



The Impacts of Extreme Weather Events on People with Disabilities



National Council on Disability

May 4, 2023

National Council on Disability (NCD)
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The Impacts of Extreme Weather Events on People with Disabilities

National Council on Disability, May 4, 2023
Celebrating 39 years as an independent federal agency

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National Council on Disability

An independent federal agency making recommendations to the President and Congress to enhance the quality of life for all Americans with disabilities and their families.

Letter of Transmittal

May 4, 2023

President Joseph R. Biden, Jr.
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear Mr. President,

The Federal Government has a vitally important duty to protect its most vulnerable citizens in time of natural disasters. For people with disabilities the consequences of extreme weather events are often exacerbated by the exclusion of their needs in planning for such events and in the federal relief and recovery response thereafter. On behalf of the National Council on Disability (NCD), I hereby transmit NCD's report titled *The Impacts of Extreme Weather Events on People with Disabilities*. The report is also available on NCD's website at www.ncd.gov.

This report examines how extreme weather events in the United States and its territories adversely and disproportionately impact people with disabilities. This report examines the enforcement of applicable disability rights laws; access to healthcare, housing, employment, and education; and the adequacy of emergency management plans, policies, services and resources before, during, and after an emergency or major disaster declaration;¹ and the congressional, federal, and state, local tribal and territorial (SLTT) response.

Last year, *Category 1 Hurricane Fiona* pummeled Puerto Rico, dumping historic levels of rain, and unleashing massive flooding, landslides and mudslides. That was followed by *Category 4 Hurricane Ian* that ravaged Florida and South Carolina, causing well over 100 deaths and catastrophic damage to homes, schools, businesses, hospitals and other properties. In Puerto Rico, the damage was island-wide, affecting all of its 687,000 residents with disabilities. In Florida, nearly 3 million people with disabilities who lived in counties decimated by Hurricane Ian's fury were impacted and the true extent of that impact is not yet clear.

In fulfillment of our advisory duties, NCD has been advising federal agencies over the years on the need to improve the outcome of people with disabilities before, during and after disasters.² Yet, today, people with disabilities are still 2 to 4 times more likely to be injured or killed in a natural disaster than those who are not disabled.³ People with disabilities are far more likely than anyone else to face major hardships including displacement from their homes due to a major disaster. Seventy percent of people who are deaf and evacuated reported living in unsanitary conditions a month after the disaster compared to only 7% of evacuees who are not deaf.⁴

With the rapidly growing disabled population in the U.S.,⁵ the increased prevalence of extreme weather events, as evidenced by the more than 300 presidentially declared major disasters across all 50 states and U.S. territories since 2017⁶ and with the increased intensity of those weather events, the safety and well-being of people with disabilities are gravely at risk.

This report provides findings and recommendations to mitigate the impacts of extreme weather events on people with disabilities before, during, and after a catastrophic natural disaster and to enhance preparation and mitigation and inform policy – all aimed to build a more resilient community.

Mr. President, adopting the recommendations of this report will mitigate the costs expended by the Federal Government in disaster recovery, diminish the misery caused by these disasters but more importantly, save lives. We stand ready to coordinate with you, Congress and federal agencies to create a fully inclusive national preparedness, recovery and response effort for the millions of people with disabilities in our country and in our territories.

Respectfully submitted,



Andrés J. Gallegos, J.D.
Chairman

(The same letter of transmittal was sent to the President Pro Tempore of the U.S. Senate and the Speaker of the U.S. House of Representatives.)

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NCD further recognizes and expresses its sincere appreciation to former NCD Council Members Daniel Schreck and Dr. Munr Kazmir, whose participation on the report’s subcommittee was instrumental in its development and completion.

Executive Summary

In this report, the National Council on Disability (NCD) examined how extreme weather events and environmental hazards have adversely and disproportionately impacted people with disabilities in the United States and its territories over the past 20 years. The report focuses on compliance with applicable federal laws; examines applicable federal programs and policies and their implementation in health care, housing, education, and emergency management; and offers findings and recommendations to bring about policy and system change.

This report defines extreme weather by the type of hazard (e.g., drought, flooding, severe storm, wildfire, winter weather, tropical cyclone [hurricane]) and level of risk by U.S. county and U.S. territory. It posits that extreme weather events are increasing in frequency and severity globally and that this increase has resulted in significant economic and social costs, with profound effects on people with disabilities.

NCD examined whether SLTT governments complied with existing federal statutes and regulations when implementing emergency management policies for people with disabilities and whether federal agencies monitored SLTT governments' plans for compliance and used their enforcement capabilities when entities were noncompliant. NCD examined what limited

data were available to illustrate the outcomes of people with disabilities before, during, and after disasters. The report findings show an urgent need to collect aggregated data, to improve training, and to enforce legislation.

Key Findings

Laws and Regulations

- Some local governments have not complied with federal rules and regulations, even though those rules and regulations clearly state that programs and services funded with federal dollars must be compliant with federal disability rights laws. SLTTs and their contractors are legally required to comply with Title II of the ADA provision of "emergency- and disaster-related programs, services, and activities they provide"⁷ and with section 504 of the Rehabilitation Act, to ensure federally funded programs allow for equal access.

Health Care

- Extreme weather events are increasing in frequency, severity, and cost. The increase in extreme weather events is resulting in significant social and economic costs to people with disabilities, their families, and their communities.

- The growing population of people with disabilities will strengthen the need for accessible health care services and providers. It will increase demand on resources and strain critical systems, including the health care system, and emergency management agencies.
- While the number of people with disabilities is increasing, the U.S. health care system is facing staffing shortages,⁸ which will exacerbate poor outcomes for people with disabilities during disasters, when demand for acute emergency care is heightened.
- People with disabilities who are forced to relocate out of state due to a disaster lose access to their Medicaid-supported services because Medicaid is not transferable across state lines.

Housing

- The current housing shortage, low vacancy rates, high prices, limited availability of accessible units, the increase of extreme weather events that damage and destroy existing housing stock, the nexus between people with disabilities and poverty and areas of low-income being disproportionately impacted by extreme weather events are all factors that exacerbate the ability of people with disabilities to secure affordable accessible housing.
- HUD's 5 percent accessibility requirement for federally assisted new construction housing developments⁹ does not meet the needs of people with disabilities, who represent 25 percent of the population.

Employment

- Employees with disabilities are displaced at a disproportionate rate to people without disabilities independent of extreme weather events. The employment rate of people with disabilities is 19.1 percent compared to 63 percent of people without disabilities.¹⁰ People with disabilities are 89 percent more likely to experience an involuntary job loss than people without disabilities.¹¹ After an extreme weather event, unemployment rates for employees with disabilities are impacted at a higher percentage than people without disabilities. NCD has heard from disability stakeholders about employment loss after extreme weather events, and yet there is limited public research and data about how disasters impact job rates for people with disabilities.

Education

- Students with disabilities are left behind when school districts fail to integrate students with disabilities into their emergency management plans and policies. Lack of planning results in longer delays for students with disabilities to return to receive necessary educational supports and services.
- Students with disabilities living in rural, tribal, and low-income areas are especially susceptible to educational disruption because of the present shortage of special education professionals, which is exacerbated when an extreme weather event occurs.
- States and territories found difficulty acquiring specialized services and personnel needed to comply with the IDEA requirements.

Emergency Management

- People with disabilities face a unique set of barriers during disasters, yet emergency management agencies consistently fail to account for those barriers and fail to coordinate with the disability organizations and community-based organizations (CBOs) that represent them.
- There are over 700 tribal nations in the United States. According to the Bureau of Indian Affairs (BIA), the majority of tribal nations do not have an emergency management plan, and tribal nations that do have a plan tend to not incorporate the needs of people with disabilities.
- Limited auxiliary aids and services to achieve effective communications during extreme weather events means people with disabilities do not have equal access to information, which increases the risk to their safety and infringes on their civil rights.
- During emergencies and disasters, SLTT governments rely on traditional emergency alert systems (EASs) that do not work for individuals who are Deaf and Hard of Hearing, placing those individuals at risk of being uninformed during an emergency.
- Jurisdictions face transportation resource gaps for emergency evacuations. The need for accessible transportation during disaster response and evacuation often surpasses the resources of the local community.

Key Recommendations

Laws and Regulations

- NCD recommends Congress should appropriate funds and require the Department of Justice (DOJ), in collaboration with other federal agencies (OFAs) to increase monitoring and enforcement of federal disability laws, which requires that emergency communications be fully accessible to people with disabilities.
- NCD recommends DOJ should review websites such as the National Hurricane Center (NHC) to ensure that it is 508 compliant and that all federal webpages are accessible to people who use screen readers or other assistive technology devices.

