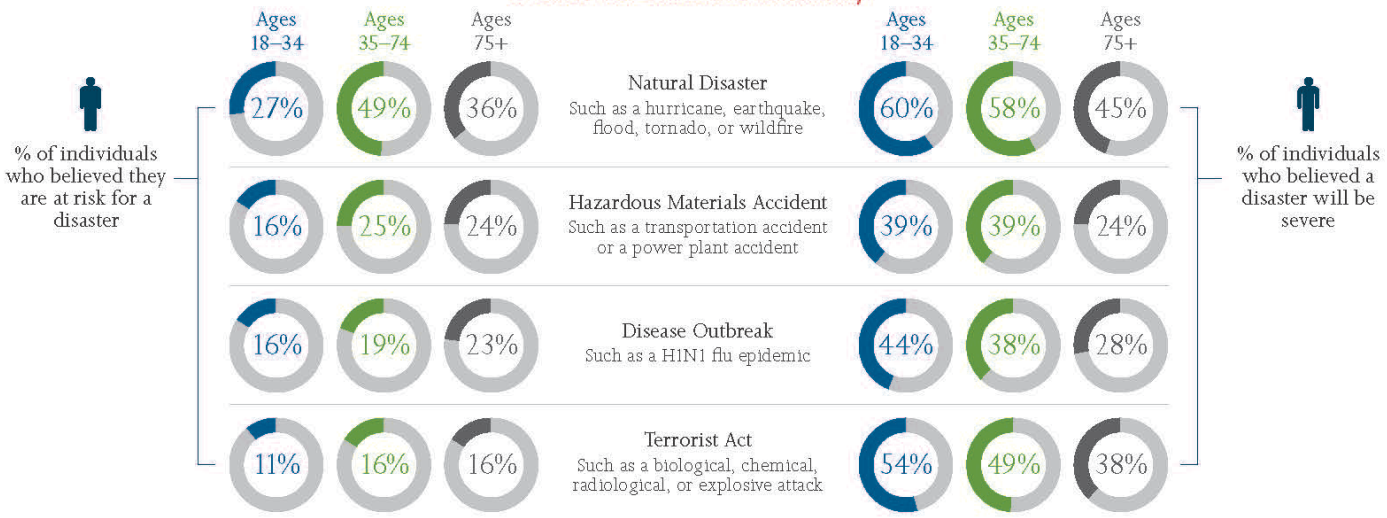


Preparedness Profiles



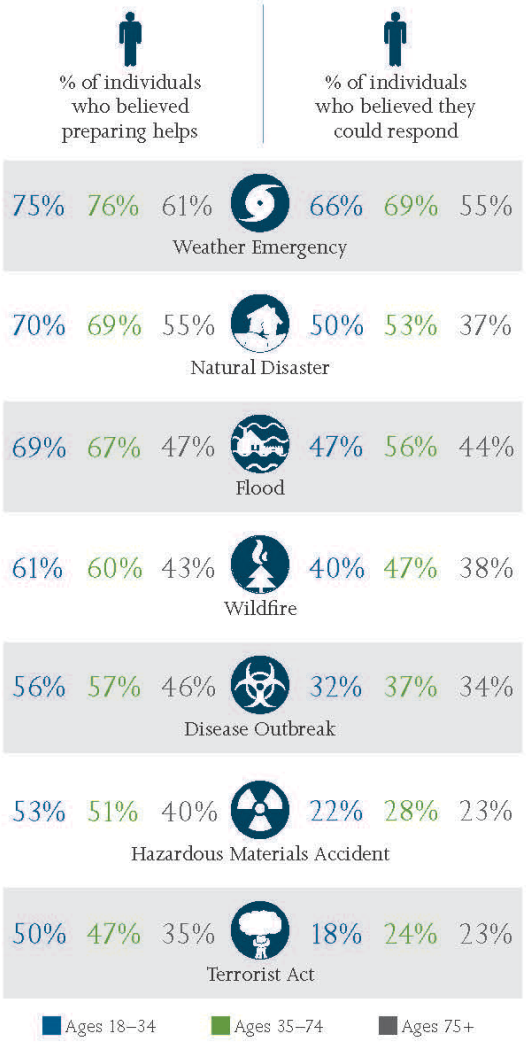
Sociodemographic Differences in Preparedness: Age

Perceived Risk and Severity



*Each percentage represents responses "likely"/"very likely" for Perceived Risk and "severe"/"very severe" for Perceived Severity.

Perceived Efficacy: Preparing Helps and I Can Respond



Preparedness Attitudes

Individuals ages 18–34

- 81% Believed getting information about what to do isn't hard.
- 70% Were willing to think about preparing.

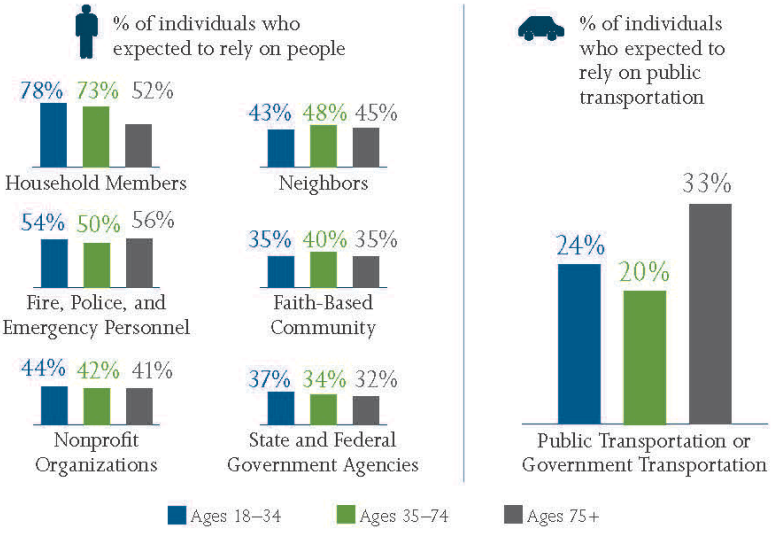
Individuals ages 35–74

- 49% Believed they are at risk for a natural disaster.
- 38% Have been a disaster response volunteer.

Individuals ages 75+

- 23% Believed they are at risk for a disease outbreak.
- 37% Few believed they know how to respond to a natural disaster.

Expectation of Community Support in the First 72 Hours



Sociodemographic Differences in Preparedness: Income

<$25,000

Respondents earning <$25,000 were more likely to:

- Have an education of a high school diploma/GED or lower
- Work part time or be unemployed
- Rent their home
- Be Hispanic or Black, non-Hispanic
- Report having a disability affecting their ability to prepare for and/or respond to a disaster and more likely to report caring for someone with a disability

>$25,000

Respondents earning >$25,000 were more likely to:

