

CSTE **Disaster** **Epidemiology** **Workshop**

Overview

Judy Kruger, PhD, CEM
Thursday May 12, 2022

Objective of presentation



Judy Kruger

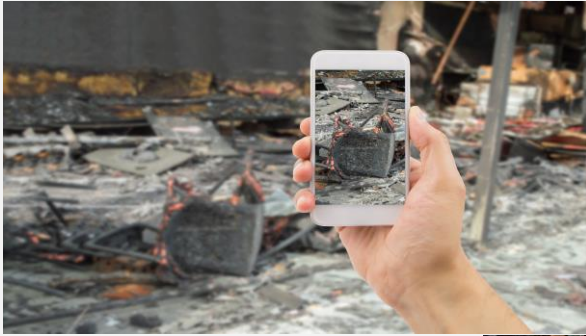
Emory University,
School of Public Health

Information presented is of the presenter's opinion only

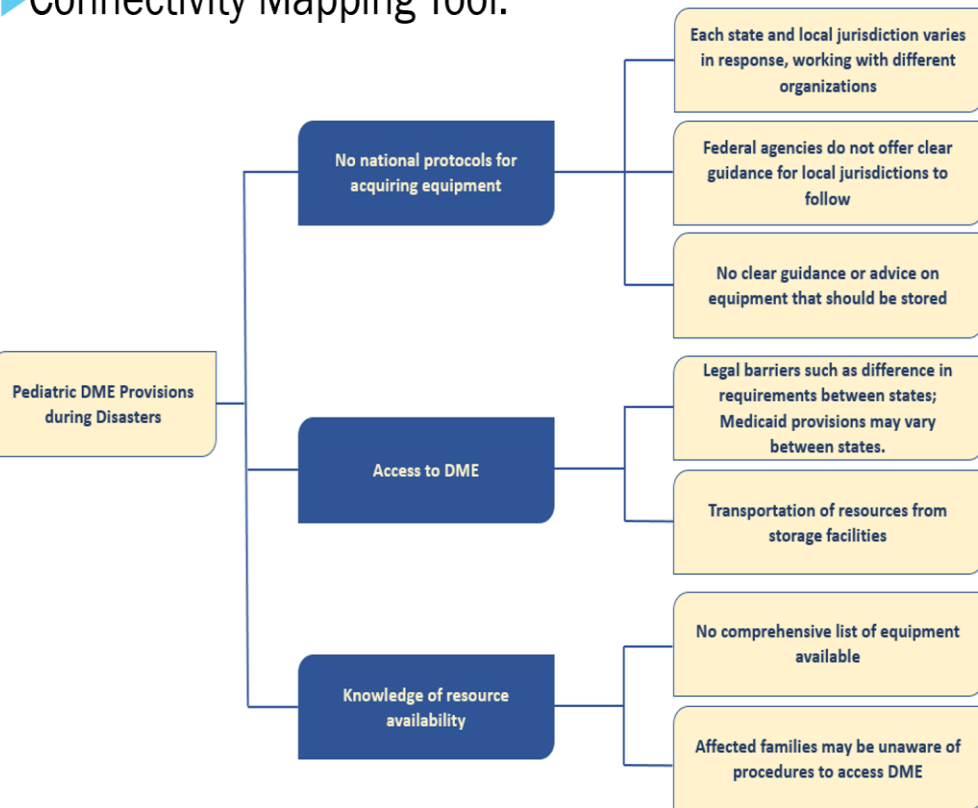
To orient participants on possible data systems and sources to
inform planning and practices for vulnerable populations



IMPACT



Connectivity Mapping Tool:



DISASTER PREPAREDNESS FOR CHILDREN WITH DISABILITIES: DURABLE MEDICAL EQUIPMENT NEEDS

Additional Resources

ADA.GOV Emergency Preparedness and Response

DOJ technical assistance and other resources

https://www.ada.gov/emerg_prep.htm

ADAPT Community Network

<https://www.adaptcommunitynetwork.org/>

American Red Cross Association

<https://www.redcross.org/get-help/how-to-prepare-for-emergencies/disaster-safety-for-people-with-disabilities.html>

Centers for Independent Living

<https://www.ilru.org/>

Centers for Medicaid and Medicare

Medicaid and Children's Health Insurance Program Response Toolkit:

<https://www.medicare.gov/state-resource-center/disaster-response-toolkit/index.html>

<https://www.medicare.gov/coverage/durable-medical-equipment-dme-coverage>

<https://www.medicare.gov/supplierdirectory/search.html>

Department of Homeland Security

<https://www.ready.gov/local>

<https://www.ready.gov/alerts>

FEMA, Office of Disability Integration and Coordination

FEMA-Disability-Integration-Coordination@fema.dhs.gov

<https://www.fema.gov/disability>

<https://www.fema.gov/community-planning-and-capacity-building>

<https://www.fema.gov/media-library/assets/documents/897>

Friends of Disabled Adults and Children (FODAC)

<https://www.fodac.org/>

Homeland Security

Civil Rights in Emergencies and Disasters:

<https://www.dhs.gov/civil-rights-emergencies-and-disasters>

National Preparedness Leadership Initiative

Harvard T.H. Chan School of Public Health:

<https://nplli.sph.harvard.edu/>

National Voluntary Organization Active in Disasters

<https://www.nvoaid.org/>

The Partnership for Inclusive Disaster Strategies

Disaster After Action Report:

<http://disasterstrategies.org/>

Trach Mommas of Louisiana (TOMOL)

<http://www.trachmommas.org/>



Mobile Kids



Organization	Level	Stockpile? (yes/ no)	If yes, does stockpile contain paediatric DME? (yes/no)
Medicaid	National	No	No
FEMA	National	Yes	Yes
ASPR	National	Yes	No
Texas State Medicaid	State	No	
Louisiana state Medicaid	State	No	
New York state Department of Health	State	Yes	No
New Mexico Department of Health	State	No	
California Governor's Office of Emergency Services	State	No	
New York City Emergency Management Agency	City	Yes	No
Joplin Tornado Long-Term Recovery Committee	Town	No	
American Red Cross	Non-profit; national	No	
Trach Mommas of Louisiana	Non-profit; national	Yes	Yes
The ADAPT network	Non-profit; city	Yes	Yes
Special Needs & Parent Support Services of LA	Limited liability company; state.	No	

Table 2 – Summary of organisations interviewed.

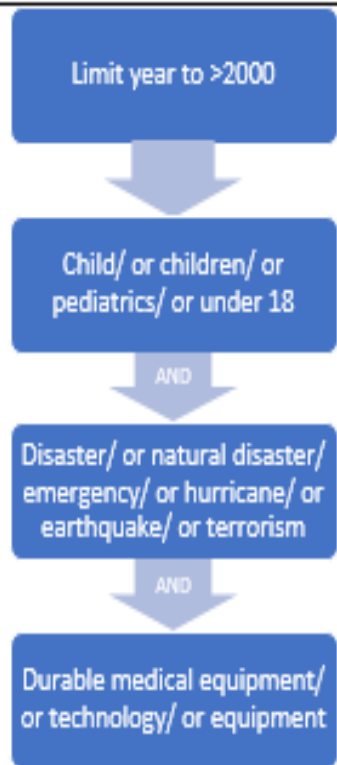
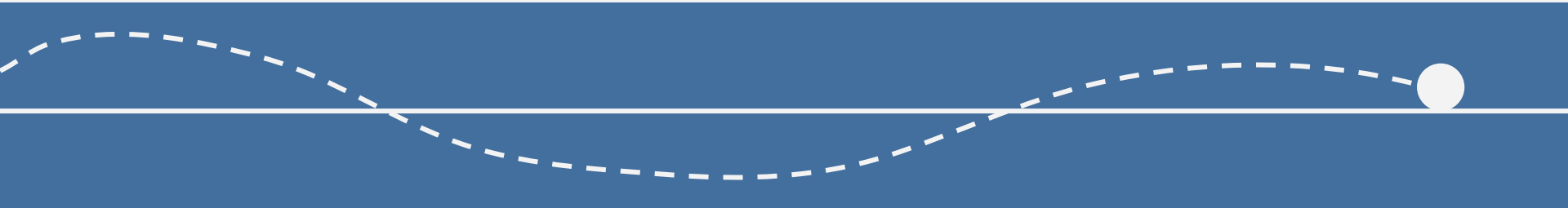