Health Care

- NCD recommends Congress should pass the Real Emergency Access for Aging and Disability Inclusion for Disasters Act (REAADI) to address gaps in meeting civil rights obligations to people with disabilities impacted by disasters.¹²
- NCD recommends Congress should appropriate funds to FEMA for the express purpose to advise SLTTs emergency management agencies (EMAs) and state health departments to conduct reviews and update emergency management plans and guidance to prepare for an increase of people with disabilities. The plans should be data-driven, inclusive, and compliant with disability laws to ensure equal

- access including effective communication, evacuations, and shelters that provide accommodations and modifications to ensure the safety of people with disabilities.
- NCD recommends Congress should require state collection of health care demographic data relating to functional disability and home- and community-based services (HCBS) use for all Medicaid enrollees, including better data collection across the full range of long-term care, group homes, and congregate settings, licensed, certified, or approved by the state.
 - NCD recommends Congress should pass legislation to address the shortage of primary care doctors and other health care providers. The legislation should address shortfalls in the nation's supply of health care providers and include inclusive recruitment for a diverse health care workforce, loan forgiveness that encourages health care providers to work with underserved populations, and other innovative targeted incentive measures.
 - NCD recommends Congress should provide funding to the U.S. Department of Health and Human Services (HHS) so it can implement section 5307 of the Patient Protection and Affordable Care Act. Funding section 5307 would allow for the development, evaluation, and dissemination of research, demonstration projects, and model curricula for cultural competency, prevention, public health proficiency, reduction of health disparities, and aptitude for working with individuals with disabilities for use in training in health professions
- schools and continuing education programs.¹³
- NCD recommends Congress should make research and development (R&D) investments that promote assistive technology. This should involve the following: (1) making greater investment in R&D of accessible apps and devices to incentivize developers to create innovative technology, which can help people with disabilities enhance functional performance to improve outcomes in areas such as education, employment, and independent living; (2) increasing the R&D budget for the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), the Medical Research and Development Program; and (3) providing funding to a federal unit such as the Administration for Community Living to design and fund technical assistance on R&D for the technology industry to support accessible design of emerging technology.
 - NCD recommends Congress should pass the Disaster Relief Medicaid Act (DRMA). upon passage, states should immediately implement DRMA to ensure that individuals who are eligible for Medicaid and are forced to relocate due to a disaster are able to continue to access their Medicaid-supported services.

Housing

- NCD recommends Congress should pass legislation to spur affordable housing production and measures to preserve

existing homes so that people with disabilities can return to their homes post an extreme weather event as outlined in the White House Actions to Ease the Burden of Housing Costs. Doing so would expand and improve existing forms of federal financing for affordable multifamily development and allocate a percentage of the housing development units to be accessible to people with disabilities.

- NCD recommends HUD should increase the number of accessible units from the 5 percent accessibility requirement for federally assisted new construction housing developments to 25 percent, which represents the percentage of people with disabilities in the United States.
- NCD recommends Congress should permanently authorize HUD Community Development Block Grant (CDBG) funding or in the alternative, streamline the authorization process after a disaster so that subsidies reach recovering communities earlier, and so rebuilding can begin immediately following a disaster.
- NCD recommends HUD should initiate a policy that will not approve funding of federal financed housing in floodplains.
- NCD recommends HUD should require developers use materials that are more resilient to extreme weather events indicative of the area, for instance, metal shingles in California to mitigate wildfires, or a safe room in units designed for people with disabilities that should withstand high winds from hurricanes or tornadoes.

Employment

- NCD recommends the Department of Labor (DOL) Bureau of Labor Statistics should collaborate with the National Institute on Disability, Independent Living, and Rehabilitation Research to commission a study on how individual disasters impact people with disabilities in terms of employment and economic impacts.

Education

- NCD recommends Congress should enact legislation to combat special education and rural teacher shortages across the U.S. and appropriate funding for programs to assist in recruitment of special education teachers.

Emergency Management

- NCD recommends that the President should sign an executive order (EO) charging federal agencies to develop/update emergency management plans to anticipate an increase in extreme weather events, address the impact to agency functions, and provide guidance to the SLTTs. The EO should specifically address how each agency will integrate people with disabilities into the emergency management plan to ensure services for people with disabilities are available before, during, and after disaster.
- NCD recommends Congress should authorize additional funding and FEMA should provide guidance to Tribal Nations to strengthen/establish an emergency preparedness plan inclusive of people with disabilities.

- NCD recommends FEMA should provide guidance and training to SLTT partners on the legal requirements for Functional Needs Support Services for general population shelters and the potential loss of shelter reimbursement funds and propensity for lawsuits should they not provide accessible sheltering.
- NCD recommends FEMA, DOJ, and Federal Communications Commission should review, consolidate, and enhance existing guidance for effective communications before, during, and after disasters, compiling these materials into a comprehensive guide that is distributed, and promoted, across SLTT and nongovernmental organization (NGO) partners.

Methodology

This report is organized into six chapters that examine how existing federal law and regulations and federal and state policies and programs impact people with disabilities in regard to housing, employment, education, and emergency management before, during, and after an extreme weather event. Each section addresses the topics of access and accessibility (e.g., access to health care, access to affordable and accessible housing and shelter, access to employment, access to a free and appropriate public education, and how we build resilient communities before, during, and after an emergency or major disaster declaration). The Stafford Act¹⁴ provides for two types of disaster declarations—emergency declarations and major disaster declarations. Both must be declared by the President but provide different levels of

emergency services, assistance programs, and funding.¹⁵

NCD conducted a literature review on extreme weather events and environmental hazards. First, NCD examined a selection of relevant academic research papers on how extreme weather events impact people with disabilities in the United States. Second, NCD conducted risk mapping and a multistep geospatial analysis to spatially demonstrate where extreme weather events are occurring in the United States and the communities impacted, as well as where people with disabilities are concentrated.

NCD identified counties with high concentrations of people with disabilities and the factors that lead to adverse and disproportionate impacts on people with disabilities based on data from the Census Bureau ACS disability status variables (2015–2019) and other national databases. The data included indicators and provided estimates and statistics that were disaggregated by disability status to reflect the diversity of people with disabilities. NCD reviewed disability statistics from the Centers for Disease Control and Prevention (CDC) and NIDILRR.

Third, NCD conducted stakeholder engagement through virtual stakeholder convenings using a mixed mode of participant engagement. The first and second convenings gathered disability experts, advocates, and NGOs to identify gaps, insights, and interventions in relation to how extreme weather events impact people with disabilities and how to improve outcomes. The third convening gathered federal, state, and local government experts to discuss policies, programs, and recommendations in relation to how extreme weather events impact people with disabilities.

Risk Mapping of Impacted Communities

To show extreme weather events in the United States by county, NCD used data from the FEMA NRI. NCD used the risk ratings (very low, relatively low, relatively moderate, relatively high, and very high) that categorize the relative risk for each county and natural hazard. The ratings are categorized based on the NRI's risk score, which is a scaled score for all counties ranging from 0 to 100 that can be broken down by hazard (e.g., flooding, heat) (see figure 1). The graph can be found in appendix D with all text.

To show where significant concentrations of people with disabilities reside, NCD used Census Bureau ACS 2015–2019 disability status variables data, which comprise the most recent five-year data set (see appendix D, figure 2).

NCD then combined the two data sets to identify locations in the United States that have high risks for natural hazards, high percentages of people with disabilities, and high total counts of people with disabilities in counties (see appendix D, figure 3).

NCD reviewed FEMA emergency and major disaster declarations for the past 10 years by county (see figure 4).¹⁶

To show the economic impacts of extreme weather events, NCD referenced the NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters data (2022).¹⁷ The NOAA data showed that in 2021, the United States experienced 20 separate billion-dollar weather and climate disasters, putting 2021 in second place for the most disasters in a calendar year, behind the record 22 separate billion-dollar events in 2020 (all inflation-adjusted to 2021 dollars).¹⁸ The diversity of the billion-dollar disasters indicated that costly extreme weather events are not limited to a particular type of natural hazard. NCD also reviewed the past 10 years (2012–2021) and found that the 2010s decade was far costlier than the 2000s, 1990s, or 1980s (see figure 5).

The risk mapping analysis enabled NCD to identify key locations in the United States that are appropriate for reviewing extreme weather events and their impact on people with disabilities. The mapping analysis also informed NCD of key locations to convene stakeholder focus groups to provide the most informed input. NCD assembled stakeholders from locales where people with disabilities are impacted by extreme weather and environmental disasters.