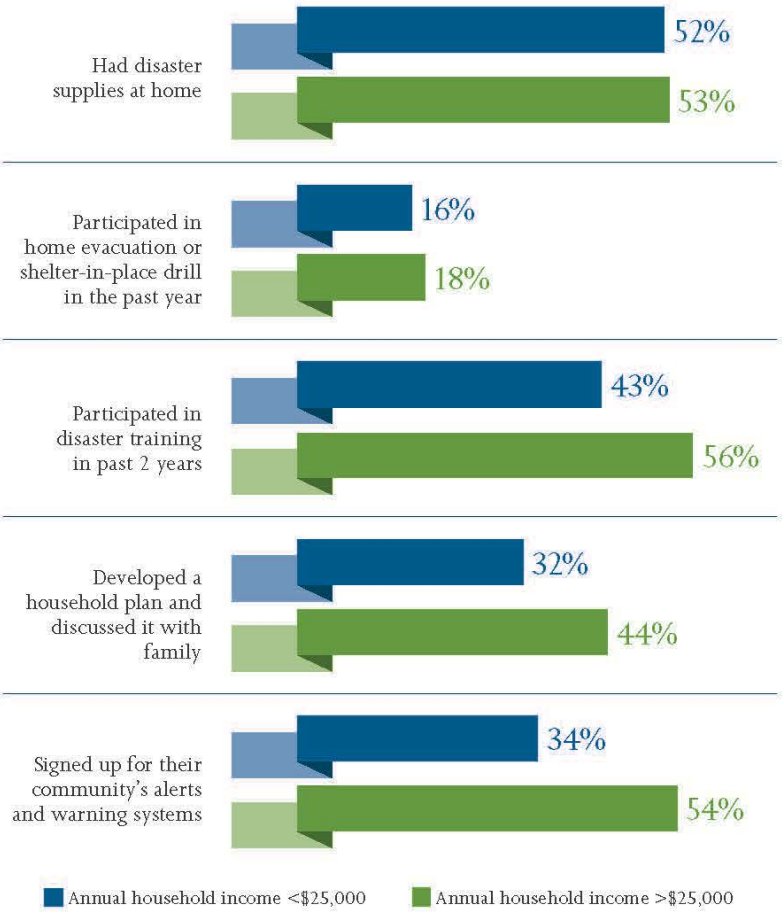
- Have a bachelor's degree or higher
- Work full time
- Own their home
- Be White, non-Hispanic
- Have a pet or service animal

Key Findings

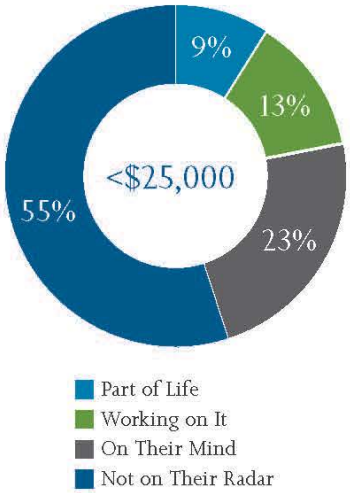
Individuals with an income **>$25,000** were more prepared and believed preparing is important.

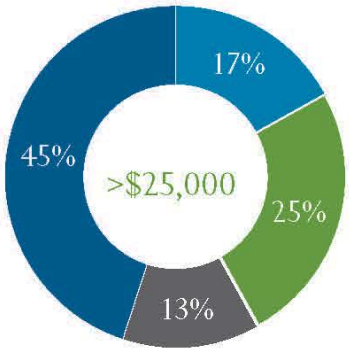
Individuals with an income **<$25,000** were less prepared, perceived more barriers, and planned to rely on community organizations following a disaster.

Preparedness Behaviors



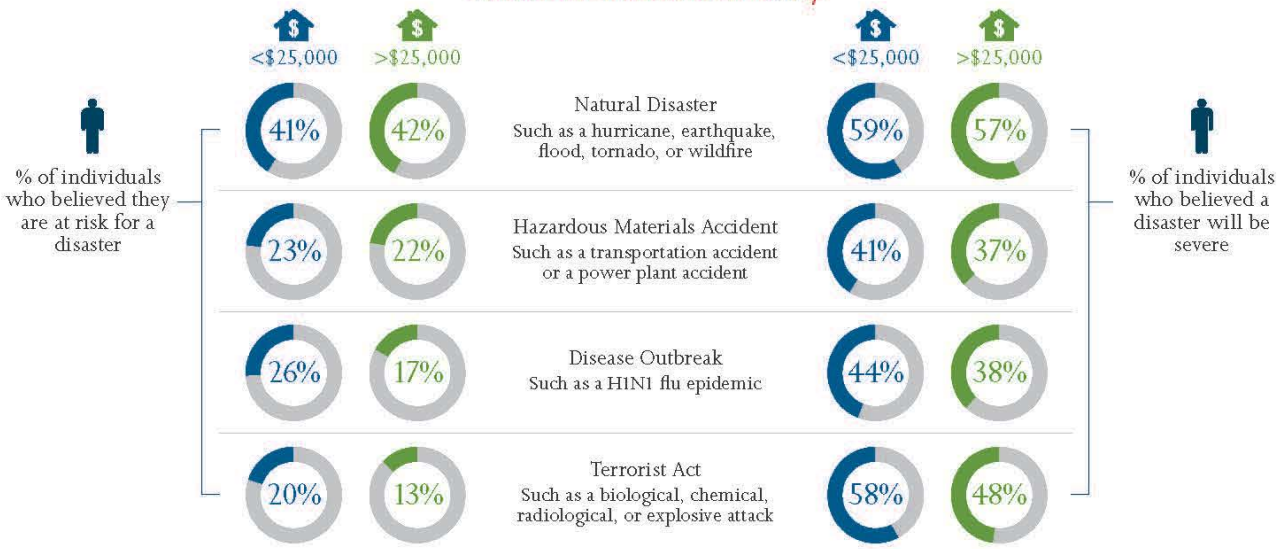
Preparedness Profiles





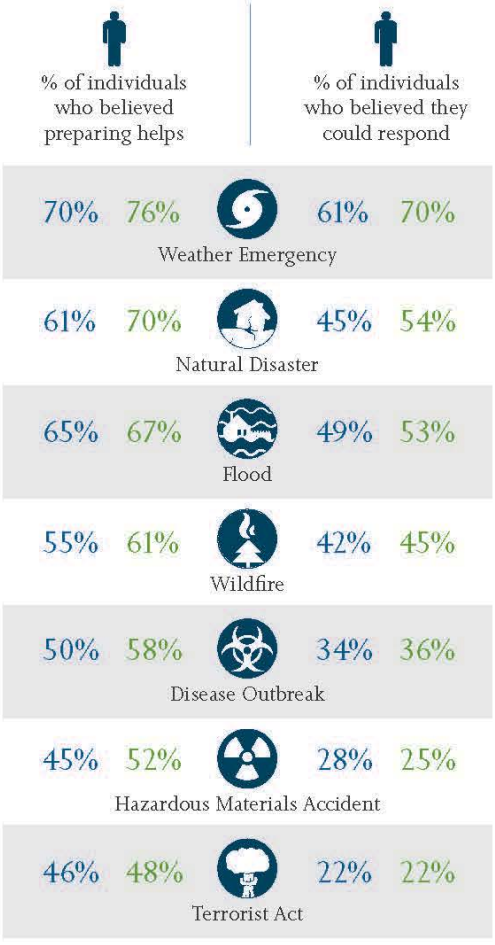
Sociodemographic Differences in Preparedness: Income

Perceived Risk and Severity



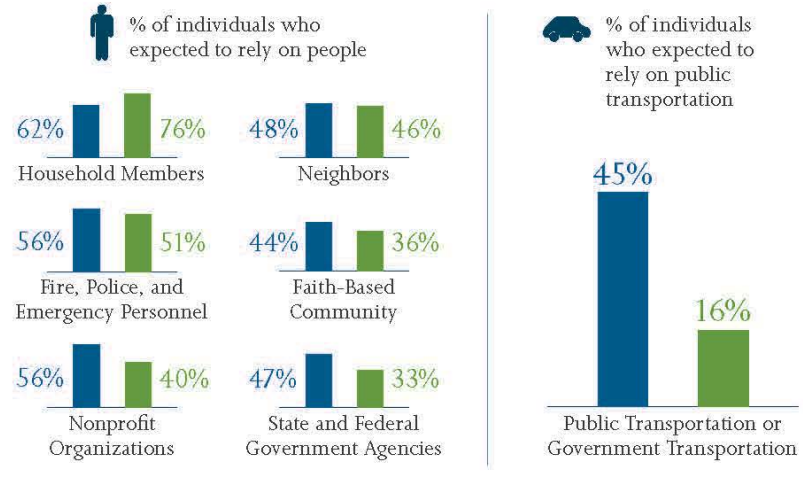
*Each percentage represents responses "likely"/"very likely" for Perceived Risk and "severe"/"very severe" for Perceived Severity.