Figure 1 – search terms used for Ovid Medline



Definition Alignment

Persons with **Access and Functional Needs** (at-risk) (vulnerable) (persons with disabilities) are those individuals with function-based needs (related to a restriction or limited ability to perform activities normally considered routine) that may require assistance before, during, and /or after a disaster or an emergency



National Household Survey (2013-present)

FEMA's Individual and Community Preparedness Division has collected data to assess preparedness actions, attitudes, and motivations

- **Data collection using a mix of telephone interviews & web surveys**
- **English and Spanish**

Sample frame for February 24 to May 14, 2021 (total sample=7,197 respondents)

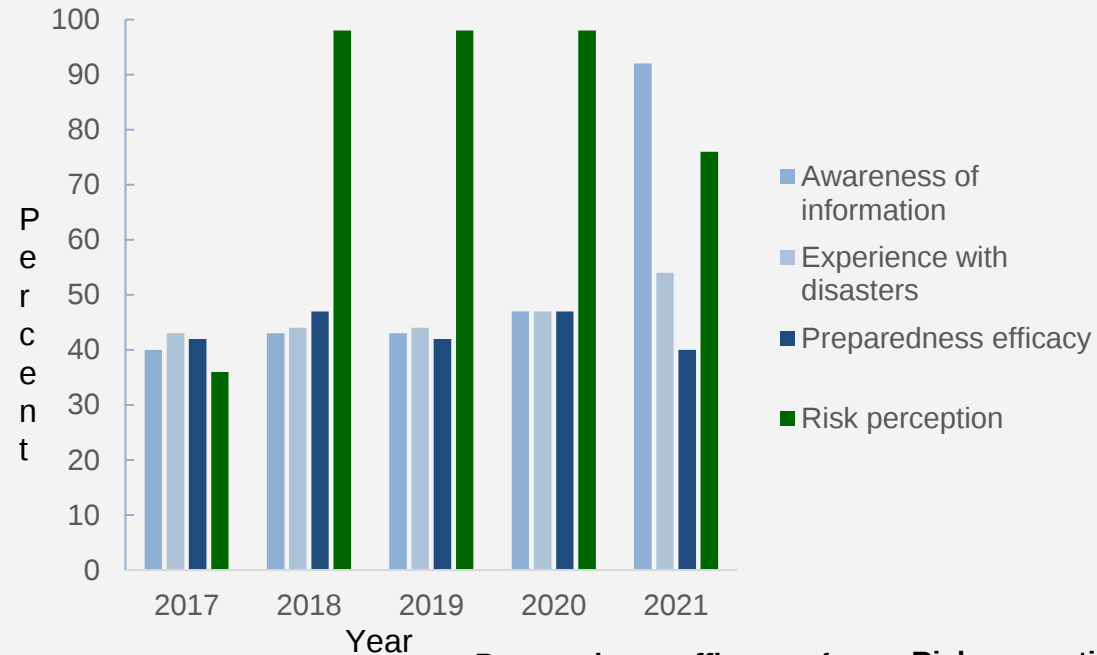
- **All respondent were asked general disaster and pandemic preparedness questions**

Geographic sample (3, 056 respondents)

- **Additional questions related to a hazard common to where they live**

Drought	n=505
Power outage	n=513
Thunderstorm	n=509
Tsunami	n=509
Volcanic eruption	n=510
Winter storm	n=510

Key Influencers to Hazard Preparedness



Awareness of information refers to having read, seen, or heard information in the past 6 months about how to get better prepared for a disaster

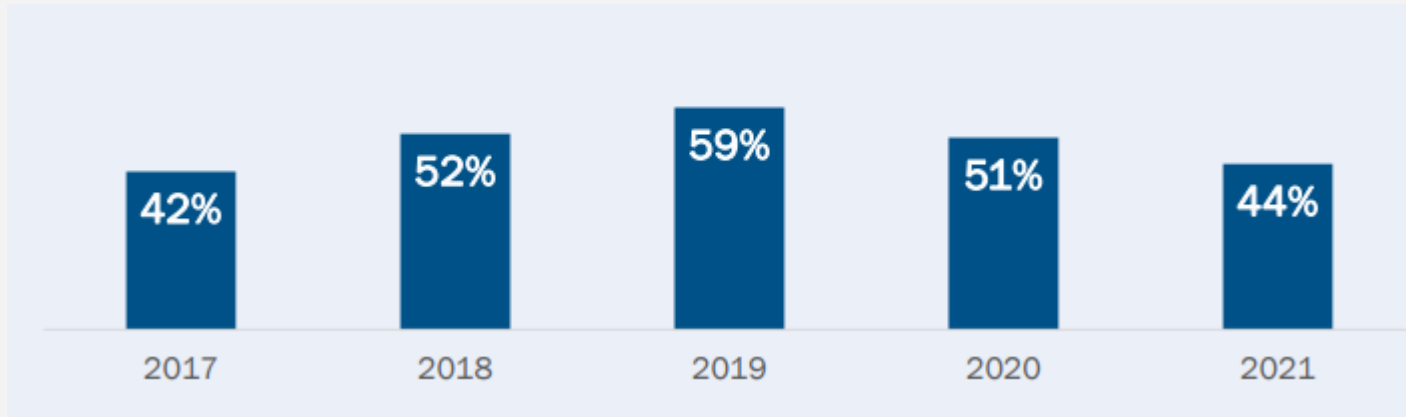
Experience with disasters refers to having a personal or familial experience with the impacts of a disaster

Preparedness efficacy refers to having a belief that preparing can help in a disaster AND are confident in their abilities to prepare

Risk perception refers to acknowledging that the occurrence of at least 1 disaster type could impact where they live

Challenge: State of Preparedness

I am prepared for a disaster



Healthy People 2030

Proportion of parents/guardians who know emergency or evacuation plan for school [D01]