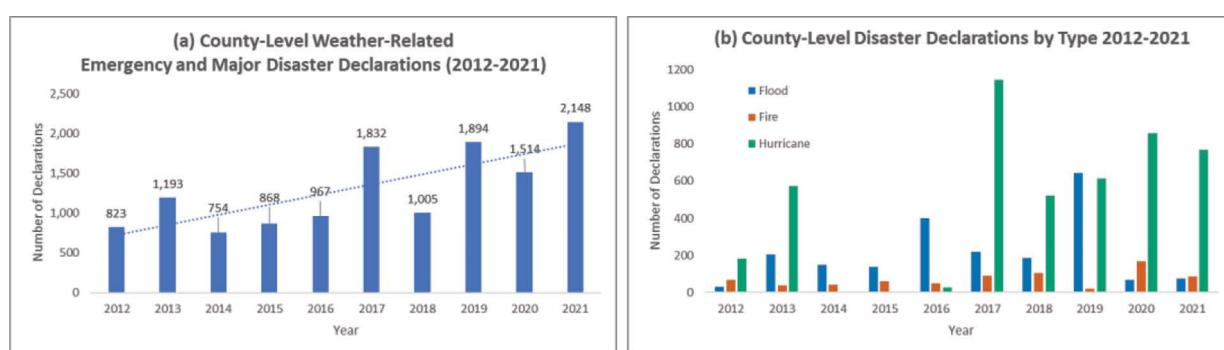
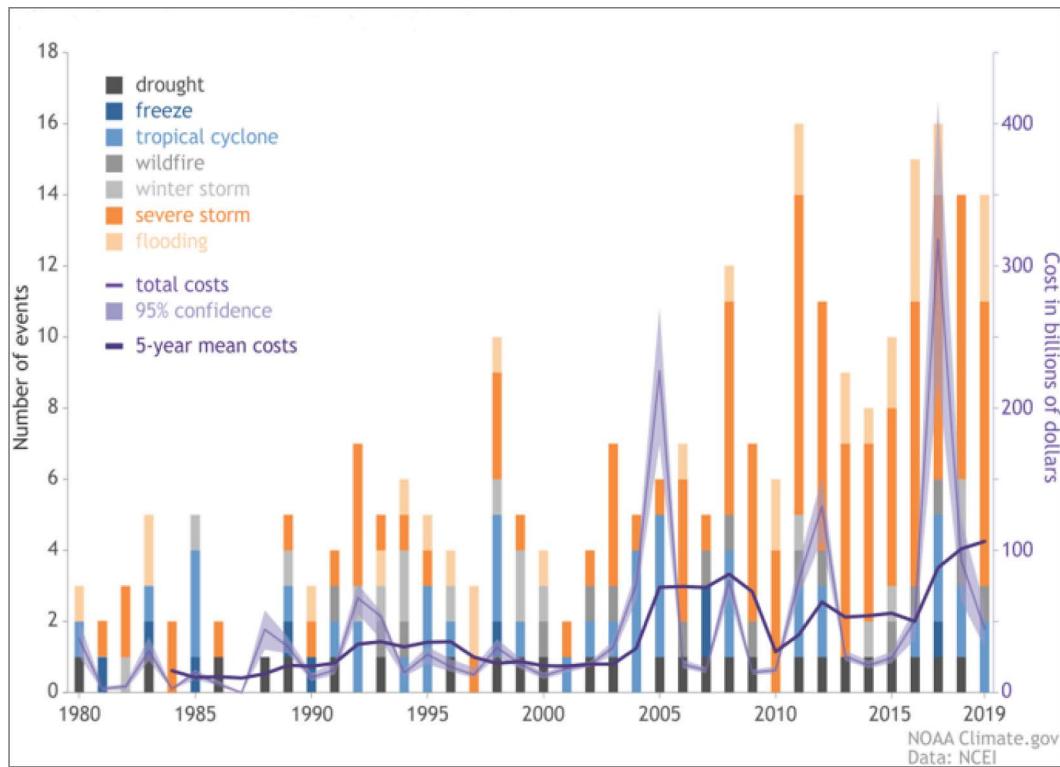


Figure 4. County-Level Emergency and Major Disaster Declarations for (a) All Weather Events and (b) Select Events (2012–2021)



Website: https://www.climate.gov/sites/default/files/2021-10/BillionDollarDisasters2019_counts_costs_large.png

Figure 5. Billion-Dollar Disaster Events by Type in United States (1980–2019)

NCD identified the following disasters to review: hurricanes Harvey, Irma, and Maria (2017); western wildfires (2020–2021); and winter storm Uri (2021). These extreme weather events impacted counties in Texas, California, and Florida that have large populations and percentages of people with disabilities and are also at a “very high” risk of natural hazards.

Hurricane Harvey impacted the Gulf States (Texas, Louisiana, Mississippi, Alabama, and

Florida). In fact, the impact covered 90 percent of the state of Florida and the U.S. Virgin Islands. Hurricane Irma impacted Georgia, Alabama, Tennessee, and South Carolina. Hurricane Maria was the strongest storm to hit Puerto Rico in nearly a century.¹⁹ The western wildfires (2020–2021) impacted California, Oregon, Washington, Idaho, and Montana. Winter storm Uri (2021) had a significant impact on Texas.

Acronym Glossary

AAR	after-action report
ABLE	Achieving a Better Life Experience Act
ADA	Americans with Disabilities Act of 1990
ACA	Patient Protection and Affordable Care Act
ACL	Administration for Community Living
ACS	American Community Survey
AHA	Affordable Housing Act
AIVR	American Indian Vocational Rehabilitation Service program
AJC	American Jobs Centers
ASL	American Sign Language
ASPR	Office of the Assistant Secretary for Preparedness and Response
AT	Assistive Technology
ATBCB	Architectural and Transportation Barriers Compliance Board
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
CAP	Common Alerting Protocol
CART	Communication Access Realtime Translation
CBPP	Center on Budget and Policy Priorities
CBOs	community-based organizations
CCAM	Coordinating Council on Access and Mobility
CDBG	Community Development Block Grant
CDBG-DR	Community Development Block Grant-Disaster Recovery
CDBG-MIT	CDBG-Mitigation
CDC	Centers for Disease Control and Prevention
CCFs	congregate care facilities
CIL	Centers for Independent Living
CMIST	Communication, Maintaining Health, Independence, Support, and Transportation
CRIPA	Civil Rights of Institutionalized Persons Act
CMS	Centers for Medicare and Medicaid Services
COPD	chronic obstructive pulmonary disease
COVID-19	Coronavirus

CRCL	Office for Civil Rights and Civil Liberties
CVAA	Communications and Video Accessibility Act
CPI	Consumer Price Index
DCR	Division of Civil Rights
DHS	U.S. Department of Homeland Security
DIA	disability integration advisors
DME	Durable Medical Equipment
DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics and Supplies
DOD	Department of Defense
DOI	U.S. Department of Interior
DOJ	U.S. Department of Justice
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
DPN	disability program navigators
DRMA	Disaster Relief Medicaid Act
DSPs	Direct Support Professionals
DREDF	Disability Rights & Education Defense Fund
EAS	emergency alert system
EEOC	U.S. Equal Employment Opportunity Commission
EMAs	emergency management agencies
EOP	emergency operation plans
EPA	U.S. Environmental Protection Agency
FAPE	free and appropriate public education
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FFRMS	Federal Flood Risk Management Standard
GAO	Government Accountability Office
GDP	gross domestic product
GSA	General Services Administration
HSAC	Homeland Security Advisory Council
HCBS	home-and community-based services
HHS	U.S. Department of Health and Human Services
HHS OCR	U.S. Department of Health and Human Services Office for Civil Rights
HIPAA	Health Insurance Portability and Accountability Act of 1996
HRSA	Health Resources and Services Administration
HUD	U.S. Department of Housing and Urban Development
IDEA	Individuals with Disabilities Education Act
IDD	intellectual or developmental disabilities

IEP	individualized education program
IHP	Individuals and Households Program
IHS	Indian Health Service
IPAWS	Integrated Public Alert and Warning System
IPCC	Intergovernmental Panel on Climate Change
LEAs	local education agencies
LTCFs	long-term care facilities
MOU	memorandum of understanding
NASEM	National Academies of Science, Engineering, and Medicine
NCD	National Council on Disability
NCHS	National Center on Health Statistics
NDT	National Transit Database
NIDILRR	National Institute on Disability, Independent Living, and Rehabilitation Research
NACIE	National Advisory Council on Innovation & Entrepreneurship
NGO	nongovernmental organizations
NOAA	National Oceanic and Atmospheric Administration
NRCC	National Response Coordination Center
NRI	National Risk Index
NHC	National Hurricane Center
NWS	National Weather Service
OCR	Office of Civil Rights
ODEP	Office of Disability Employment Policy
OFA	other federal agency
PA	public assistance
PAS	personal assistance services
PCAs	personal care assistants
PCC	post COVID conditions
PHA	public housing authorities
PN	public notice
PPE	personal protective equipment
PTSD	post-traumatic stress disorder
PWD	people with disabilities
REAAIDI	Real Emergency Access for Aging and Disability Inclusion for Disasters Act
RDIS	Regional Disability Integration Specialists
Rehab Act	Rehabilitation Act of 1978
RSA	Rehabilitation Services Administration
SAMHSA	Substance Abuse and Mental Health Services Administration
SBA	Small Business Administration
SCI	spinal cord injury

SE	Supported Employment service
SEAs	state education agencies
SLTT	state, local, tribal, and territorial
SNAP	Supplemental Nutrition Assistance Program
SNS	strategic national stockpile
SSI	Supplemental Security Income
SSDI	Social Security Disability Insurance
STEAR	State of Texas Emergency Assistance Registry
THIRA	Threat and Hazard Identification and Risk Assessment
THSGP	Tribal Homeland Security Grant Program
UCLA	University of California, Los Angeles
UNEP	United Nations Environmental Program
UNDRR	United Nations Office for Disaster Risk Reduction
USDA	U.S. Department of Agriculture
VR	vocational rehabilitation
VRI	video remote interpreting
VRS	video relay services
WEA	wireless emergency alerts
WEF	World Economic Forum
WHO	World Health Organization
WIOA	Workforce Innovation and Opportunity Act
WIPA	Work Incentives Planning and Assistance
WMO	World Meteorological Organization

People with disabilities will continue to be disproportionately impacted by extreme weather events unless emergency planners address the specific needs and include people with disabilities in all emergency management activities including mitigation, preparedness, response, and recovery and entities that receive federal funding comply with federal civil rights and disability laws.



Introduction

The global mortality rate of people with disabilities in natural disasters is up to four times higher than that of people without disabilities.²⁰ People with disabilities are far more likely than anyone else to face major hardships including displacement from their homes due to a major disaster. If they evacuate, people with disabilities face dangerous levels of isolation, squalid living conditions, shortages of food and water and electricity, and permanent dislocation.²¹ The increased frequency and severity of extreme weather events and environmental hazards adversely and disproportionately impact people with disabilities in the United States and its territories. Despite this, the needs of people with disabilities are being overlooked in disaster management policy and planning. Federal and state emergency management planning often fails to include people with disabilities.