Perceived Efficacy: Preparing Helps and I Can Respond



Preparedness Attitudes

Expectation of Community Support in the First 72 Hours



Sociodemographic Differences in Preparedness: Population Density

Low Population Density: Areas with a population density of up to 1,000 people per square mile.
Medium Population Density: Areas with a population density of 1,001–6,000 people per square mile.
High Population Density: Areas with a population density of more than 6,000 people per square mile.

Low Population

Respondents living in low population density areas were more likely to:

- Own their home
- Be retired
- Have a pet or service animal
- Be White, non-Hispanic
- Have a disability

Medium Population

Respondents living in medium population density areas were more likely to:

- Have a bachelor's degree education
- Be a student
- Rent their home
- Be between the ages of 25–34

High Population

Respondents living in high population density areas were more likely to:

- Rent their home
- Be a student
- Be of a race/ethnicity other than White, non-Hispanic
- Earn less than $25,000 per year

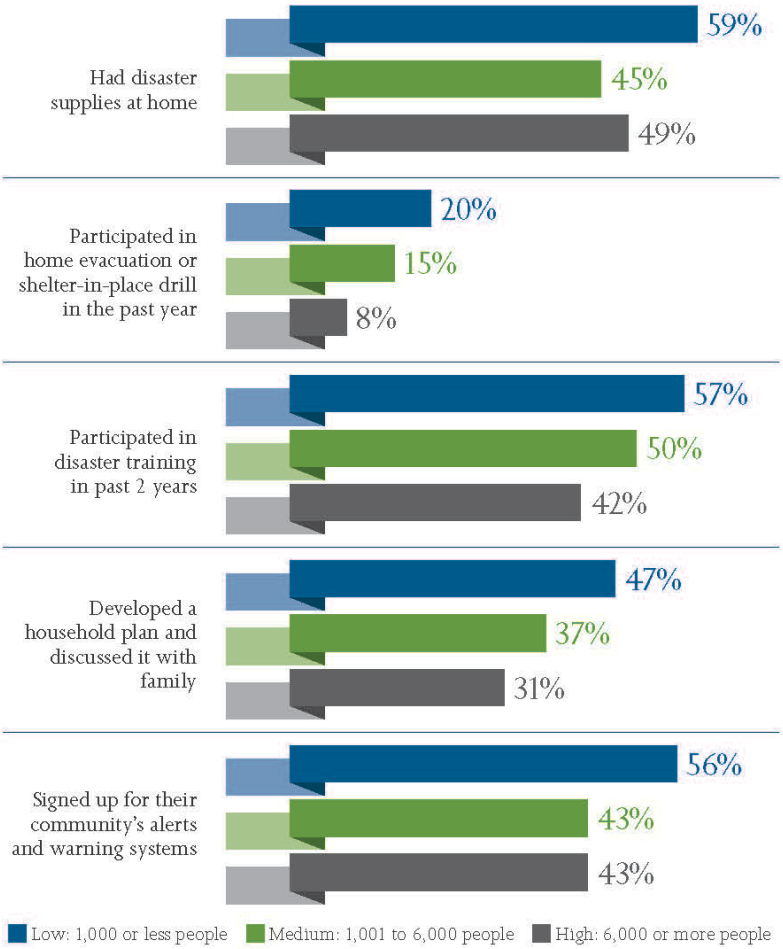
Key Findings

Individuals living in **low density areas** were prepared and confident in their abilities to respond and planned to rely on neighbors following a disaster.

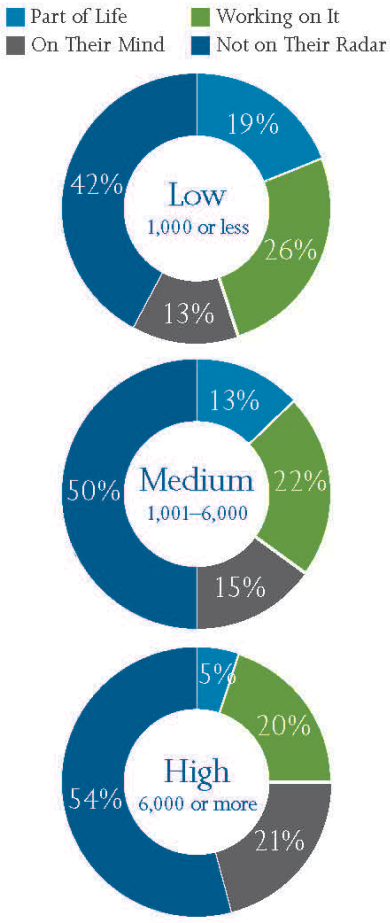
Individuals living in **medium density areas** did not have time to prepare but were confident in their abilities to respond.

Individuals living in **high density areas** were not prepared, not confident in their ability to respond, and reliant on fire, police, and emergency management personnel.