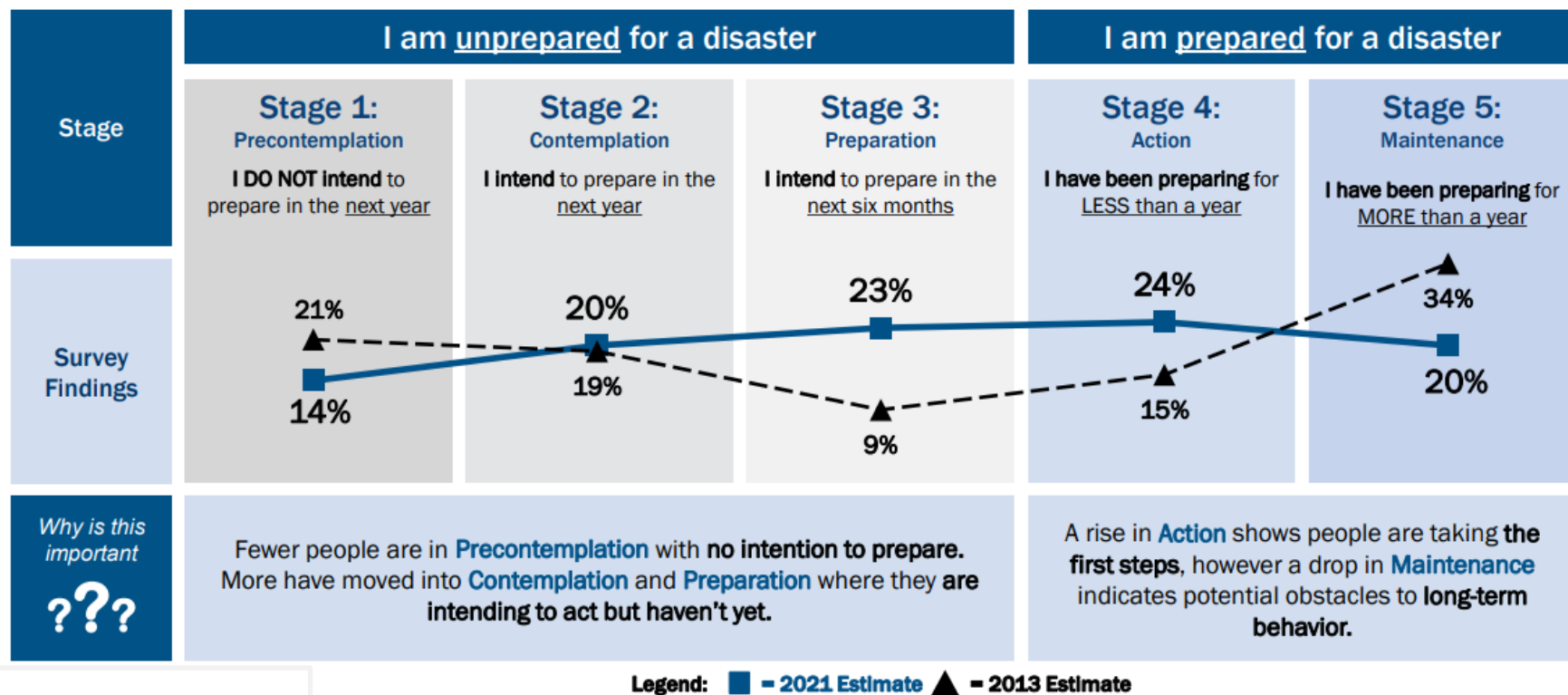
Proportion of adults who know how to evacuate [D03]

Proportion of adults who have an emergency plan for disasters [D04]

Developmental

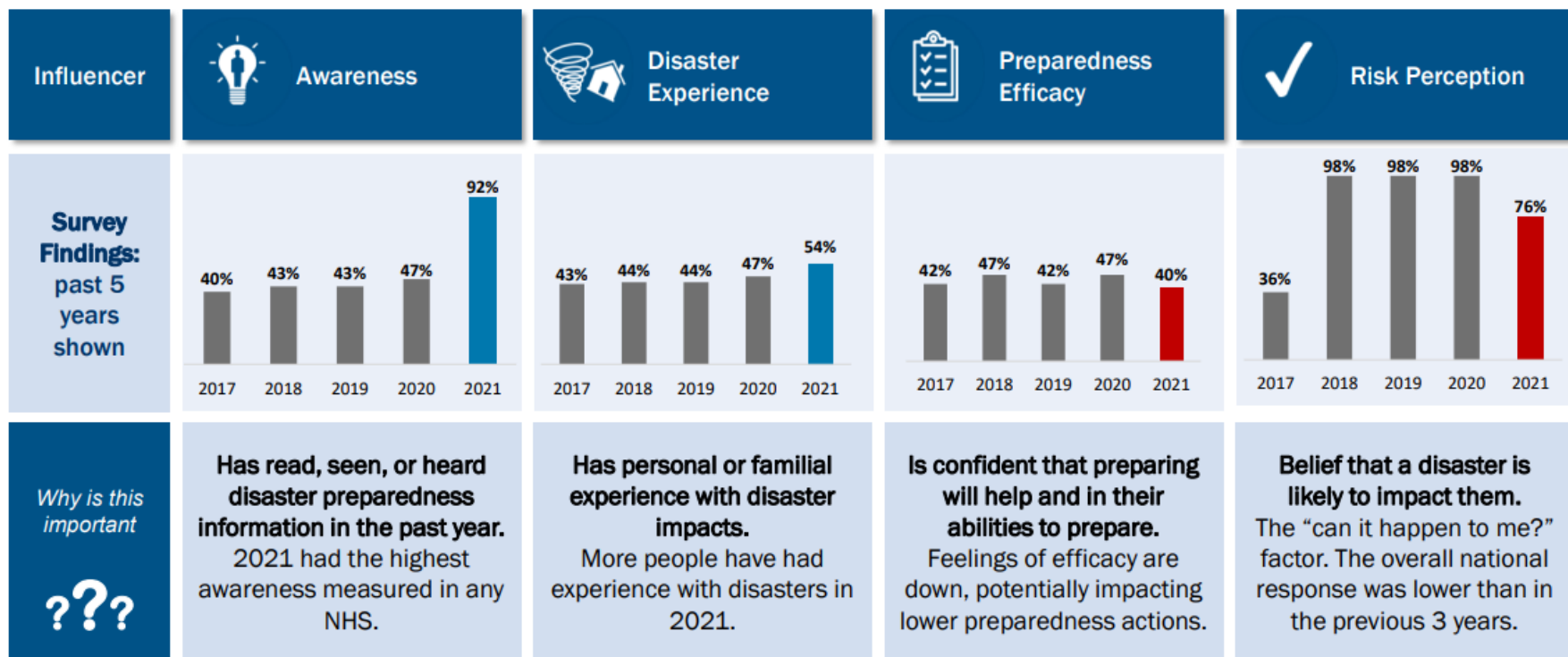
Theoretical Stages of Change Model

Thinking about preparing yourself for a disaster, which of the following best represents your degree of preparedness?



Key Influencers to Disaster Preparedness

These four key influencers are standard behavior change measures that are strongly related to a higher amount of preparedness actions taken. Those who have one of these influencers are more likely to take preparedness actions.

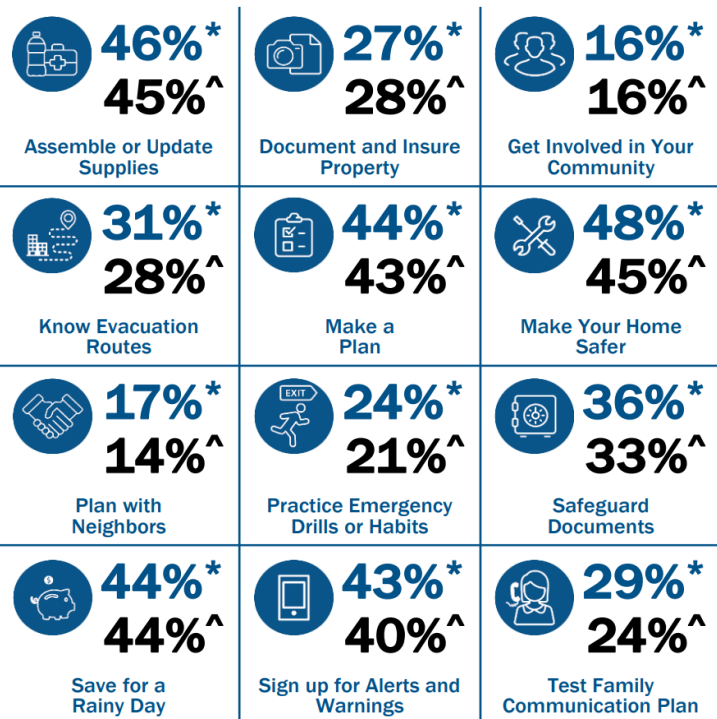


Person with Disability and/or Caregiver Preparedness Summary

Blue* = Person with disability and/or caregiver
Black^ = Not Person with disability and/or caregiver

Summary of general disaster preparedness among those who have a disability or those who act as a caregiver for those with disabilities.