Recent research shows that people with disabilities are being “systematically ignored” by governments around the world when it comes to planning for extreme weather events. According to a 2022 comprehensive review and analysis of disability inclusion in national climate commitments

and policies, few countries make provisions for the needs of people with disabilities when they make plans for adapting to the effects of climate change and none mention people with disabilities in their programs.²²

Extreme weather events are occurrences of unusually severe weather or climate conditions that can be disruptive and deadly²³ and cause devastating impacts on communities and agricultural and natural ecosystems.²⁴ In the

United States, when extreme weather events occur, the governor of a state or territory may request that the president declare a major disaster

or emergency. Extreme weather events such as severe storms, hurricanes, floods, tornadoes, drought, extreme heat events, wildfires, or other weather-related emergencies and disasters can strike quickly and without warning, forcing people to quickly evacuate or be confined in their homes unexpectedly.²⁵ For the 61 million (26 percent or 1 in 4) adults in the United States who live with a disability,²⁶ emergencies such as fires and floods present a real challenge.²⁷

During an emergency or major disaster, people who live with physical, sensory, mental, or cognitive disabilities are disproportionately affected. When an emergency occurs, people with disabilities typically have fewer reserves to draw upon, their options for housing and healthcare are more limited, and it can be harder to recover once the immediate emergency has passed.²⁸ The increased prevalence of extreme weather

events will further destroy these reserves and further hinder people with disabilities' ability to "rebound" after an extreme weather event.

In the United States, weather-related events are happening more often: breaking records, claiming lives, and costing billions of dollars. These events include record-breaking heat waves, increased number and intensity of hurricanes, more precipitation and floods, more wildfires, more intense droughts, and increasingly severe storms.²⁹ Projections indicate that the occurrence and severity of some extreme events will continue to increase.³⁰

Extreme weather events can damage or destroy critical infrastructure and facilities. The

disruption to critical services disproportionately and negatively impacts people with disabilities and puts individuals at increased risk.

Temperature increases and heatwaves can lead to brownouts or blackouts. Power outages can jeopardize the health and safety of people with disabilities, older adults, and people with serious health conditions, who often depend on equipment powered by electricity.

Extreme weather events are expected to further disrupt many areas of life, exacerbating existing challenges posed by aging and deteriorating infrastructure, stressed ecosystems, and economic inequality. Impacts within and across regions

will not be distributed equally.³¹ People with disabilities and those who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-

related events and are expected to experience greater impacts.³²

Some regions are prone to extreme weather and face disasters year after year, compounding the impacts of previous disasters. Certain types of extreme weather events are increasing in frequency as well as intensity. The rise in vulnerability to drought is lengthening wildfire seasons in the Western states, and the potential for extremely heavy rainfall is becoming more common in the Eastern states. A rise in sea levels is worsening the hurricane and storm surge flooding that coastal communities experience.³³ With 23 of the 25 most densely populated U.S. counties located on the coasts,

When an emergency occurs, people with disabilities typically have fewer reserves to draw upon, their options for housing and healthcare are more limited, and it can be harder to recover once the immediate emergency has passed.

a rise in sea levels is a big issue for millions of people in the United States.³⁴

As the U.S. population ages, disabilities are becoming more prevalent. In addition, studies have not yet determined how many citizens who contracted COVID-19 will become disabled because of long-haul COVID. The increase in the number of people with disabilities will increase demand for resources and services, place an added strain on support systems (e.g., healthcare, housing, transportation, employment, education, and emergency management), and exacerbate the drivers of insecurity. As the number of people with disabilities increases, so too will the demand for accessible services, resources, and assistive technologies during a disaster, the lack of which increases the risk to people with disabilities.

Furthermore, the United States is facing staffing shortages in healthcare providers and direct care workers;³⁵ affordable, accessible housing; special education providers and other workers; accessible places of employment; and other support systems. The increase in the number of people with disabilities paired with the shortage of support systems will create a “perfect storm” or critical situation to exacerbate the drivers of insecurity and increase the risk to people with disabilities, including during an extreme weather event where individuals are already vulnerable and emergency services are already stretched.

There is little data collection on the impact of people with disabilities during disasters, especially during extreme weather events. With an increase in population of people with disabilities, all federal agencies who play a role in emergency management planning, response or recovery should collect bifurcated data on the impact extreme weather events have on people with disabilities, and then utilize that data to improve processes, programs, and plans to mitigate the detrimental impact of extreme weather events on people with disabilities.

During and after an extreme weather event, federal fund recipients must comply with the Rehab Act and the ADA by making appropriate and reasonable accommodations to ensure that people with disabilities have equal physical and communications access to services and programs, as defined by federal

law. Unfortunately, the mechanisms in place to enforce disability laws are underutilized. Despite numerous reports and recommendations concerning people with disabilities, significant improvements have not been made.

Extreme Weather Events are Increasing in Frequency and Severity

Recent studies describe a significant rise in the number of extreme weather event disasters.³⁶ For the purposes of this report, the term *disaster* will be reserved for natural hazard-related

disasters, excluding biological and technological disasters. Extreme weather event disasters include disasters categorized as meteorological, climatological, or hydrological.

A 2021 World Meteorological Organization (WMO) report found that a disaster related to a weather, climate, or water hazard occurred, on average, every day over the past 50 years.³⁷ Much of the United States has seen increases in prolonged periods of excessively high temperatures, heavy downpours, and, in some regions, severe floods and droughts.³⁸ These types of records are expected to continue to be broken in the future.

Globally, from 2000 to 2019, there were 7,348 major recorded disaster events claiming 1.23 million lives, affecting 4.2 billion people (many on more than one occasion), and resulting in approximately \$2.97 trillion in global economic losses. This is a sharp increase over the previous 20 years. Between 1980 and 1999, 4,212 disasters were linked to natural hazards worldwide, claiming approximately 1.19 million lives, affecting 3.25 billion people, and resulting in approximately \$1.63 trillion in economic losses.³⁹

The last 20 years have seen the number of major floods more than double, from 1,389 to 3,254, while the incidence of storms grew from 1,457 to 2,034. Floods and storms were the most prevalent events.⁴⁰

A 2021 World Meteorological Organization (WMO) report found that a disaster related to a weather, climate, or water hazard occurred, on average, every day over the past 50 years.

In 2022, the United States experienced 18 separate billion-dollar weather and climate disasters, tying 2017 and 2011 as the 3rd highest number of billion-dollar disasters.⁴¹ 2021 holds 2nd place for the most disasters in a calendar year behind the record 22 separate billion-dollar events in 2020.⁴² What made 2022 stand out was the diversity of disasters: 1 drought event, 1 flooding event, 9 severe storm events, 3 tropical cyclone events, 1 wildfire event, and 1 winter storm event.⁴³ The 18 events in 2022 caused at least 474 direct or indirect fatalities—the 8th most disaster-

related fatalities for the contiguous U.S. since 1980.⁴⁴ The year 2021 was also unusually deadly. The 20 events of 2021 caused at least 688 direct or indirect fatalities—the most disaster-related fatalities for the contiguous United States since 2011, and more than double 2020's 262 deaths.⁴⁵

The last 20 years have seen the number of major floods more than double, from 1,389 to 3,254, while the incidence of storms grew from 1,457 to 2,034. Floods and storms were the most prevalent events.

The increasing frequency and intensity of certain types of extreme weather include the rise in vulnerability to drought, lengthening wildfire seasons in the Western states, and the potential for extremely

heavy rainfall becoming more common in the Eastern states. Sea level rise is worsening hurricane storm surge flooding.⁴⁶ Severe storms have caused the most billion-dollar disaster events (143), while hurricanes and flooding represent the second and third most frequent event types (56 and 35), respectively.⁴⁷

Recent examples of severe weather events include the powerful billion-dollar Hurricane Harvey (2017),⁴⁸ which resulted in devastating flooding that inundated Harris County, Texas, with 1 trillion gallons of water over a four-day period,⁴⁹ and Winter Storm Uri (2021), a historic cold wave and winter storm that impacted many Northwest, Central, and Eastern states in February 2021.

The prolonged Arctic air caused widespread power outages in Texas, as well as other southern states, with multiple days of sustained below-freezing temperatures. At the peak of the outage, nearly 10 million people

were without power.⁵⁰ Additional impacts included frozen water pipes that burst upon thawing, causing water damage to buildings. The extreme conditions also caused or contributed to the direct and indirect deaths of more than 210 people in Texas alone.⁵¹ During the Western wildfires (2020–2021),⁵² severe drought conditions and periods of extreme heat provided conditions favorable for wildfires,⁵³ which impacted the states of California, Oregon, Washington, Idaho, and Montana. The Southern and Central U.S. also experienced remarkable late autumn tornadoes in 2021.⁵⁴

Extreme Weather Events are Increasing in Cost

As extreme weather events accelerate in frequency and grow in intensity, the impacts are costly. In 2014, the U.S. National Climate

Assessment (2014 NCA) found that rising temperatures, the resulting increases in the frequency or intensity of some extreme weather events, rising sea levels, and melting snow and ice were already disrupting people's lives and damaging some sectors of the U.S. economy.⁵⁵

The money spent on disaster recovery efforts can

mean a loss to productive investments and gross domestic product (GDP). Consequently, real disaster costs are high and growing faster than the U.S. GDP.⁵⁶

The National Oceanic and Atmospheric Administration (NOAA), NCEI U.S. Billion-Dollar

Weather and Climate Disasters (2022) report calculates the costs of disasters. The report found that from 1980 to 2021, the U.S. has sustained 323 distinct billion-dollar disasters (weather and climate events) where overall damages/costs reached or exceeded at least \$1 billion in direct losses (CPI-adjusted, 2022).⁵⁷

The direct losses from these 323 events exceed

\$2.199 trillion (CPI-adjusted, 2022).⁵⁸

The disaster costs for 2022 (\$165 billion) surpassed the disaster

costs for 2021 (\$155.3 billion)⁵⁹ by \$10 billion and 2022 had \$2 less billion-dollar events. The total cost for the last 5 years (\$595.5 billion) is almost one third of the disaster cost total of the last 42 years (1980 to 2022) at \$2.476 trillion (inflation-adjusted to \$2022).⁶⁰ This reflects a 5 year average cost of nearly \$161.5 billion per year—a new record.⁶¹ The 1980–2022

In 2021, the U.S. experienced 20 separate billion-dollar weather and climate disasters, putting 2021 in second place for the most disasters in a calendar year, behind the record 22 separate billion-dollar events in 2020.