Preparedness Behaviors

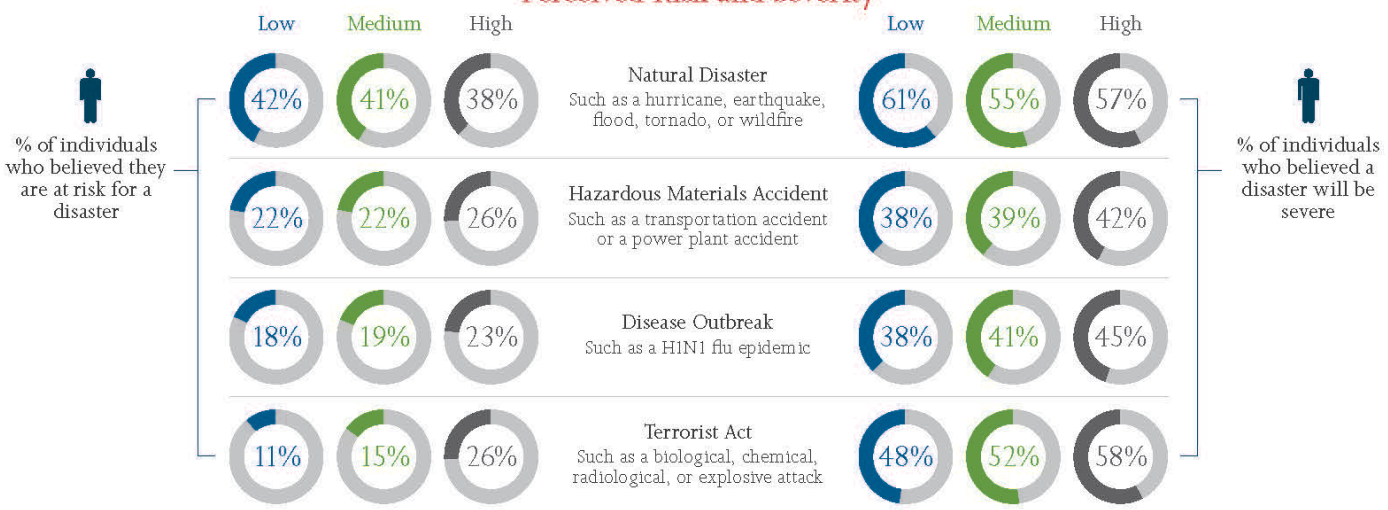


Preparedness Profiles



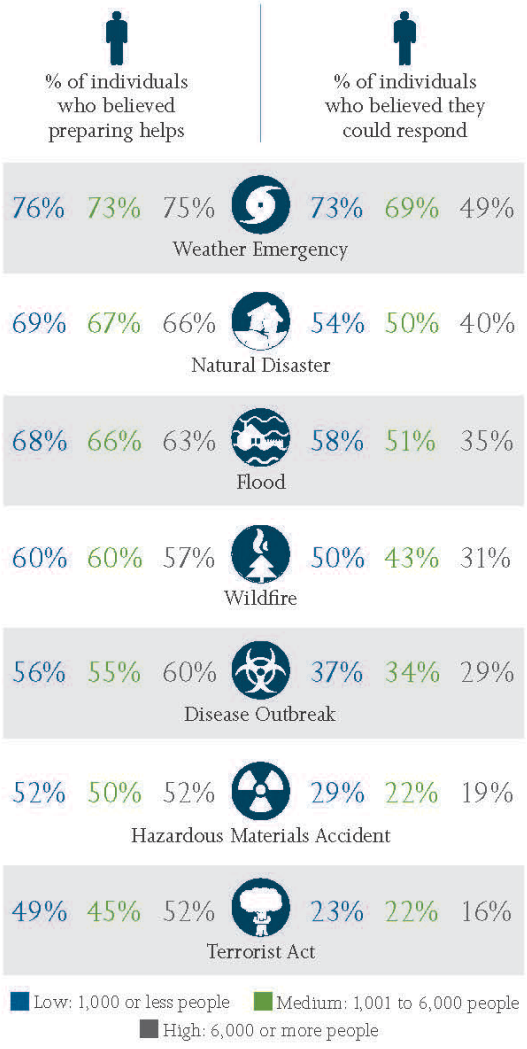
Sociodemographic Differences in Preparedness: Population Density

Perceived Risk and Severity



*Each percentage represents responses "likely"/"very likely" for Perceived Risk and "severe"/"very severe" for Perceived Severity.

Perceived Efficacy: Preparing Helps and I Can Respond



Preparedness Attitudes

Low Population Density

- 76% Believed they know how to get prepared.
- 56% Have been encouraged to plan by their job, school, or community organizations.

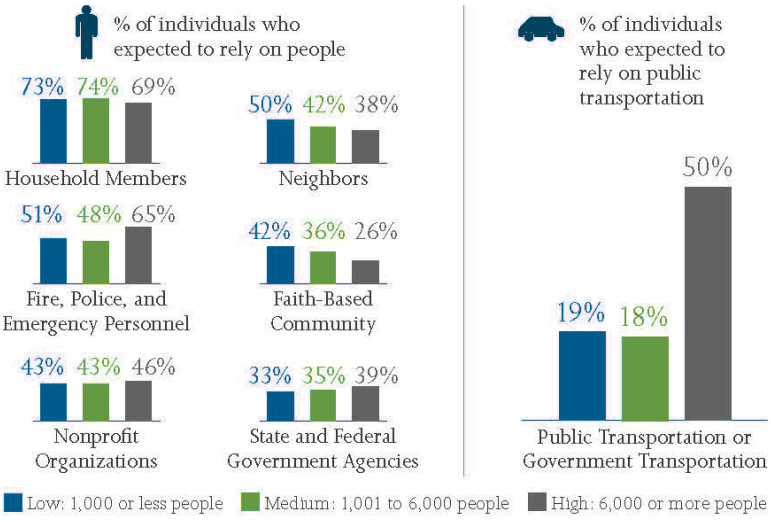
Medium Population Density

- 69% Were confident in their ability to respond to weather emergencies.
- 70% Believed they know how to prepare.

High Population Density

- 65% Planned to rely on fire, police, and emergency personnel.
- 26% Believed they are at risk for a terrorist act.

Expectation of Community Support in the First 72 Hours



Sociodemographic Differences in Preparedness: Race/Ethnicity

WHITE, Non-Hispanic respondents were more likely to:

- Own their home
- Be age 65 or older
- Earn more than $25,000 per year
- Have a pet or service animal

BLACK, Non-Hispanic respondents were more likely to:

- Rent their home
- Earn less than $25,000 per year
- Be a student
- Have children under the age of 18 in the household

OTHER, Non-Hispanic respondents were more likely to:

- Be a student
- Earn more than $75,000 per year
- Be employed

HISPANIC respondents were more likely to:

- Work part time
- Earn less than $25,000 per year
- Be a student
- Have children under the age of 18 in the household

Key Findings

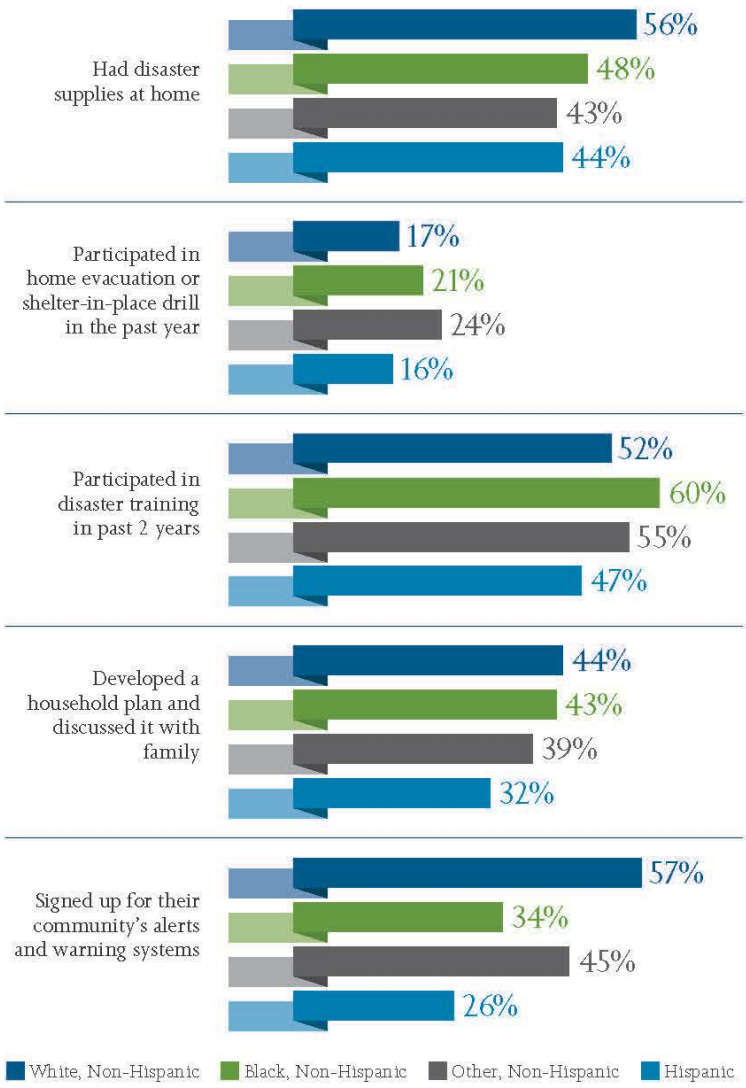
WHITE, Non-Hispanic individuals were prepared and confident in their ability to respond to disasters.

BLACK, Non-Hispanic individuals participated in emergency training, unfamiliar with alerts and warning systems and planned to rely on the faith-based community following a disaster.