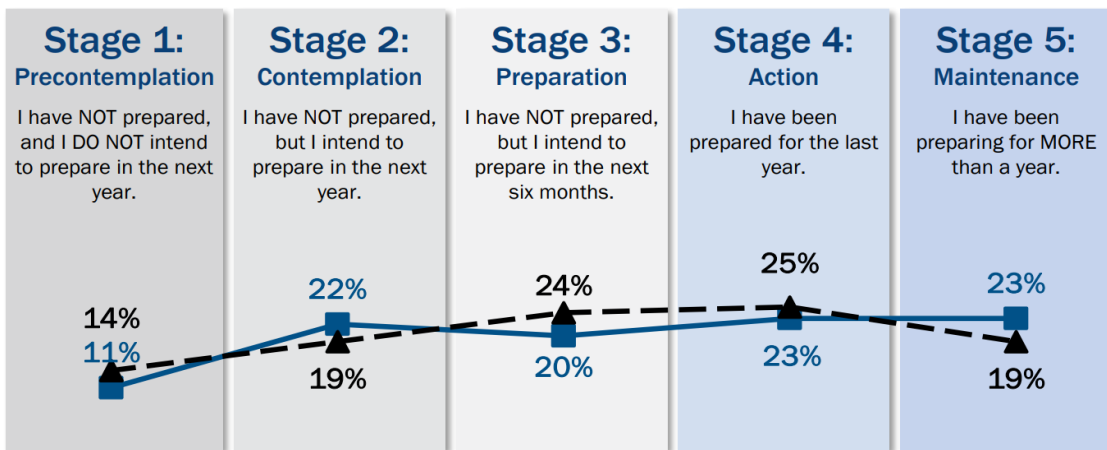
Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster



Legend: ■ = Person with disability and/or caregiver
▲ = Not Person with disability and/or caregiver

Characteristics

National Household Survey: 2021

	Perceived Efficacy	Risk Perception
Rural	41%	74%
Urban	41%	76%
Disability/caregiver	39%	83%
Not disabled/caregiver	41%	73%
Low SES	34%	79%
Not low SES	43%	76%
60+	37%	70%
18-59	42%	78%

Characteristics

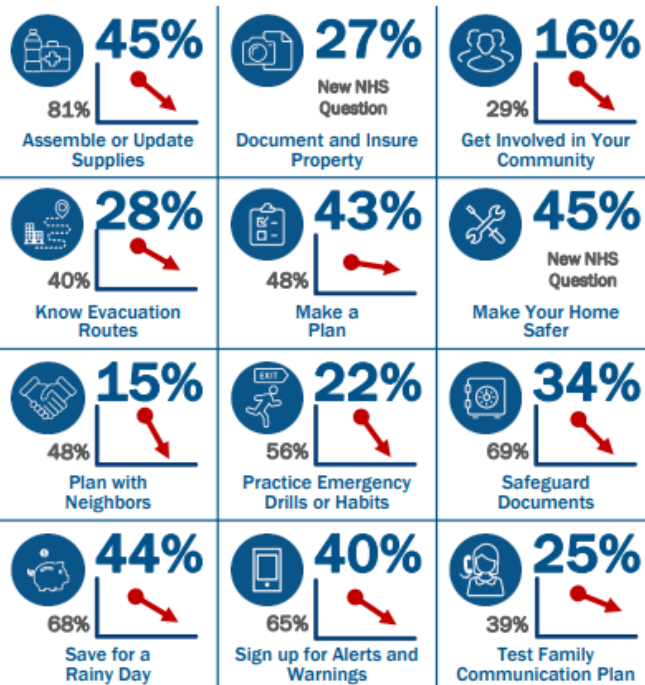
National Household Survey: 2021

	Perceived Efficacy	Risk Perception
White	42%	75%
Black/African American	39%	82%
Asian	31%	67%
Hispanic/Latino	40%	83%
Not Hispanic/Latino	40%	74%
Multi-race	35%	75%
English	40%	75%
Non-English	43%	85%

National Preparedness Profile

Summary of general disaster preparedness across the United States and territories.

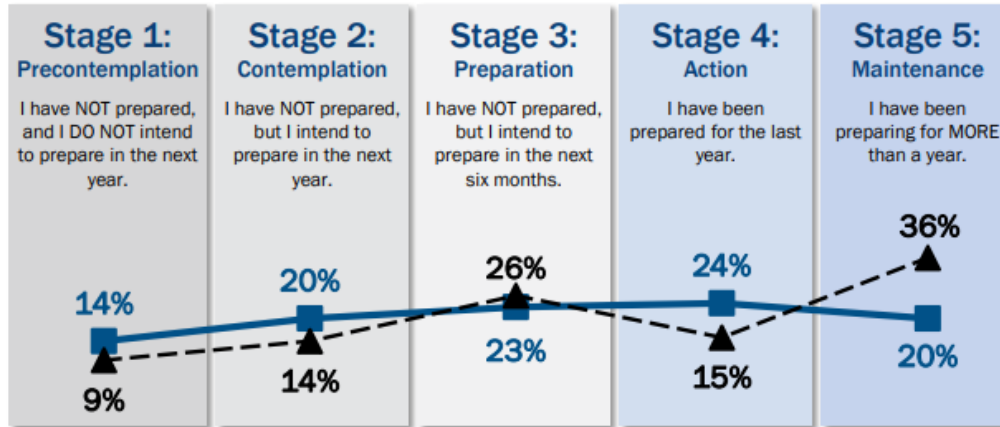
Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster



Legend: ■ - 2021 ▲ - 2020

Familiarity with local community planners & systems

Alert & warning systems
Sheltering (ADA accessibility)
Evacuation
Local hazards
Emergency transportation
Shelter plans for pets

Disaster Survivor Assistance Helpline
1-800-621-3362

Passive surveillance



Active surveillance

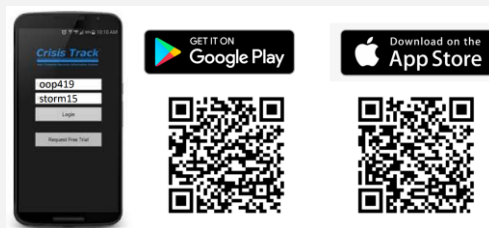


Early mitigation

Tools: Better decisions from better data

Crisis Tracker mobile (iPhone and Android)