[R]eal disaster costs are high and growing faster than the U.S. GDP.

annual average cost per year is \$57.6 billion (CPI-adjusted); the annual average for the most recent 5 years (2018–2022) is \$119.1 billion (CPI-adjusted).⁶²

Between 1980 and 2022, 21 wildfire, 30 drought, 163 severe storm, 60 tropical cyclone, 37 flooding, 21 winter storm, and 9 freeze billion-dollar disaster events affected the United States (CPI adjusted).⁶³ The distribution of damage from U.S. billion-dollar disaster events from 1980 to 2022 is dominated by tropical cyclones.

Hurricanes have caused the most damage (\$1,333.6 billion, CPI-adjusted) and also have the highest average event cost (\$22.2 billion, CPI-adjusted). Drought (\$327.7 billion, CPI-adjusted), severe storms (\$383.7 billion, CPI-adjusted), and inland flooding (\$177.9 billion, CPI-adjusted) have also caused considerable damage.⁶⁵

Severe storms have caused the highest number of billion-dollar disaster events (143), but have the lowest average event cost (\$2.3 billion, CPI-adjusted). Hurricanes and flooding represent the second and third most frequent event

types (56 and 35), respectively. Hurricanes are responsible for the highest number of deaths (6,697), followed by drought/heat wave events (4,139) and severe storms (1,880).⁶⁶

As hurricanes and flooding tend to occur in the southern part of the U.S., from 1980–2022,

the U.S. South, Central, and Southeast regions experienced higher costs from billion-dollar disaster events (this was also the case for California, New York, New Jersey, Puerto Rico, and the U.S. Virgin Islands). The top three most impacted states were Texas (\$349 billion), Louisiana (\$278 billion), and Florida (\$249 billion).⁶⁷ The relative costs were more acute in Louisiana, which has a smaller population and economy than Texas and Florida. Louisiana also has a high frequency of disaster events,

which can lead to compounding, cascading socioeconomic impacts.⁶⁸

Regional Impact and Rural Communities

While each region of the United States faces a unique combination of weather and climate events, every state in the country, as well as Puerto Rico and the Virgin Islands, has been impacted by at least one billion-dollar disaster since 1980. Since 1980, there have been more than 100 of these events that have affected at

least some part of Texas, while only one event has impacted Hawaii (Hurricane Iniki in 1992).⁶⁹

The U.S. Central, South, and Southeast regions typically experience a higher frequency of billion-dollar disasters than other regions.⁷⁰ These same U.S. regions are also projected to have

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While each region of the United States faces a unique combination of weather and climate events, every state in the country, as well as Puerto Rico and the Virgin Islands, has been impacted by at least one billion-dollar disaster since 1980.

the most negative future impacts across several socioeconomic metrics.⁷¹ Severe local storm events are common across the Plains, Southeast, and Ohio River Valley states. Winter storm impacts are concentrated in the Northeastern states, while tropical cyclone impacts range from Texas to New England, but also impact many inland states. Inland flood events—not caused by tropical cyclones—often occur in states near large rivers or the Gulf of Mexico, which is a warm source of moisture to fuel rainstorms. Drought

impacts are mostly focused in the Southern and Plains states, where crop and livestock assets are densely populated. Wildfires are most common west of the Plains states and in several Southeastern states. Concurrent or consecutive extreme weather events will continue to pose unprecedented challenges and test federal and SLTT government EMAs' preparedness and coordination efforts and complicate response and recovery efforts. Concurrent or consecutive extreme weather events will stress critical systems (e.g., healthcare, housing, transportation, education) and support services upon which people with disabilities rely and heighten risks, compound impacts, and have far-reaching consequences for people with disabilities. Some

U.S. regions experience multiple disasters occurring at the same time, much like Louisiana faced in 2020 as its local government leaders and their emergency managers responded to the COVID-19 pandemic and an “epidemic” of landfalling hurricanes during the 2020 season.⁷² Some U.S. regions are prone to and are well

known for experiencing consecutive extreme weather events, which compound the impacts of previous disasters.

According to the FEMA NRI – All Hazards data, there is a particularly high risk of natural hazards along the West Coast (specifically in Southern California), the Gulf Coast, and Florida. The Gulf Coast states will be especially susceptible to sea levels rising. States such as Texas, Louisiana, Mississippi,

Alabama, and Florida may experience increased storm surges and flooding due to rising sea levels.

NOAA's Sea Level Rise Technical Report projects sea levels along the coastline will rise an additional 10 to 12 inches by 2050, with specific amounts varying regionally, mainly due to land height changes. Sea

level rise will create a profound shift in coastal flooding over the next 30 years by causing tide and storm surge heights to increase and reach further inland. By 2050, “moderate” (typically damaging) flooding is expected to occur, on

The U.S. Central, South, and Southeast regions typically experience a higher frequency of billion-dollar disasters than other regions.

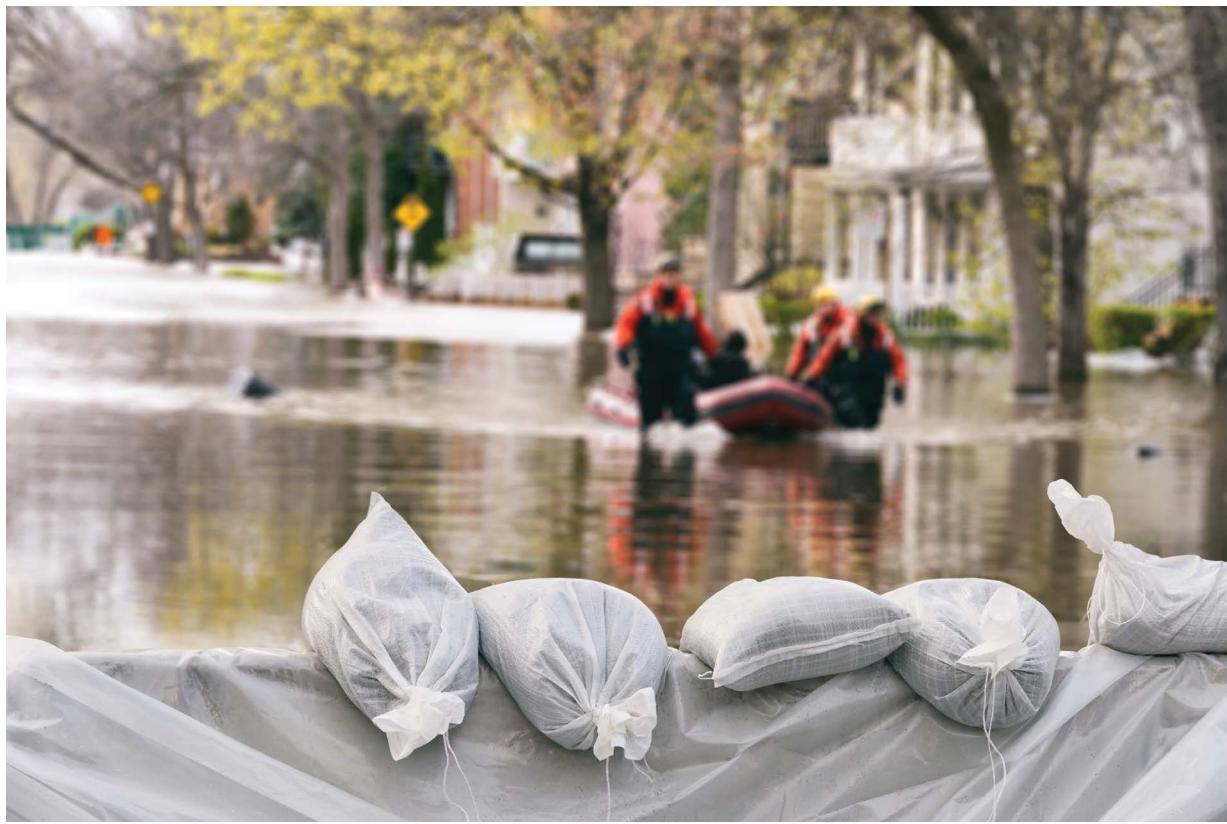
By 2050, “moderate” (typically damaging) flooding is expected to occur, on average, more than 10 times as often as it does today; this flooding can be intensified by local factors. “Major” (often destructive) flooding is expected to occur 5 times as often in 2050 (0.2 events/year) as it does today (0.04 events/year).

average, more than 10 times as often as it does today; this flooding can be intensified by local factors. “Major” (often destructive) flooding is expected to occur 5 times as often in 2050 (0.2 events/year) as it does today (0.04 events/year).⁷³ This is especially troubling for people with disabilities living in these areas, and especially those with mobility disabilities who do not have the funds to raise the elevation of their home to mitigate the risk of flood or those who are trapped in their home during a flood event with no option to evacuate.