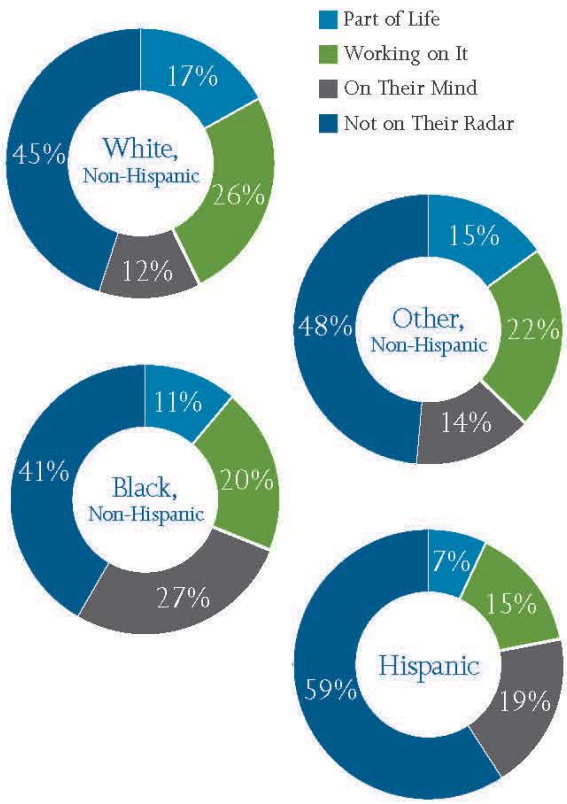
OTHER, Non-Hispanic individuals believed it is hard to get information about preparing.

HISPANIC individuals perceived barriers to preparing and planned to rely on emergency responders and nonprofit and government organizations following a disaster.

Preparedness Behaviors

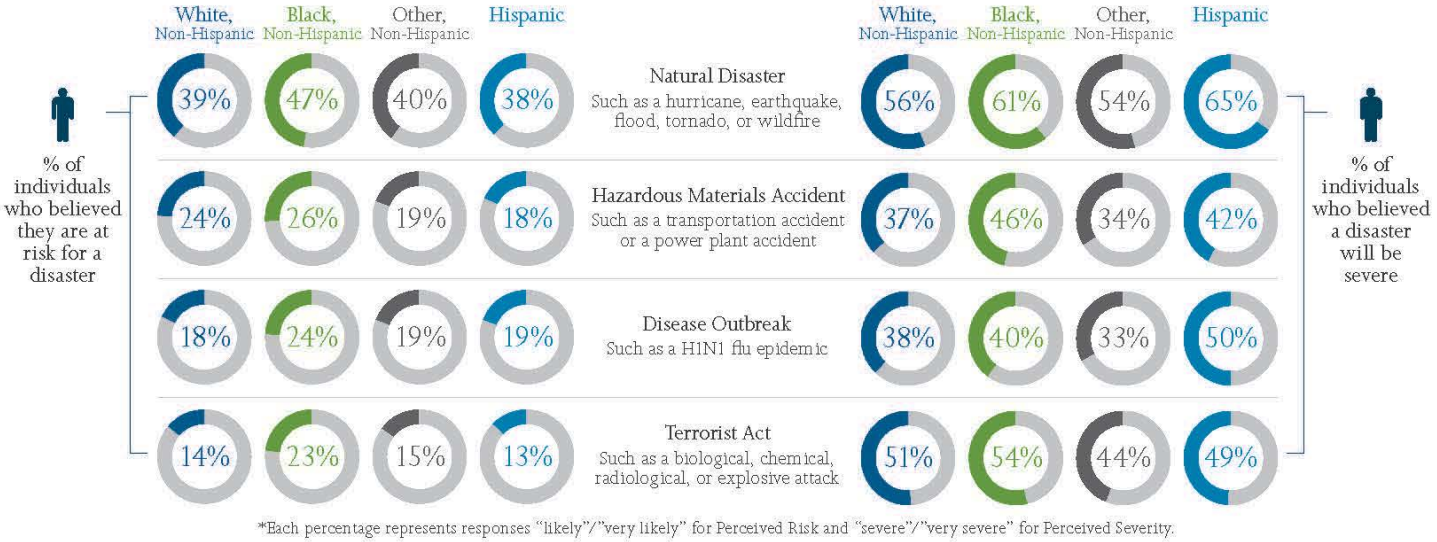


Preparedness Profiles



Sociodemographic Differences in Preparedness: Race/Ethnicity

Perceived Risk and Severity



*Each percentage represents responses "likely"/"very likely" for Perceived Risk and "severe"/"very severe" for Perceived Severity.

Perceived Efficacy: Preparing Helps and I Can Respond

% of individuals who believed preparing helps			% of individuals who believed they could respond	
75%	72%	Weather Emergency	74%	62%
73%	71%		57%	48%
69%	59%	Natural Disaster	55%	54%
68%	64%		42%	38%
65%	71%	Flood	58%	43%
71%	63%		41%	38%
60%	53%	Wildfire	48%	45%
55%	60%		32%	32%
57%	52%	Disease Outbreak	36%	36%
60%	51%		31%	34%
51%	45%	Hazardous Materials Accident	25%	29%
52%	52%		25%	24%
47%	44%	Terrorist Act	22%	19%
51%	46%		19%	21%

White, Non-Hispanic · Other, Non-Hispanic · Black, Non-Hispanic · Hispanic

Preparedness Attitudes

WHITE, Non-Hispanic

- 74% Were confident they know what to do in a weather emergency.
- 75% Believed they know how to get information about preparing.

BLACK, Non-Hispanic

- 70% Were willing to think about preparing.
- 74% Believed they have time to prepare.

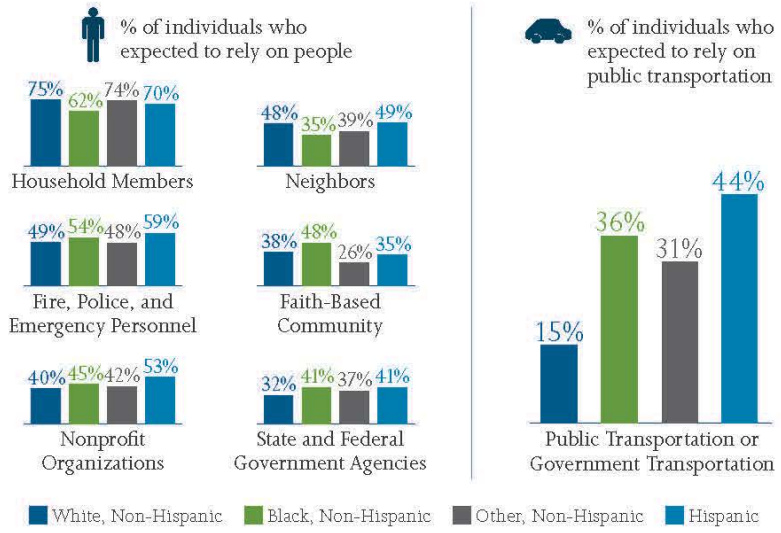
OTHER, Non-Hispanic

- 54% Were confident they know what to do in a natural disaster.
- 73% Believed that preparing isn't too expensive.

HISPANIC

- 50% Believed a disease outbreak will be severe.
- 54% Had training encouraged or required by school or work.

Expectation of Community Support in the First 72 Hours



Translating Research Into Action

As a Nation, we must prepare, but as a diverse and geographically distributed country, one preparedness message for all individuals is not effective. Across America, we have different risks, experiences, beliefs, and personal situations that preparedness strategies must take into account. Preparedness must be made relevant for the person, the locale, and the disaster. Stakeholders at all levels and across all sectors are encouraged to use the key findings in this report to develop more effective communications and outreach on disaster preparedness for their audiences. FEMA is also committed to providing continued research, tools, training, and other resources for local implementation. The Next Steps for FEMA section identifies planned and existing resources.

The following recommendations translate the report's data, analysis, and findings into actionable strategies for increasing individual and community preparedness.