- City, local, state agencies



Survey123 for ArcGIS- Federal

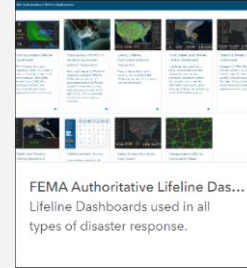


CDC/ATSDR Social Vulnerability Index (SVI) - Federal

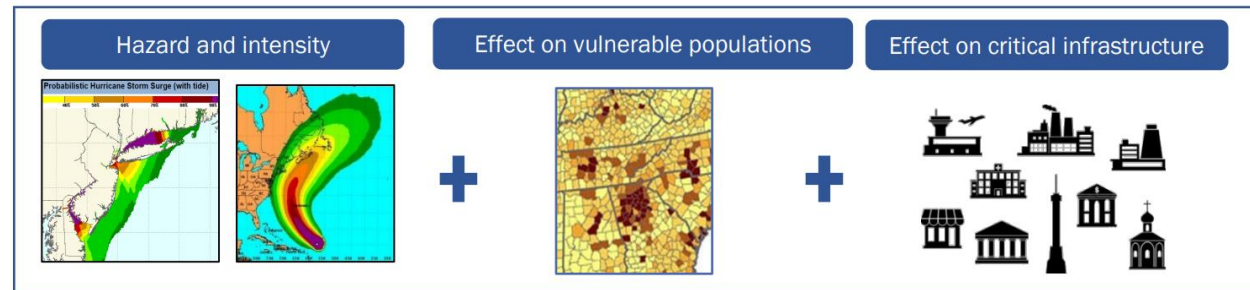
- Socioeconomic status (below poverty, unemployed, income, no high school diploma)
- Household composition & disability (aged 65 or older, aged 17 or younger, older than age 5 with a disability, single-parent households)
- Minority status & language (minority, speak English "less than well")
- Housing type & transportation (multi-unit structures, mobile homes, crowding, no vehicle, group quarters)



Nation-wide Spatial Datasets (internal)



Dashboards are used to monitor critical events, prioritize and manage operations during disasters. Used to help assess impacted areas and vulnerable populations so they can apply key resource to stabilize the situation



Prioritizing Operations Support Tool (POST)

Disaster Survivor Assistance

Focuses on addressing the needs of those impacted by disaster

- Provides in-person case-specific information and referral
- Door-to-door, mobile registration intake centers, call center/Internet, community partnership
- Identifies limited English proficiency and persons with disability

Essential Functions:

- Registration intake
- Survivor needs assessment
- Community outreach and partnership
- Case status inquiries and updates



Registration Characteristics

Color Legend

No

Yes

Declaration

(All)

Region

(All)

State

(All)

County or Parish

(All)

Valid Registration

(All)

Registration Method

(All)

Owner or Renter

(All)

Incident Type

(All)

Event Name

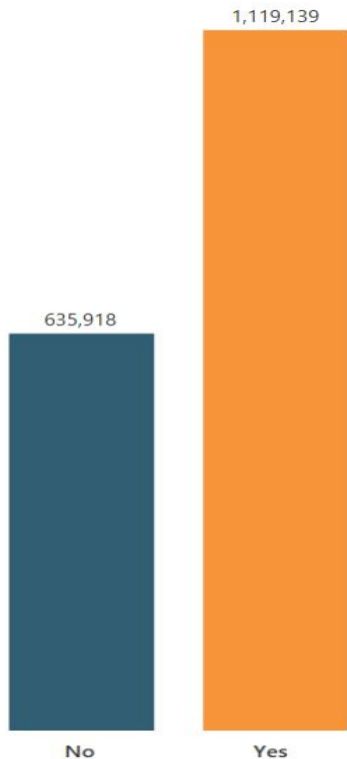
(All)

Fraud

All Registrants

EMERGENCY NEED TYPE

[Survivor Needs Dashboard](#)



ACCESS AND FUNCTIONAL NEEDS (AFN)

[Disability Integration Dashboard](#)

There are **274,435** registrants with AFN (applicants may report more than one need).
Click category to filter treemap, click again to un-filter

17,289
Accommodations

12,618
Language Need

78,974
Devices

160,478
Disability

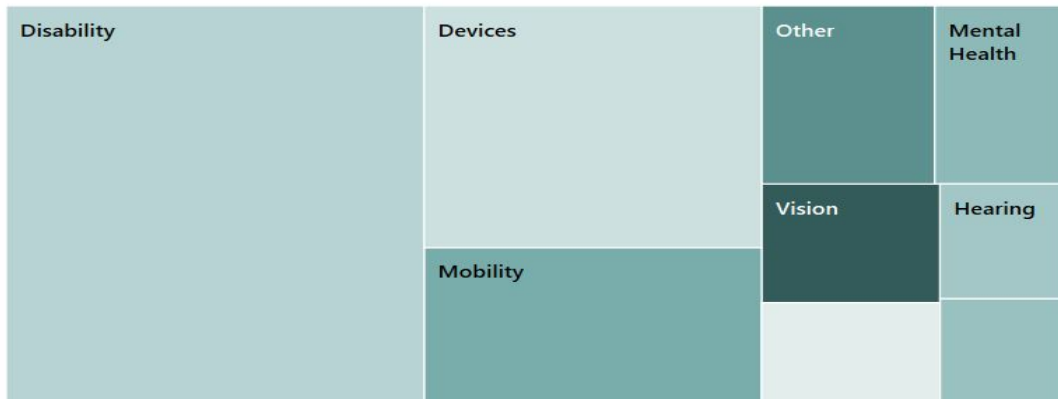
13,646
Hearing

22,350
Mental Health

51,097
Mobility

29,836
Other

20,476
Vision



Note: This data cannot be edited in the system once entered. If a registrant's needs change, or they don't end up using their AFN aid, this will not be reflected in the data being shown here. In addition, the wording of this question changed on May 2, 2019 from asking whether a registrant had an AFN need due to the disaster to asking whether the registrant had an AFN need in general. This will cause users to see a difference in reporting numbers after that time.

Disabled community based on Census comparison

Disability	Declaration	Region	State	Registration Method	Applied Date	Owner/Renter
All	(All)	(All)	(All)	(All)	Last 3 years	(All)

Top 20 All Disabilities

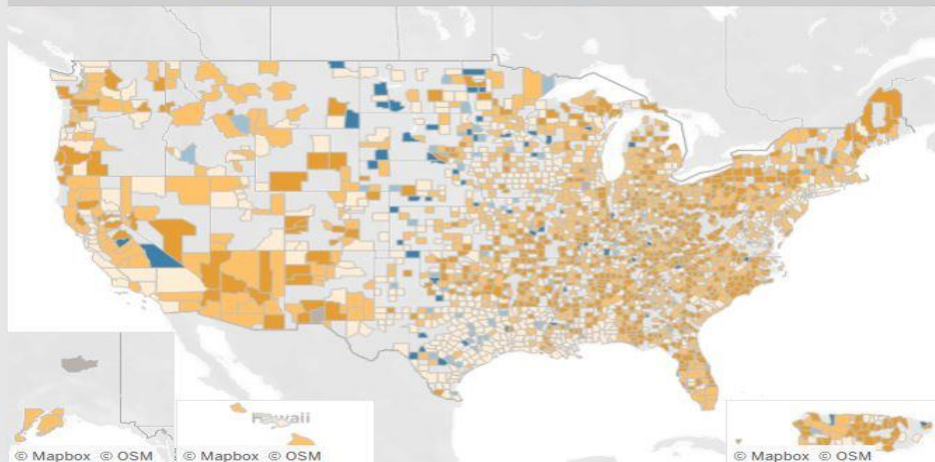
Sort By: Difference (Under ACS)