U.S. Territories

In September 2017 Hurricane Maria made landfall in Puerto Rico and decimated its infrastructure. In Maria’s aftermath, some 3.4 million American citizens found themselves in a humanitarian crisis, facing destroyed infrastructure; power

outages lasting for over six months; shortages of water, food, and fuel; and an uncertain future.⁷⁴ In January 2020, Puerto Rico suffered a 6.4 magnitude earthquake and continuing aftershocks in the southwestern part of the island that destroyed homes and businesses, further weakening an already dire economy and creating significant impact to the health and well-being of the residents of Puerto Rico. In March 2020, Puerto Rico, along with the rest of the world, was hit with the COVID-19 pandemic, which strained health and medical systems. The government took early precautions by shutting all businesses, except for essential services. These restrictions, though necessary, saddled the island with further economic burdens, leaving thousands unemployed, resulting in increased poverty rates and further widening the gap to accessible services for people with



disabilities. As a result of these conditions and threats, the island experienced an exodus of residents to the mainland United States. This migration created a shortage of medical doctors, educators, and other professionals, further exacerbating availability of services for people with disabilities.⁷⁵

Regional Impacts

Some states, counties, and cities are more likely than others to have residents with disabilities. The percentage of people living with disabilities is highest in the South.⁷⁶ West Virginia has the highest share of people with disabilities of any state, at 19.4 percent. In Arkansas, Kentucky, and Alabama, about 17 percent of residents said they had a disability. In contrast, Utah was among the lowest, with 9.9 percent of the population reporting a disability in 2015.⁷⁷

Among counties with populations of 65,000 or more, three had a quarter or more of residents reporting a disability: Pike County, Kentucky (28.7 percent), and Calhoun (25.2 percent) and Walker (25.1 percent) counties, both in Alabama. The share of residents with a disability varied widely at the county level, with Kendall County in Illinois (4.9 percent) among the lowest rates in the country. Few of the cities with the largest shares of disabled residents in 2015 are in the South (among places with a minimum population of 65,000). In Flint, Michigan; Hemet, California; and Pueblo, Colorado, roughly 22 percent of residents reported having a disability. The town of Fishers, Indiana, had one of the lowest shares in

the nation, with 3.5 percent of residents having a disability.⁷⁸

People with disabilities are more likely to live in poverty, be unemployed, and have limited access to healthcare before a disaster, which compounds these difficulties.⁷⁹ In the U.S., according to the CDC, 61 million adults in the U.S. live with a disability—that is 26 percent of (or 1 in 4) adults. The CDC data (2020) report that disabilities are especially common in older adults, women, and people from diverse cultures or backgrounds.

Older Adults

The population is getting older and disabilities become more prevalent with age. According to

CDC data (2020), two in five adults aged 65 years and older have disabilities.⁸⁰ According to the American Community Survey, about half of Americans ages 75 and older (49.8 percent) reported living

with a disability in 2015, as did about a quarter (25.4 percent) of those 65 to 74. In contrast, just 6 percent of Americans ages 18 to 34 and 13 percent of those 35 to 64 said they had a disability. In absolute numbers, however, ages 35 to 64 accounted for more disabled Americans—nearly 16 million in 2015—than any other age group.⁸¹

The number of adults over age 65 in the U.S. is estimated to reach 84 million, or over 20 percent of the population, by 2050.⁸² As people grow older and the probability of disabilities increases, the use of assistive technology—that is, alternate and augmentative communication equipment, devices, strategies, tools, and

supportive services that allow individuals to live in their homes with dignity and autonomy—may increase.⁸³ Using a conservative estimate of 20 percent of the population age 60 and over requiring assistive devices leads to a worldwide estimate of at least 800 million items being used by older adults by 2050. To meet the needs of this population, assistive devices and technology need to be available

and accessible for this population, affordable and appropriate for their needs, and safe for their use.⁸⁴ This need becomes even more important when disasters occur, as these devices may be lost, damaged, or unavailable without services such as electrical power and refrigeration.⁸⁵

People from Marginalized or Underserved Communities Including American Indians or Alaska Natives

People from marginalized or underserved communities, including Black and American Indians or Alaska Natives, are more likely to have disabilities than other populations. At the high end of the scale, American Indians or Alaskan Natives are most likely to report a disability: 17.7 percent,⁸⁶ or two in five of American Indians or Alaska Natives have a disability.⁸⁷ For comparison, 13.9 percent of white people and 14.1 percent of Black people reported living with a disability, followed by 8.8 percent of Hispanic people and 6.9 percent of Asian people.⁸⁸

There are shortages in healthcare, housing, education, employment, and other support systems, which will increase the risk to people with disabilities.

While the number of people with disabilities is increasing, there is a health care worker shortage. The increase in demand for support and growing gap in supply will strain the U.S.

healthcare system and impact access to healthcare. The shortage of care workers (e.g., direct support professionals (DSPs) and personal care assistants (PCAs)) places people with disabilities at

additional risk of harm and puts an additional burden on the people who care for them.

In addition, it has become harder than ever for middle-income Americans to rent or buy a home as the U.S. faces a housing shortage. The Census Bureau reported that despite the strong demand for rentals, the national vacancy rate was at 6.8 percent in 2019. Still, the increase in the number of households paying more than 30 percent of

their income for rent and utilities grew by 261,000 to 20.8 million in 2018. In 2018, one in four renters spent more than half their income on housing, especially individuals

earning between \$45,000 and \$74,999.⁸⁹ There is also a nationwide shortage of qualified special education teachers and related service providers.⁹⁰ Qualified staff for in-home education can be wholly unavailable.⁹¹ The COVID-19 pandemic has only exacerbated these challenges.⁹²

Using a conservative estimate of 20 percent of the population age 60 and over requiring assistive devices leads to a worldwide estimate of at least 800 million items being used by older adults by 2050.

Minority populations, including Black and American Indians or Alaska Natives, are more likely to have disabilities than other populations.

The mechanisms in place to enforce disability laws are underutilized. Despite numerous reports and recommendations submitted by NCD and other organizations, significant improvements have not been made.

Key federal laws such as the ADA,⁹³ the Rehab Act,⁹⁴ and IDEA⁹⁵ have helped people with disabilities increase their presence in the workforce, receive improved educational services, and live independently in the community. These and other laws, such as the Fair Housing Amendments Act of 1988 and the Telecommunications Act of 1996, seek to ensure that people with disabilities have the opportunity to access housing, education, employment, effective communications and other activities

without discrimination.⁹⁶ During emergencies or disasters, any SLTT partners who accept federal emergency/disaster funding must comply with the ADA and the Rehab Act; however, the mechanisms in place to enforce disability rights laws are underutilized.

In 2018, one in four renters spent more than half their income on housing, especially individuals earning between \$45,000 and \$74,999.

This report examines the federal and SLTT government policies and programs (specifically disaster prevention and preparedness and response and recovery programs) in place to support people with disabilities before, during, and after a disaster and endeavors to determine whether those policies and programs ensure accessibility and safety and protect the civil right of people with disabilities.

Chapter 1: Laws and Regulations

During extreme weather events, the rights of people with disabilities must not be ignored and recipients of federal funds must comply with federal disability laws. In federally declared emergencies and disasters,⁹⁷ federal and SLTT government EMAs are responsible for ensuring equal access to facilities and programs. Key federal laws, including the ADA,⁹⁸ and the Rehab Act,⁹⁹ were enacted to ensure that people with disabilities have access to the same opportunities as those without disabilities. Section 504 of the Rehabilitation Act specifically states that any program or activity that receives federal financial assistance cannot deny benefits to people with disabilities.¹⁰⁰ Other

laws, such as IDEA (reauthorized in 2004),¹⁰¹ the Fair Housing Amendments Act of 1988,¹⁰² and the Telecommunications Act of 1996,¹⁰³ seek to ensure that individuals with disabilities have the opportunity to access housing, education, employment, and other activities without discrimination.¹⁰⁴ In 2010, Congress passed the

Twenty-First Century Communications and Video Accessibility Act (CVAA) to ensure accessibility to people with disabilities to the rapidly changing telecommunications and information technology sector.

In *Saving Lives: Including People with Disabilities in Emergency Planning* (2005), NCD reported that “all too often in emergency situations the legitimate concerns of people with disabilities are overlooked or swept aside.”¹⁰⁵ Seventeen years later, we find that emergency management planning still does not sufficiently account for the needs of people with disabilities and does not afford equal access to people with disabilities (PWDs) during emergencies and disasters. In other

words, disability rights continue to be violated and federal laws are not applied consistently. People with disabilities will continue to be disproportionately impacted by extreme weather events unless emergency planners address the specific needs and include people with disabilities in all emergency management

activities including mitigation, preparedness, response, and recovery and entities that receive federal funding comply with federal civil rights and disability laws.

Preparedness and Response

Federally Assisted Programs Must Be ADA and Rehabilitation Act Compliant

Some SLTTs do not comply with federal rules and regulations, even though those rules and regulations clearly state that programs and services funded with federal dollars must be compliant with federal disability rights laws. SLTTs and their contractors are legally required to comply with Title II of the ADA provision of

“emergency-and disaster-related programs, services, and activities they provide”¹⁰⁶ and with Section 504 of the Rehabilitation Act, to ensure federally funded programs allow for equal access. Even during the most challenging notice or no-notice disasters, SLTTs, and third parties have a legal obligation to ensure that people with disabilities who are impacted by extreme weather events do not face unlawful discrimination in the provision of services before, during, and after disasters.¹⁰⁷ Title II of the ADA,¹⁰⁸ which covers all activities of SLTTs, requires that SLTTs give people with disabilities an equal opportunity to benefit from all programs, services, and activities (e.g., public education, employment, transportation, recreation, healthcare, social services, courts, voting, and town meetings).¹⁰⁹ During disasters, people with disabilities have the right to access emergency information in clear, plain, and actionable language; the right to be included in community evacuation transportation plans; the right to independent living supports in community shelters; the right to accessible temporary housing; and the right to healthcare.¹¹⁰ In terms of shelter, in the landmark case, *Olmstead v. L.C.* (1999), the U.S. Supreme Court ruled that unjustified segregation of people with disabilities constitutes discrimination in violation of Title II of the ADA. The court held that public entities must provide community-based services to people with disabilities when “(1) such services are appropriate; (2) the affected persons do not oppose community-based treatment; and (3) community-based services can be reasonably accommodated, taking into account the resources available to the public entity and the needs of others who are receiving disability services from the entity.” This case had a



significant impact on the opportunities for people with disabilities to live and fully participate in their communities.¹¹¹ Even with the abundance of laws and regulations prohibiting the discrimination of people with disabilities in emergency management activities, people with disabilities continue to face discriminatory practices before, during and after disasters.