- **Leverage the attitudes and experiences shown to have a positive relationship with preparedness behaviors.** When preparing content for outreach, consider enhancing/reinforcing these items:

  Beliefs

  - Natural disasters: confidence in one's ability to prepare, perception of risk, belief that preparedness helps, perception of severity.
  - Terrorism, hazardous materials, disease: confidence in ability to respond.
  - How to prepare and the importance of being willing to prepare and to think about preparing.

  Experiences

  - Talking about preparing
  - Personal past experience with disasters
  - Encouragement to plan and get trained at work/school
  - Volunteer opportunities for preparedness/safety and for disaster response

- **Provide information and opportunities that increase the recipients' confidence in their knowledge and abilities to perform preparedness behaviors.** When conducting outreach, provide:

  - Information that shows how easy it is to prepare and teaches protective actions and mitigation;
  - Opportunities to practice behaviors through drills or training; and
  - Opportunities to discuss these preparedness behaviors.

- **Highlight information that relates to natural disasters.** Outreach efforts should:
  - Provide details on the risk and severity of natural disasters;
  - Explain and demonstrate how preparing helps in the case of a disaster; and
  - Enhance people's confidence in their ability to prepare for and respond to natural disasters.
- **Always emphasize building confidence in the ability to respond when messaging or discussing terrorism, hazardous materials, or disease outbreaks.**
- **Increase collaborative efforts with social networks.** Employers, schools, volunteer organizations, and community- and faith-based organizations are an important social networks and influencers for preparedness education. Work with these networks in your community to develop a plan for leveraging their strengths for emergency preparedness. Work across organizations, so the entire community will be served without duplication of effort.
- **Develop outreach efforts for specific populations and be strategic with limited resources.** Use census data to understand the composition of your community and use the Preparedness Profiles and sociodemographic data in this report to target specific populations. Examine the data in the "Working On It" Profile and the "On Their Mind" Profile to determine how to reach these population segments. People in these Profiles represent nearly 40 percent of the U.S. population and are more likely to be receptive to preparedness outreach. By prioritizing individuals within these Profiles with outreach that emphasizes the beliefs and experiences discussed above and with training and volunteer opportunities, such as the Community Emergency Response Team (CERT) Program, you can have a significant impact on preparedness in your community. In addition, census data can inform local Citizen Corps Councils to ensure that membership adequately reflects the whole community's population.

Next Steps for FEMA

These research findings reinforce the need for a systematic and strategic approach to achieve greater levels of individual preparedness, including refining preparedness messaging, outreach, tools for training and drills, and volunteer opportunities to be more effective and more accessible. The findings also highlight the critical role of whole community collaboration, the importance of social networks, and potential benefits of targeting specific population segments. The insights from this report lay the foundation for FEMA's next steps to fulfill the charge to build and sustain individual and community preparedness outlined in PPD-8.

Revise Content and Framing for Preparedness Messaging

- **Re-examine Preparedness Message.** In June 2012, FEMA and the American Red Cross co-hosted a workshop, Awareness to Action: A Workshop on Motivating the Public to Prepare, with 80 preparedness subject matter experts and practitioners to discuss how to improve preparedness messaging. Recommendations from the workshop included modifying the "three- step message"—Be Informed, Make a Plan, Build a Kit;[14] exploring the benefits of audience segmentation and appropriate messengers; defining preparedness; and defining success.

- **Validate Science Base for Protective Actions.** To ensure recommended hazard-specific protective actions are effective, FEMA is developing an interagency process to document the scientific validation for protective actions for a range of hazards and a process for updating the actions. This research will inform FEMA's resources for the public, including websites, publications, and a variety of social media platforms.

- **Incorporate Insights From Disaster Survivors.** FEMA will conduct research on what disaster survivors identify as the most valuable information, skills, and supplies based on their experiences in the response and the recovery phases of disasters. These findings will be incorporated into preparedness messages for different types of disasters.

- **Provide Localized Risk Data.** To address challenges of perceived risk and severity, FEMA will develop a user-friendly tool to inform the general public about the hazard risks of a given location in the context of likelihood and consequences. This tool will also enable improved analysis of household survey data sets in relation to risks of specific geographic locations.

- **Explore Motivational Preparedness Messaging.** FEMA will conduct qualitative research to explore preparedness messages that will motivate individuals to take action for different types of hazards.

[14] Using these steps as the messaging for preparedness is distinct from using these steps as way to organize preparedness information. Many attendees remain supportive of using these steps as an organizing framework but opposed them as for messaging.

Tailor Implementation by Stakeholder and Sociodemographic Group

- **Unveil America's PrepareAthon!** In September 2013, FEMA will unveil a new community-based campaign emphasizing experiential learning and whole community participation. America's PrepareAthon! will provide a national focus for individuals, organizations, and communities to participate through drills, group discussions, and exercises to practice for relevant local hazards twice yearly, in the spring and the fall.

- **Provide Tailored Preparedness Resources and Training.** Ready.gov provides downloadable guides and templates for personal preparedness. FEMA's Community Preparedness: Implementing Simple Activities for Everyone provides a modular training program for community leaders to teach preparedness, available at http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-909.

- **Support for Workplace Preparedness.** FEMA will continue to develop and disseminate educational materials that advise employers on ways to prepare their businesses and staff (available at http://www.fema.gov/private-sector), and in 2013 will release new workplace CERT guidance and management resources.

- **Implement the National Strategy for Youth Preparedness Education.** Following the release of the National Strategy for Youth Preparedness Education in the fall of 2013, FEMA and sponsoring partners—the American Red Cross and the Department of Education—will work with partners across all levels of government and other sectors to support youth preparedness. FEMA also hosted the second Youth Preparedness Council in July 2013 and launched a new Ready Kids webpage at http://www.ready.gov/youth-preparedness. FEMA will continue to expand Teen CERT and will launch new guidance and management resources for Campus CERT in 2013.

- **Encourage Volunteer Opportunities.** FEMA continues to support local volunteer opportunities with emergency response organizations through the Citizen Corps Partner Programs: CERT, Fire Corps, Medical Reserve Corps, Neighborhood Watch, Volunteers in Police Service, and numerous other organizations that support volunteer service in community safety and disaster response. In March 2012, FEMA and the Corporation for National and Community Service established a FEMA-devoted unit of 1,600 service members called FEMA Corps within AmeriCorps National Civilian Community Corps solely devoted to disaster preparedness, response, and recovery.

Engage the Whole Community

- **Expanding Partnerships at All Levels and With All Sectors.** FEMA is committed to expanding formalized relationships with partners at all levels and all sectors to encourage the participation of representatives of the whole community. The sociodemographic analysis provides insights to identify particularly important partners to reach specific population segments. FEMA's National Preparedness Community, listed at http://community.fema.gov/connect.ti/readynpm/grouphome, reflects the range of

partnerships engaged in community preparedness and supports outreach during the National Preparedness Month in September.

- **Supporting Citizen Corps Councils.** FEMA advocates for collaborative whole community planning and the integration of non-governmental resources in government plans and exercises through local Citizen Corps Councils. In September 2013, FEMA released the fiscal year (FY) 2012 registration and profile data on the 1,175 Councils registered as of October 15, 2012. Sixty percent of the registered Councils include representation from all three sectors: the public sector, the private sector, and the volunteer/community sector. FEMA partnerships with Local Emergency Planning Committees, local Voluntary Organizations Active in Disasters, and local Hazard Mitigation Planning Committees also promote whole community collaboration. In FY 2014, FEMA will release two independent study courses and a classroom-based course on whole community preparedness.