Top	Location	% Difference (ACS-YQ24)	ACS (Census)	YQ24	All Disability Registrations
1	McDowell, WV	-27.6%	32.6%	5.0%	1
2	Bell, KY	-26.5%	32.0%	5.5%	4
3	Cayey, PR	-25.3%	32.1%	6.8%	4
4	Orocovis, PR	-24.2%	31.5%	7.3%	43
5	Aibonito, PR	-23.3%	26.1%	2.8%	1
6	Washington, MO	-23.3%	25.9%	2.6%	1
7	Boone, WV	-23.2%	28.5%	5.3%	1
8	Sabana Grande, PR	-23.2%	32.9%	9.7%	97
9	Bayamon, PR	-23.1%	26.8%	3.7%	11
10	Scott, TN	-22.3%	25.9%	3.6%	1
11	Logan, WV	-22.3%	28.8%	6.5%	6
12	Pemiscot, MO	-22.2%	26.4%	4.2%	1
13	Russell, VA	-22.0%	24.6%	2.6%	1
14	Carolina, PR	-21.9%	22.6%	0.7%	1
15	Harlan, KY	-21.8%	31.7%	9.9%	9
16	Fajardo, PR	-21.8%	23.4%	1.6%	1
17	Choctaw, AL	-21.7%	28.4%	6.7%	1
18	Calhoun, AR	-21.4%	24.6%	3.2%	1
19	Fannin, GA	-21.3%	24.5%	3.2%	2
20	Greene, TN	-21.1%	23.7%	2.6%	3

Difference All Disabilities

MAP FOCUS: Continental US

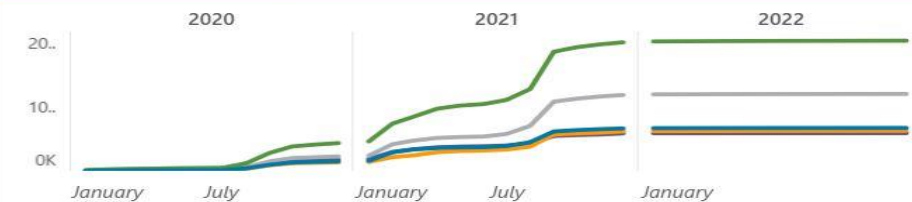
10%+ Under ACS 5-10% Under ACS Within 5% 5-10% Over ACS 10%+ Over ACS



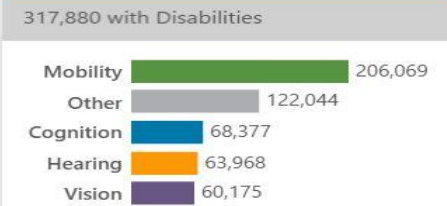
Registration Method



Cumulative Registration Timeline



Registration Types



Recommendations

- Household/caregiver engagement
- Raise awareness of neighbours
- Opportunities for faithbased community
- DME coordination (MedShare, Medicaid sub-program waivers, ASPR SNS, non-profit & private donations)
- VOAD community



**Community
planning**

Resources

Access and Functional Needs Toolkit for emergency planners to achieve effective communications through the integration of a community outreach information network. The toolkit provides a framework to organize planning for broad groups of people with disabilities and others with access and functional needs, **Author:**

CDC

Date Published: 2021

<https://www.cdc.gov/cpr/readiness/afntoolkit.htm>

Federal Emergency Management Agency's (FEMA) commonly used sheltering items and services listing (CUSI-SL) catalogue

Author: FEMA

Date Published: 2019

https://nationalmasscarestrategy.org/wp-content/uploads/2019/09/CUSI-SL-Catalog_September-2019.pdf

Disaster Preparedness for Children with Disabilities: Durable Medical Equipment

Author: New York City Department of Health and Mental Hygiene/NPLI/MobileKids

Date Published: 2020

<https://www1.nyc.gov/assets/doh/downloads/pdf/bhpp/disaster-preparedness-children-disabilities-durable-medical-equipment.pdf>



Questions?

Judy Kruger

jkruger@emory.edu

National Household Survey

<https://www.ready.gov/preparedness-research>



Rebecca Hall

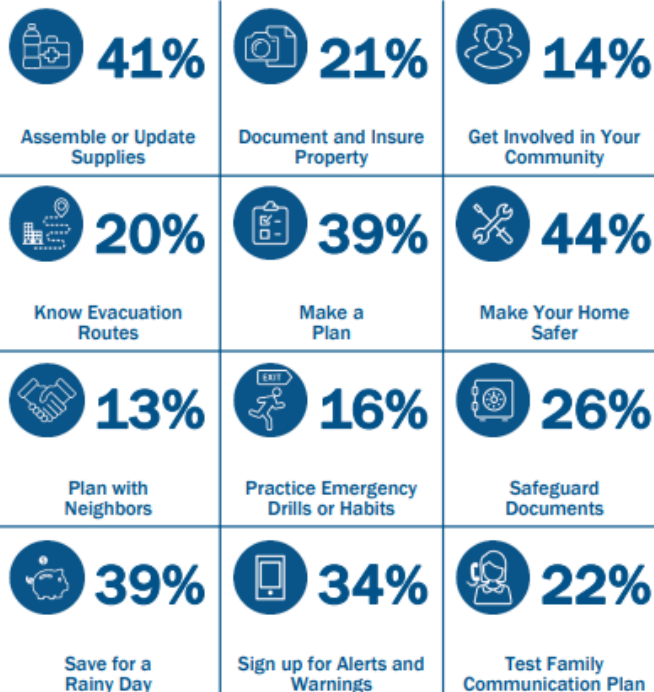
CDC at-risk Taskforce Lead

BQU5@cdc.gov

Pandemic Preparedness Profile

Summary of pandemic preparedness across the United States and its territories. These questions are **new** to the 2021 NHS.

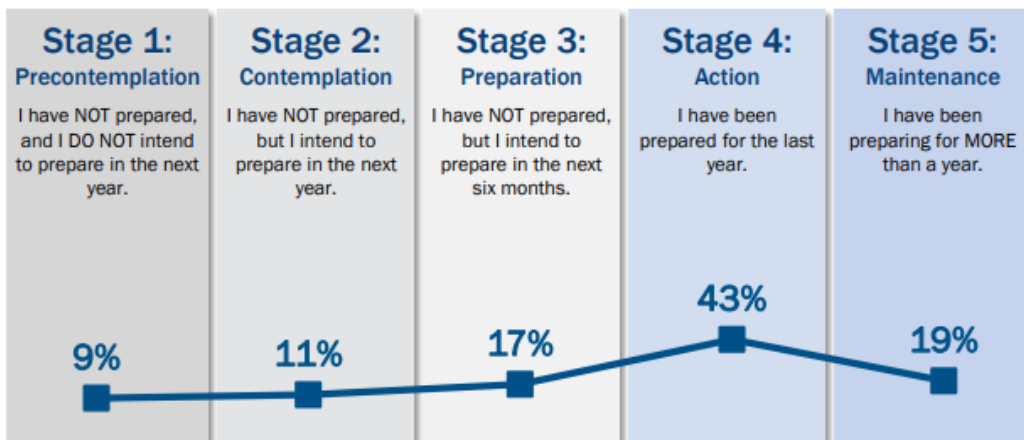
Preparedness Actions



Pandemic Preparedness Influencers



Perceived Preparedness for a Pandemic



Legend: ■ = 2021

Preparedness Actions Across all the Hazard Areas

Those who have taken at least one preparedness action were more likely to take additional preparedness actions. Encourage the public to take the first step, and it is likely that other actions will follow.