FEMA *Developing and Maintaining Emergency Operations Plans* (2021)¹¹² guide for SLTT planners, recommends using demographic data and information on the number of individuals in the community with disabilities; identifying mechanisms to disseminate timely and accessible emergency public information using multiple methods to reach individuals with sensory, intellectual and cognitive disabilities, as well as individuals with limited English proficiency; identifying accessible transportation resources (including paratransit service vehicles, school buses, municipal surface transit vehicles, drivers and/or trained attendants) that can provide needed services during an evacuation; allocating adequate shelter space for individuals with disabilities who may need additional space for assistive devices (e.g., wheelchairs, walkers); and planning for sufficient staff, medicines, durable medical equipment and supplies during an emergency, among other recommendations.¹¹³ In addition, SLTT's should provide in-home assistance or sheltering options for individuals

with disabilities whose survival depends on electrically powered equipment during a shelter-in-place response, such as during a power outage.¹¹⁴

Research has shown that SLTT's continue to neglect the needs of people with disabilities. In *The Impact of COVID-19 on People with Disabilities* (2021), NCD reported that during the COVID-19 pandemic, civil rights concerns continued to impact the lives of people with disabilities, in relation to congregate care facilities (CCFs) specifically and regarding healthcare

discrimination more broadly. The report stated that the "disregard for the safety of people with disabilities was another example of the degree to which people with disabilities were discounted in the pandemic"—they were "left out of basic data gathering on death certificates, left out of emergency planning and distribution of supplies,

and subjected to ongoing stereotypes and assumptions about their health and quality of life by healthcare providers, which led to further deadly consequences for those people with disabilities who needed urgent intensive care at the height of the pandemic."¹¹⁵

Following Hurricane Irene (2011) and Hurricane Sandy (2012), in *Brooklyn Center for Independence of the Disabled et al. v. Bloomberg et al.* (2012),¹¹⁶ the plaintiffs by way of federal class action, sued the City of New York—regarding the applicability of certain

portions of Title II of the ADA,¹¹⁷ Section 504 of the Rehab Act, and the New York City Human Rights Law—for the city's systemic failure to incorporate the unique needs of people with disabilities in its emergency and disaster planning, which resulted in the exclusion of those individuals from equal participation in emergency services. At the time, New York City's nearly 900,000 residents with disabilities, made up about 11 percent of its population. The plaintiffs demonstrated that the city failed to create a system to evacuate a large number of people with disabilities many

of whom were trapped in high-rise buildings during disasters. The city's limited options to accessible transportation, communication, and housing, and individuals' reliance on the availability of specialized equipment, disability-related assistance, consumable medical supplies, durable medical equipment, and food, interfered with the ability of individuals with a variety of disabilities to equally respond to and recover

from the city's emergencies and disasters.¹¹⁸ In November 2013, following a bench trial, under federal Judge Jesse M. Furman, the

The court further held that "because of [Los Angeles's] failure to address their unique needs, individuals with disabilities are disproportionately vulnerable to harm in the event of an emergency or disaster."



court ruled¹¹⁹ in favor of the plaintiffs, holding that New York City had violated the rights of about 900,000 of its residents with disabilities by failing to accommodate their needs during emergencies.¹²⁰

In 2010, in *Communities Actively Living Independently and Free, et al., v. City of Los Angeles and County of Los Angeles*, the plaintiffs alleged that the County and City of Los Angeles, California discriminated against individuals with disabilities in their emergency management programs in violation of federal law, including Title II of the ADA and Section 504 of the Rehab Act. The plaintiffs contended that Los Angeles failed to conduct the planning required to meet the needs of individuals with disabilities and ensure access for those individuals across the full spectrum of its emergency programs, services, and activities.¹²¹ In 2011, the court held that the plaintiffs were “denied the benefits of the city’s emergency preparedness program because the city’s practice of failing to address the needs of individuals with disabilities discriminates against such individuals by denying them meaningful access to the city’s emergency preparedness program.” The court further held

that “because of the city’s failure to address their unique needs, individuals with disabilities are disproportionately vulnerable to harm in the event of an emergency or disaster.”¹²² To support SLTTs to better comply with civil rights and

disability rights DOJ’s ADA Best Practices Tool Kit for State and Local Governments (March 9, 2017),¹²³ may be useful but may need updating.

Recovery

Federal Agencies that Administer Funding May Not Have Enforcement

Authorities

Federal agencies responsible for administering disaster recovery funding may not have enforcement authority and have no mechanism to ensure that states and public entities that receive federal disaster funding comply with

federal disability law. In disasters, if a state is “overwhelmed,” under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5206 (1988),¹²⁴ a governor may request a disaster declaration

from the President. As part of the request, the governor must take appropriate action under state law and direct execution of the state’s emergency plan. Based on the governor’s request, the President may declare a major

Federal agencies have oversight roles and can monitor how grant funding is spent but may not have the authority to ensure equitable outcomes. Once grant funding is distributed, it is incumbent upon the SLTTs to ensure compliance with disability law.

Also, HHS, under the Stafford Act, has a role in disaster response. But the relevant component, the Administration for Community Living (ACL), does not specifically work on disaster planning or emergency management.

disaster or emergency,¹²⁵ activating an array of federal programs to assist in the response and recovery effort. States or public entities may receive funding via FEMA's Public Assistance (PA) program¹²⁶ to fund the repair, restoration, reconstruction, or replacement of a public facility or infrastructure damaged or destroyed by a disaster. States may also receive funding through the U.S. HUD CDBG program¹²⁷ or other federal programs.

Any federal funds received by state and local governments, and other entities, must comply with all federal and applicable SLTT

disability rights laws. This requirement applies to programs, services, and activities provided directly by state and local governments, as well as those provided through third parties, such as the American Red Cross, private nonprofit organizations, and religious entities.¹²⁸ The ADA also requires reasonable modifications to policies, practices, and procedures when necessary to avoid discrimination against a person with a

Although DOJ can file civil judicial actions against noncompliant states and entities, settlements may take years, leaving people with disabilities without basic access to programs and supports such as to accessible shelter and housing.

disability¹²⁹ and taking the steps necessary to ensure effective communication for people with disabilities.¹³⁰



Disability stakeholders shared that federal agencies responsible for administering federal disaster grants do not have the power to enforce federal disability law. Federal agencies have oversight roles and can monitor how grant funding is spent but may not have the authority to ensure equitable outcomes. Once grant funding is distributed, it is incumbent upon the SLTTs to ensure compliance with disability law. Some federal agencies can revoke funds when projects or programs do not comply with agency requirements or applicable laws and regulations. DOJ is responsible for the enforcement of numerous federal laws which impact people with disabilities. These laws include Title II of the ADA which applies to state and local governments. DOJ enforces the Civil Rights of Institutionalized Persons Act (CRIPA), which requires compliance with the rights of people residing in facilities such as intermediate care facilities and nursing homes; and Section 504 of the Rehab Act, which includes rights for people with disabilities similar to the ADA in regard to federal contractors, entities that receive federal financial assistance, and Federal Government agencies. Similarly, DOJ shares responsibilities with HUD to enforce the Fair Housing Act when certain cases are brought to federal court.¹³¹ For example, HUD CDBG funding is distributed through states to local governments and local programs. If HUD receives complaints of civil rights violations or other civil rights complaints, the agency can investigate and work with the state or local government to ensure that they are complying with the federal requirements and report noncompliance to DOJ. In these instances, interagency coordination is critical to ensure people with disabilities do not have long wait times for recovery support such as accessible housing.

Also, the U.S. HHS, under the Stafford Act, has a role in disaster response. But the relevant component, HHS Administration for Community Living (ACL), does not specifically work on disaster planning or emergency management. ACL primarily distributes grant money to nonprofit organizations. According to disability stakeholders, although the ACL provides funding support to nonprofit organizations, the agency has no enforcement ability and cannot ensure that funding recipients comply with disability law. Similarly, the U.S. Environmental Protection Agency (EPA) creates water and wastewater regulations and is responsible for oversight of the implementation of the Public Notification Rule (PN),¹³² which is part of the Safe Drinking Water Act (SDWA).¹³³ The PN ensures that consumers will know if there is a problem with their drinking water. These notices alert consumers about risks to public health.¹³⁴ Although the EPA creates and oversees implantation of the regulation, it is the states and public water systems that are responsible for meeting drinking water standards (including monitoring requirements) and notifying their consumers. If noncompliance is found, the EPA can take civil administrative actions, which are nonjudicial enforcement actions in the form of a notice of violation or an order. If the violation requires judicial action, DOJ files a case on behalf of the EPA.¹³⁵ Although DOJ can file civil judicial actions against noncompliant states and entities, settlements may take years, leaving people with disabilities without basic access to programs and supports such as to accessible shelter and housing.