Refine Evaluation and Assessment

- **Conduct In-Depth Assessment of Whole Community Preparedness in Large Urban Cities.** FEMA will partner with six test site locations in large urban areas to track outcome-based measures around local preparedness and resilience interventions. Assessments will be conducted every 6 months to track the impact of community efforts on individual knowledge, beliefs, and behaviors over time and to pinpoint cause and effect of specific local initiatives more precisely. The identified social networks, Preparedness Profiles, and sociodemographic data in this report will inform the outreach and training strategies to be tested.

- **Refine National Research.** FEMA will refine data collection from national household surveys to track the impact of America's PrepareAthon! on individual and organizational preparedness and will include oversampling studies to assess knowledge of risk and protective actions by people in specific hazard areas. Assessments will measure success by evaluating the relationship of campaign initiatives to outcomes by population segments and delivery channels. A process and outcome evaluation will also be conducted to assess the results of America's PrepareAthon!

- **Disseminate Research Findings.** In FY2014, FEMA will partner with the National Academies of Science to build on the findings in their *Disaster Resilience: A National Imperative* report to study hazard and disaster data, to communicate and manage risk, to measure resilience, and to build coalitions and partnerships.

Twelve years have passed since September 11, 2001. These 12 years have been a time for heightened focus on community resilience and personal preparedness, a focus that must endure, evolve, and grow. Continuing to achieve progress depends on leadership throughout America from the local to Federal levels, in government, community organizations, and private industry. Progress also depends on individuals and their social and community connections. We each have a role in ensuring the resilience of our communities, our Nation, and our way of life. Together, we can ensure that everyone in America has the knowledge, skills, and resources to respond to the challenges brought by weather, disease, hazardous incidents, and terrorism.

Appendices

Summaries of the 2007–2011 FEMA National Survey methodology and survey questions reported in *Preparedness in America* can be found in Appendices A and B.

Appendix A: Methodology

Survey Administration

The 2007, 2009, 2011, and 2012 FEMA National Survey were administered by an applied research and consulting firm using a computer-assisted telephone interviewing system. Spanish-speaking interviewers were provided as an option for Spanish-speaking respondents. As 30 percent of households nationwide are cellular phone only (i.e., have no traditional landline residential phone),[xi] the 2011 and 2012 survey methodologies used a dual-frame sample, with cellular and landline surveys. The samples were 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 non-institutionalized U.S. 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 did not speak English or Spanish well enough to be interviewed in either language.

Weighting and Representative Sample

Each telephone number in the national sample had an equal chance of selection. Operational aspects associated with RDD surveys, such as nonresponse, however, may produce response patterns that over-represent or under-represent certain population segments. Weighting the data according to geography, age, gender, and race/ethnicity accounted for potential biases and adjusted the sample's demographic distributions to match the distribution in the American Community Survey (ACS).

Statistical significance is reported to identify differences between compared groups that can be said to be "real" with 95 percent certainty (i.e., 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.

2007 FEMA National Survey

The 2007 survey sample included responses from 2,462 U.S. households. The landline sample represents 96.5 percent of U.S. households, providing overall results at +/-2 percent sampling error (at a 95 percent confidence level).

2009 FEMA National Survey

The 2009 survey sample included responses from 4,461 U.S. households. The landline sample represents 96.5 percent of U.S. households, providing overall results at +/-3.27 percent sampling error (at a 95 percent confidence level).

2011 FEMA National Survey

The 2011 survey sample included responses from 2,759 U.S. households. The combined landline and cell phone sample represents 98 percent of U.S. households, providing overall results at +/- 2.7 percent sampling error (at a 95 percent confidence level).

The national sample was designed for 270 completed surveys for each of the 10 FEMA regions. The landline sample was stratified by FEMA region; the cell phone sample was national.

2012 FEMA National Survey

In 2012, the survey sample included responses of 2,013 U.S. households. The combined landline and cell phone sample represents 98 percent of U.S. households, providing overall results at +/- 3.02 sampling error (at a 95 percent confidence level).

The national sample was designed for 200 completed surveys for each of the 10 FEMA regions. The landline sample was stratified by FEMA region; the cell phone sample was national.

Authority

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.

The Institutional Review Board (IRB) of the consulting firm that conducted these surveys determined that these surveys comply with the requirements of 45 CFR 46 (Protection of Human Subjects).

Appendix B: Survey Questions Reported in *Preparedness in America*

	2007 FEMA Survey	2009 FEMA Survey	2011 FEMA Survey	2012 FEMA Survey
Perceived Risk				
On a scale of 1 to 5, with 5 being "very likely" and 1 being "not likely at all," how likely do you think…?				
Some type of natural disaster will ever occur in your community?	X	X	X	X
Some type of terrorism will ever occur in your community?	X	X	X	
Some type of hazardous materials accident will ever occur in your community?	X	X	X	
Some type of disease outbreak will ever occur in your community?	X	X	X	
Perceived Severity				
If a [fill in from below] were to happen in your community how severe do you think the impact would be to you? Please use a scale of 1 to 5, with 5 being "very severe" and 1 being "not severe at all."				
A natural disaster, such as an earthquake, a hurricane, a flood, a tornado, or wildfires		X	X	
An act of terrorism, such as biological , chemical, radiological, or explosive attack		X	X	
A hazardous materials accident, such as a transportation accident or a power plant accident		X	X	
A highly contagious disease outbreak, such as a H1N1 flu epidemic (In 2009, text was changed from "bird flu epidemic" to "H1N1" during fielding due to the H1N1 outbreak)		X	X	
Motivators/Barriers				
Disaster preparedness includes buying disaster kits and making specific plans, but it also includes participating in training or drills and learning what to do in a disaster. For the next questions, please tell me the extent to which you agree with each. (5 - Strongly agree, 4 - Somewhat agree, 3 - Neither agree nor disagree, 2 - Somewhat disagree, 1 - Strongly disagree)				
Getting information about what to do in an emergency is too hard			X	
I don't know how to get prepared			X	
I don't have time to prepare			X	
Preparing is too expensive			X	
I don't want to think about preparing for disasters			X	
I have just never thought about preparing for disasters			X	
If there were a disaster, the police and fire department would take care of my needs.			X	
I don't need training to know how to react in an emergency			X	
My job or school encourages me to have a family disaster plan.			X	
My job, school or community service encourages or requires me to take training to prepare for emergencies.			X	
People I know have taken steps to get prepared.			X	
Disasters in other places make me think about getting prepared				
Disasters I have experienced make me think about getting prepared.			X	

	2007 FEMA Survey	2009 FEMA Survey	2011 FEMA Survey	2012 FEMA Survey
During the first 72 hours of a disaster, I feel it is my responsibility to take care of my family in a disaster.			X	
Able to Respond				
How confident are you in your ability to know what to do [fill in from below]? Please use a scale of 1 to 5, with 5 being "very confident" and 1 being "not at all confident."				
In the first five minutes of a terrorist act such as an explosion of a radiological or dirty bomb? (2007 text: An explosion of a radiological or dirty bomb?)	X	X	X	
In the first five minutes of a hazardous materials accident such as the release of a chemical agent? (2007 text: The release of a chemical agent?)	X	X	X	
In the first five minutes of a sudden natural disaster such as an earthquake or tornado that occurs without warning? (2007 text: A sudden natural disaster such as an earthquake or tornado?)	X	X	X	
In a highly contagious disease outbreak such as H1N1?			X	
In a weather emergency such as a hurricane or major snowstorm?			X	
In a wildfire?			X	
In a flood?			X	
Preparing Helps				
How much do you think preparing for a [fill in from below] will make a difference in how you handle the situation? By handle the situation I mean: know what to do, have supplies on hand and have a plan in place? Please use a scale of 1 to 5, 5 being "very much" and 1 being "not much at all."				
A terrorist act such as an explosion of a radiological or dirty bomb?		X	X	
A hazardous materials accident such as the release of a chemical agent?		X	X	
A highly contagious disease outbreak such as h1n1 flu?		X	X	
A natural disaster?		X	X	
A weather emergency such as a hurricane or major snowstorm?			X	
A wildfire?			X	
A flood?			X	
Stages of Change				
In thinking about preparing yourself for a major disaster, which best represents your preparedness?				
I have not yet prepared but I intend to in the next 6 months				
I have not yet prepared but I intend to in the next month				
I just recently began preparing	X	X	X	
I have been prepared for at least the past 6 months				
I am not planning to do anything about preparing				
Reliance				
In the first 72 hours following a disaster, please indicate how much you would expect to rely on the following for assistance. Please use a scale of 1 to 5, with 5 being "expect to rely on a great deal" and 1 being "do not expect to rely on at all."				
Household members	X	X	X	
People in my neighborhood	X	X	X	
Non-profit organizations, such as the American Red Cross or the Salvation Army	X	X	X	