Preparedness actions taken for 2021 NHS:	 Assembled or Updated Supplies	 Documented & Insured Property	 Got Involved in the Community	 Knew Evacuation Routes	 Made a Plan	 Made the Home Safer	 Planned with Neighbors	 Practiced Emergency Drills	 Safeguarded Documents	 Saved for a Rainy Day	 Signed up for Alerts & Warnings	 Tested a Family Comm. Plan
Any Disaster (total sample)	45%	27%	16%	28%	43%	45%	15%	22%	34%	44%	40%	25%
Drought	26%	11%	6%	6%	27%	21%	8%	12%	13%	28%	20%	8%
Power Outage	39%	14%	8%	17%	38%	22%	12%	14%	19%	23%	27%	18%
Thunderstorm	29%	19%	12%	15%	27%	30%	16%	19%	26%	23%	29%	16%
Tsunami	10%	8%	8%	18%	22%	13%	5%	9%	12%	14%	21%	10%
Volcanic Eruption	15%	10%	3%	19%	21%	14%	5%	10%	16%	13%	22%	13%
Winter Storm	38%	14%	10%	20%	32%	41%	14%	12%	19%	30%	31%	20%

Non-Primarily English-Speaking Households

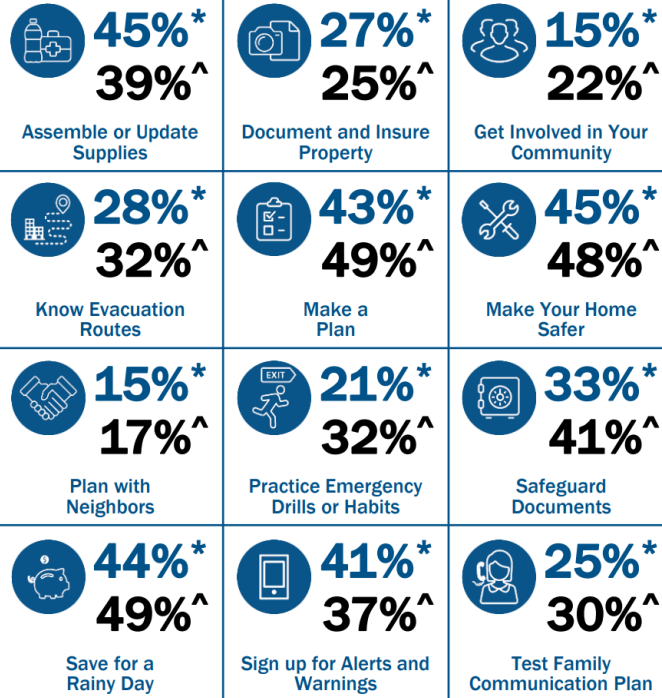
Community Preparedness Summary

Summary of general disaster preparedness among those who live in primarily English-speaking households and those who do not live in primarily English-speaking households.

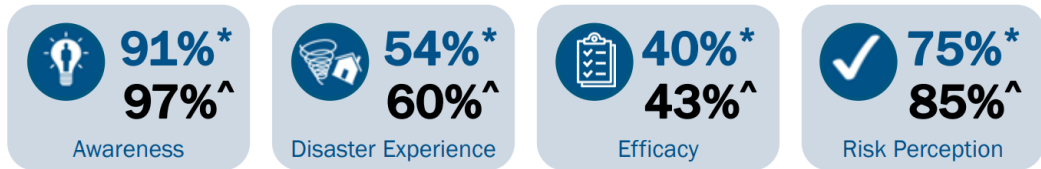
Blue* = Primarily English-Speaking Household

Black^ = Not Primarily English-Speaking Household

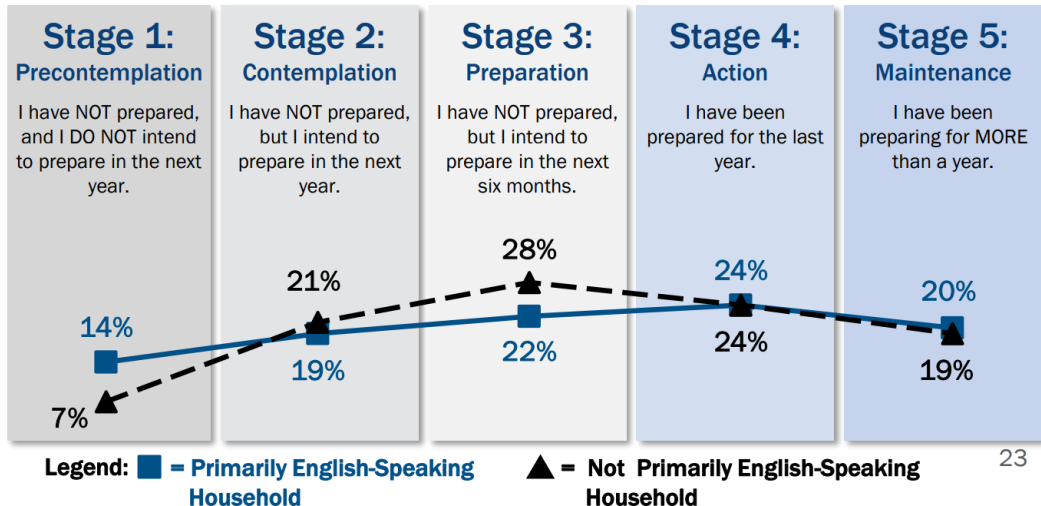
Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster

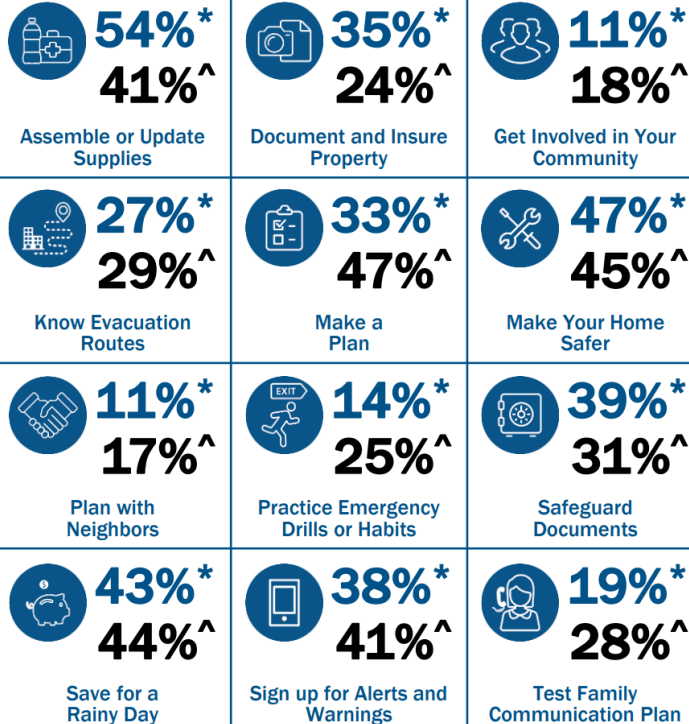


Aging Community Preparedness Summary

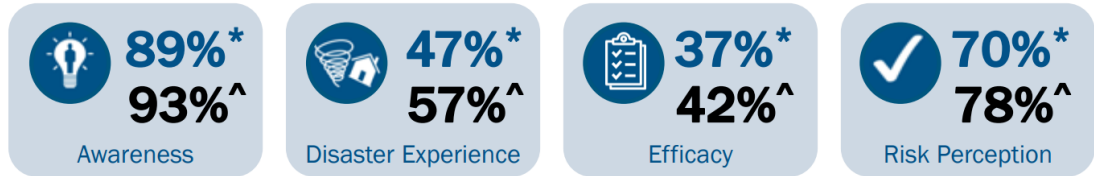
Blue* = 60+ Years Old
Black^ = 18-59 Years Old

Summary of general disaster preparedness among those who are 18-59 years old and those 60+ years old.

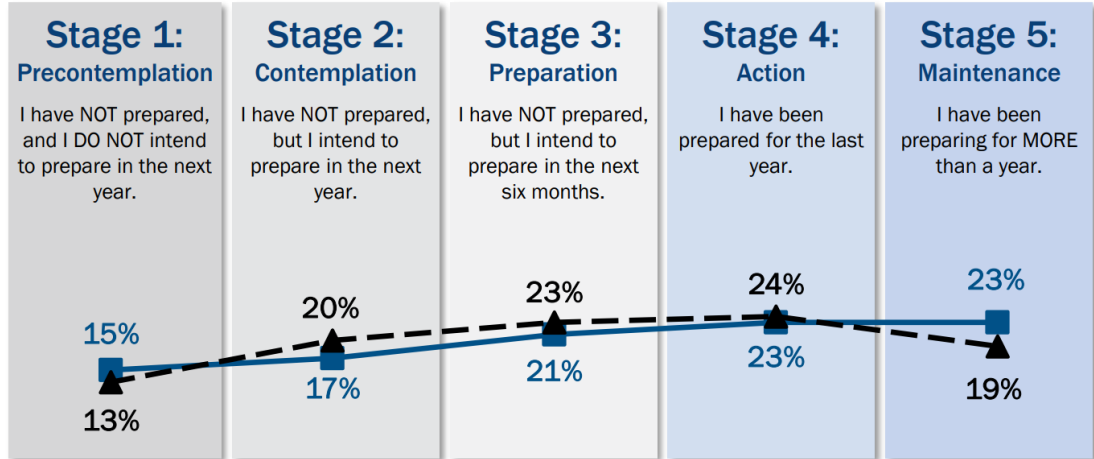
Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster



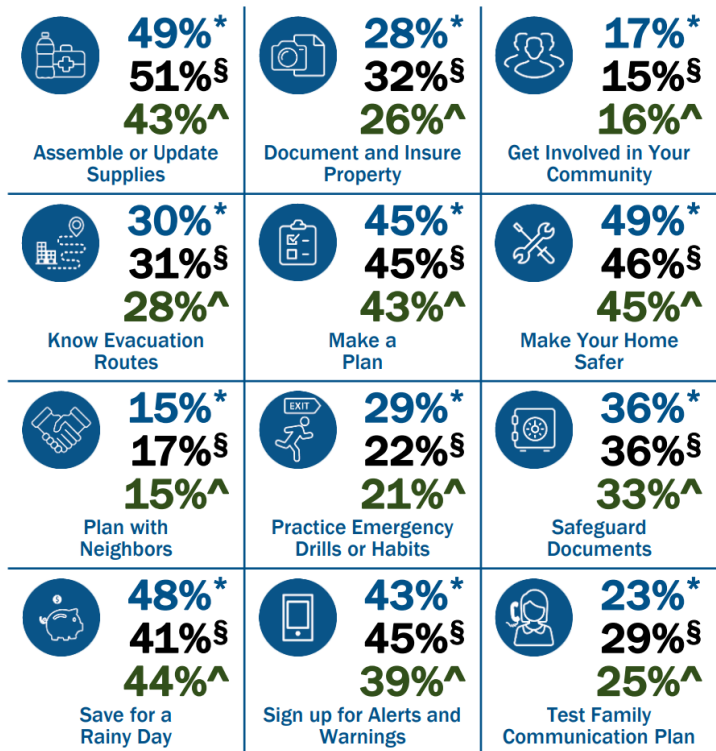
Legend: ■ = 60+ Years Old ▲ = 18-59 Years old

Rurality Preparedness Summary

Summary of general disaster preparedness among those who live in rural, urban, and urban cluster communities. These questions are **new** to the 2021 NHS.

Blue* = Rural
Black\$ = Urban Cluster
Green^ = Urban

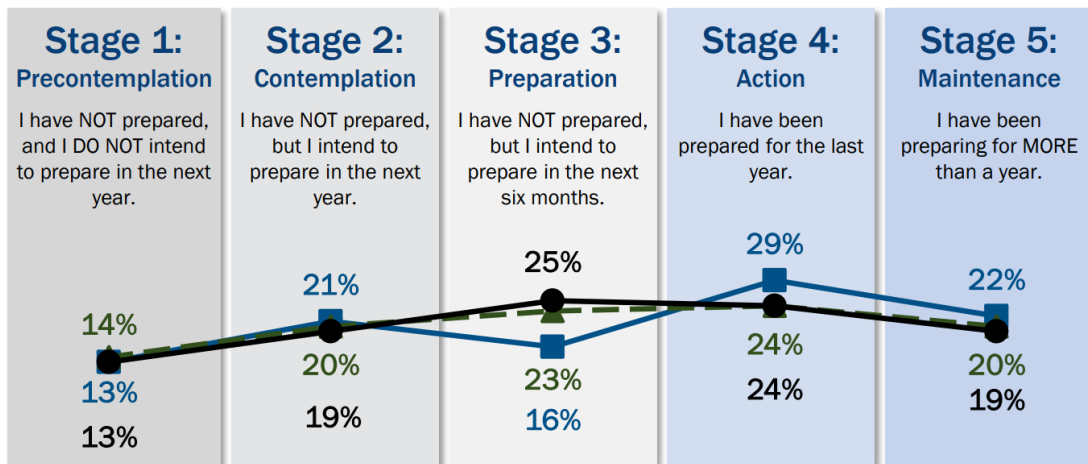
Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster



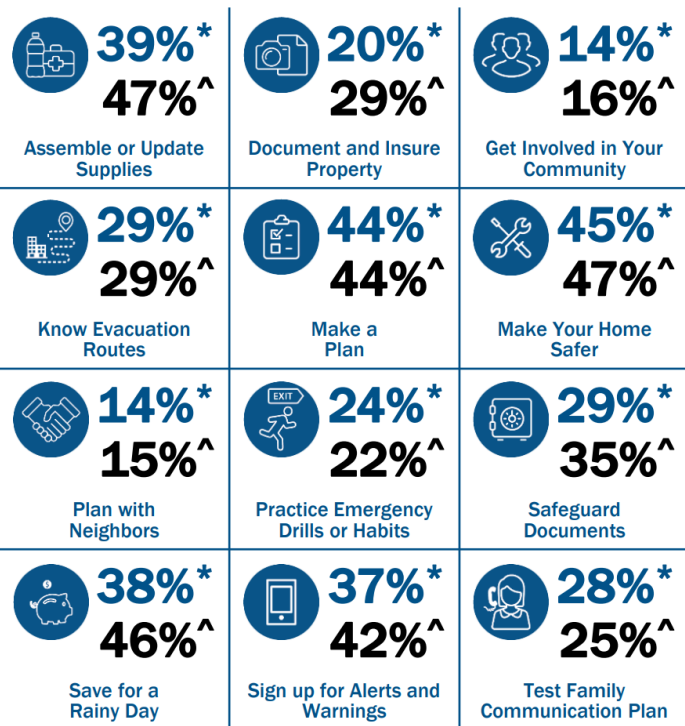
Legend: ■ = Rural ● = Urban Cluster ▲ = Urban

Socio-Economically Disadvantaged Preparedness Summary

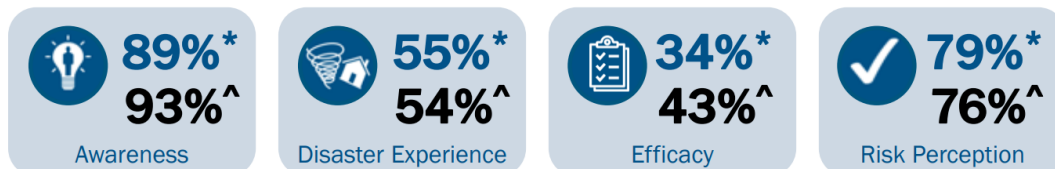
Blue* = Disadvantaged
Black^ = Not Disadvantaged

Summary of general disaster preparedness among those considered socioeconomically disadvantaged and those who are not.

Preparedness Actions



Disaster Preparedness Influencers



Perceived Preparedness for a Disaster