	2007 FEMA Survey	2009 FEMA Survey	2011 FEMA Survey	2012 FEMA Survey
My faith community, such as a congregation	X	X	X	
Fire, police, emergency personnel	X	X	X	
State and Federal Government agencies, including FEMA	X	X	X	
In the event of a disaster that required you to leave the area, would you need to rely on public transportation or the government for transportation? (2007 Text: In the event of a disaster, would you expect to need help to evacuate or get to a shelter?) (2009 Text: In the event of a disaster, would you expect to need help to evacuate from the area?)	X	X	X	
Children				
In the past 12 months, other than fire safety have your children brought home any materials or talked about preparing your family for a disaster?			X	
Did they receive that information from…				
School			X	
A program outside of school			X	
Somewhere else			X	
Training				
In the past 2 years, have you done any of the following? Have you…				
Attended a meeting on how to be better prepared for a disaster	X	X	X	X
Attended CPR training	X	X	X	X
Attended first aid skills training	X	X	X	X
Attended training as part of a Community Emergency Response Team or CERT	X	X	X	X
Talked about getting prepared with others in your community		X	X	X
Supplies				
Do you have supplies set aside in your home to be used only in the case of a disaster?	X	X	X	X
Could you tell me the disaster supplies you have in your home?	X	X	X	X
How often do you update these supplies? Would you say…				
Never	X	X	X	X
Less than once a year				
Once a year				
More than once a year				
Do you have supplies set aside in your car to be used only in the case of a disaster?	X	X	X	
Do you have supplies set aside in your workplace to be used only in the case of a disaster?	X	X	X	
Mitigation				
Have you taken any of the following steps to protect your home, its structure and furnishings…?				
Purchased flood insurance?			X	
Raised the furnace, water heater, or electric panel above the floor?			X	
Sealed the walls in your basement with waterproofing compounds?			X	
Installed storm shutters?			X	
Installed roof straps or clips to protect your roof from strong winds?			X	
Built a space in your home specifically to provide shelter in an			X	

	2007 FEMA Survey	2009 FEMA Survey	2011 FEMA Survey	2012 FEMA Survey
emergency?				
Household Plan				
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?	X	X	X	X
Have you discussed this plan with other members in your household?	X	X	X	X
Do you have copies of important identity and financial documents located with a trusted out-of-state friend or relative or in a password protected electronic form you can access by computer to help you recover after a disaster? IF NECESSARY: These documents include identity documents like your social security card and drivers license and financial documents like your insurance policies. IF NECESSARY: Accessible by computer could be a computer drive, a USB drive, which is also known as a thumb drive, your portable music player or phone or a web-based back up or file storage system.			X	
Does your household have a pet or service animal?	X		X	
Community Plans				
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?	X	X	X	X
Your community's plans for evacuation?			X	
Your community's plans for sheltering?			X	
Information on what your local hazards are? (2012 Survey language: What your local hazards are?		X	X	X
[Ask if have pet or service animal] Your community's emergency transportation and shelter plans for household pets and service animals?			X	
Does your community have a system where you can sign up to receive alerts and information in an emergency?			X	
Have you signed up for your community's alerts and warnings system?			X	
Have you received information from your child(ren)'s school about its disaster preparedness plan including evacuation and shelter plans?			X	
Drills				
Aside from a fire drill, in the past 12 months, have you participated in any of the following?				
A home evacuation drill	X	X	X	
A home shelter in place drill	X	X	X	
[Ask if work full or part time] A workplace evacuation drill	X	X	X	
[Ask if work full or part time] A workplace shelter in place drill	X	X	X	
[Ask if go to school or children go to school] A school evacuation drill	X	X	X	
[Ask if go to school or children go to school] A school shelter in place drill	X	X	X	
Volunteerism				
During the past 12 months, have you given any time to help support emergency responder organizations or an organization that focuses on community preparedness and safety?	X	X	X	
Have you ever volunteered to help in a disaster?	X	X	X	

	2007 FEMA Survey	2009 FEMA Survey	2011 FEMA Survey	2012 FEMA Survey
Demographics				
Are there children under the age of 18 living in your residence?	X	X	X	X
Does at least one of the children currently attend a school outside of your home, including day care or part-time kindergarten?	X	X	X	X
Which best describes your job status?				
Work full-time	X	X	X	X
Work part-time				
Student				
Unemployed				
Retired				
Other				
Is your home owned or rented?				
Owned			X	
Rented				
Live there without paying rent				
What is the highest level of education that you attained? Would it be…?				
Less than 12th Grade (No Diploma)	X	X	X	X
High School Graduate or GED				
Some College but No Degree				
Associate Degree in College				
Bachelor's Degree				
Masters Degree				
Doctorate Degree				
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.			X	X
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	X	X	X	X
Do you currently live with or have primary responsibility for assisting someone with a disability who requires assistance?	X	X	X	X
Which of the following best describes your race? Would you consider yourself to be…?				
White	X	X	X	X
Black or African American				
American Indian or Alaska Native				
Native Hawaiian or other Pacific Islander				
Something Else (Specify)				
Are you of Hispanic or Latino or Spanish origin?	X	X	X	X
In what year were you born?	X	X	X	X

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…?

Less than $25,000				
$25,000 to less than $50,000	X	X	X	X
$50,000 to less than $75,000				
$75,000 or more				
What state do you live in? _ _	X	X	X	X
What is your zip code? _ _ _ _ _	X	X	X	X
Record gender				
Male	X	X	X	X
Female				

End Notes

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[iv] Federal Emergency Management Agency Office of Disability Integration and Coordination (ODIC). (2011). *Planning for the Whole Community: Integrating and Coordinating the Access and Functional Needs of Children and Adults with Disabilities in Preparedness, Response, Recovery and Mitigation.* Retrieved August 28, 2013, from http://www.fema.gov/pdf/about/odic/all_hands_0411.pdf.

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[vi] The question on Stages of Change originated from and was used with the permission of the National Center for Disaster Preparedness (NCDP). (2007). *The American Preparedness Project: Where the US Public Stands in 2007 on Terrorism, Security, and Disaster Preparedness.* New York, NY: NCDP. Retrieved August 28, 2013, from http://academiccommons.columbia.edu/catalog/ac:126170.

[vii] Centers for Disease Control and Preventions. (2010). *2009 H1N1 Flu.* Retrieved August 28, 2013 from http://www.cdc.gov/h1n1flu/.

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[ix] 2010 American Community Survey 1-Year Estimates Selected Economic Characteristics. Retrieved August 28, 2013, from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP03&prodType=table.

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[xi] Blumberg, S.J., & Luke, J.V. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December 2010. National Center for Health Statistics. Retrieved August 28, 2013, from http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201106.htm.