Rather than rely on litigation, federal agencies administering federal disaster grants must better coordinate across agencies and with disability rights organizations to identify ways to track and

monitor noncompliance with federal disability laws. Proper enforcement of federal disability laws means redefining enforcement during all phases of the disaster life cycle, including (and especially) the preparedness phase. It is critical

that enforcement includes a new approach to disaster with a greater emphasis on universal design—one that includes people with disabilities and implementation/enforcement of disability laws before disaster strikes.

Recommendations

- Congress should request the Government Accountability Office (GAO) commission a study of which states have developed and maintain state-level emergency management plans and guidance that fully integrate people with disabilities.
- DOJ, in coordination with other relevant federal agencies, should provide updated comprehensive guidance (similar to its 2022 new Guidance on Web Accessibility¹³⁶) and technical assistance to SLTT governments to better comply with federal civil rights and disability laws during emergency preparedness, response, and recovery.
- DOJ should reissue its Advance Notice of Proposed Rulemaking regarding Nondiscrimination on the Basis of Disability; Accessibility of Web Information and Services of State and Local Government Entities.
- DOJ Disability Rights Section (DRS) should update the ADA Best Practices Tool Kit for State and Local Governments (March 9, 2017)¹³⁷ to ensure that SLTT governments have the latest information on ADA best practices.
- Department of Homeland Security (DHS) Civil Rights and Civil Liberties (CRCL) and/or DOJ DRS and other appropriate governing bodies should prioritize and strengthen oversight and enforcement capabilities to ensure recipients and sub recipients of federal funds comply with the scope of their obligations to people with disabilities.
- DHS CRCL and DOJ DRS, should provide guidance to SLTTs emergency management operations frontline efforts to ensure nondiscrimination in the provision of emergency and disaster-relief services, benefits, and activities.

Chapter 2: Healthcare

The global mortality rate of people with disabilities in natural disasters is up to four times higher than that of people without disabilities.¹³⁸ People with disabilities face dangerous levels of isolation, squalid living conditions, shortages of food and water and electricity, and permanent dislocation.¹³⁹ This is due to a combination of factors, including a scarcity of inclusive planning, lack of accessible disaster information, early warning systems that do not reach everyone, lack of accessible transportation, and discriminatory attitudes toward people with disabilities.

Extreme weather events such as extreme heat, flooding, severe storms, tornadoes, winter weather, wildfires, and hurricanes, and environmental hazards negatively impact communities in the U.S. and its territories. Everyone is vulnerable to health impacts associated with extreme weather events, however, people with disabilities or with preexisting physical, behavioral, or chronic health conditions are disproportionately impacted.¹⁴⁰ According to HHS *Climate Action Plan* (2021), other susceptible groups include communities of color, older adults, children, pregnant women, people with lower incomes, and those who live

or work in areas with greater exposure, such as people with outdoor jobs.¹⁴¹ Additionally, individuals affected by poverty, communities near contaminated waste sites or industrial areas, and rural areas with limited health systems may be more impacted by extreme weather events.¹⁴² The health effects of extreme weather are worsened when events disrupt critical infrastructure.¹⁴³ Extreme weather events can damage roads, bridges, and transportation systems disrupting access to hospitals, pharmacies, and healthcare

services. Extreme weather events can interrupt utilities, (e.g., power), water and wastewater services, and communications systems (e.g., Internet,

telehealth, and other communications systems) that people with disabilities rely on to maintain access to health care.¹⁴⁴ Research shows that serious health risks can arise from utility outages; infrastructure and housing damage; and disruption or loss of access to sanitation, safe food and water supplies, health care, communication, and transportation.¹⁴⁵ Disruption of essential infrastructure and services after extreme events can increase population exposure to health hazards and reduce their ability to adapt.

The global mortality rate of people with disabilities in natural disasters is up to four times higher than that of people without disabilities.

Hurricane Maria's Impact on Puerto Rico

In 2017 during Hurricane Maria, Puerto Rico experienced a significant loss of basic infrastructure including electricity and access to food and clean water. Hurricane Maria cut nearly all communication across the island and destroyed the power grid.¹⁴⁶ "The storm disrupted medical services across the island and many households were left for weeks without water, electricity, or cell phone coverage. The average household went approximately 41 days without cell phone service, 68 days without water, and 84 days without electricity following the storm. More than 30 percent of surveyed households reported interruptions to medical care. Trouble accessing medications and powering respiratory equipment was the most cited challenge."¹⁴⁷

Emergency response actions can impact an individual's physical health by injuries and premature death and a person's mental health due to trauma or displacement.¹⁴⁸ People with disabilities are among the most vulnerable in an emergency, sustaining disproportionately high rates of morbidity and mortality; they are also among those least able to access emergency support.¹⁴⁹

Other impacts from extreme weather and climate-related events include a reduction in the availability of safe drinking water; a threat to food

safety, nutrition, and distribution; waterborne-related illness; vector-borne disease (transmitted through insects and pests); and poor air quality¹⁵⁰ which increasingly threaten the health and well-being of people, particularly populations who are already vulnerable.¹⁵¹ Extreme weather events have immediate and long-term impacts on people with disabilities and their caregivers as they disrupt access to health care, housing, education, employment, community, and other facets of life.¹⁵²

Preparedness

An Increase in People with Disabilities

The World Health Organization (WHO) reports that the number of people with disabilities is increasing globally. The increase is due to demographic trends including an aging population,¹⁵³ increases in chronic health conditions,¹⁵⁴ increasing poverty,¹⁵⁵ and the disabilities caused by COVID-19.¹⁵⁶ According to the CDC, in 2020, 61 million adults in the United States live with a disability—that is 26 percent of, or one in four, adults.¹⁵⁷ This is compared to just three years before, in 2017, where people with disabilities made up approximately 12 percent of the U.S. working-age population.¹⁵⁸ The CDC reports that disabilities are especially common in older adults,

women, and people from diverse cultures or backgrounds.¹⁵⁹ An increase in the number of people with disabilities will strengthen the need for accessible healthcare

services and providers. It will increase demand on resources and strain critical systems, including the healthcare system, and emergency management agencies. In 2022, half of people with disabilities

An increase in the number of people with disabilities will strengthen the need for accessible healthcare services and providers.

were age 65 and over. Overall, women were slightly more likely to have a disability than men, partly reflecting the greater life expectancy of women. In 2022, the prevalence of disability continued to be higher for Blacks and Whites than for Hispanics and Asians.¹⁶⁰

Older Adults with Disabilities

The number of adults over age 65 in the United States is estimated to reach 80 million (or over 20 percent of the U.S. population) by

2040 and nearly 95 million by 2060.¹⁶¹ With age, disability becomes more common. The increase in the older adult population with disabilities will increase demand for resources and services, including prescription medication, necessary medical equipment, and accessible healthcare facilities, support

services, and caregivers. The increase in older adults will also put those who they care for at risk. Older adults often provide care to younger family members. In 2019, among the 5.37 million people with intellectual and developmental disabilities (IDD) living with a family caregiver,

24 percent had caregivers who were age 60 and older. In 2019, 19 percent of adults aged 65 and older reported they could not function at all or had a lot of difficulty with at least one of six activities of daily living. The percentage

reporting any level of difficulty varied. Specifically, 22 percent reported trouble seeing (even if wearing glasses), 31 percent reported difficulty hearing (even if wearing hearing aids), 40 percent reported trouble with mobility (walking or climbing stairs), 8 percent reported difficulty with communication (understanding or being understood by others), 27 percent reported trouble with cognition (remembering or concentrating), and 9 percent reported difficulty with self-care

(such as washing or dressing).¹⁶² In addition, older adults also tend to live in states with high disaster risk, such as coastal cities at risk for flooding or warmer climates at risk for hurricanes and wildfires (e.g., California, Florida, Texas, North Carolina), which puts them at heightened risk.

Poverty is associated with malnutrition, inadequate access to public health services (e.g., immunization), poor living conditions (e.g., lack of safe water), and environmental exposures (e.g., unsafe work environments), which can lead to health conditions which result in disability.

Chronic Health Conditions, Poverty, and “Long COVID”

The increase in older adults with disabilities and chronic conditions will increase demand for health care to address chronic conditions such as chronic obstructive pulmonary disease (COPD), emphysema,

or chronic bronchitis or diagnosed and undiagnosed diabetes.¹⁶³ Poverty increases the likelihood of disability. Chronically poor people are often at risk of ill health and injuries, which may lead to disability.¹⁶⁴ Poverty is associated

with malnutrition, inadequate access to public health services (e.g., immunization), poor living conditions (e.g., lack of safe water), and environmental exposures (e.g., unsafe work environments), which can lead to health conditions which result in disability.¹⁶⁵ The poor who become disabled are likely to descend further into poverty, with a significant effect on their entire household.¹⁶⁶ According to the CDC, some people who have been infected with COVID-19 can experience long-term effects from their infection, known as post COVID conditions (PCC) or “long COVID.” “Long COVID” is considered a disability under the ADA.¹⁶⁷

An Increased Population Will Strain Emergency Management Capabilities

An increase in the number of people with disabilities will increase demand for federal and SLTT government emergency management capability and resources including accessible information; accessible evacuations; accessible transportation; accessible shelters; sign language interpreters; PCAs, access to durable medical equipment (DME) (e.g., oxygen equipment and accessories, wheelchairs); ATs; and other health supports. Emergency management will also require more human resources such as FEMAs Regional Disability Integration Specialists (RDIS) and other disability experts. People with disabilities are at increased risk to extreme weather events and coastal flooding because of their specific needs. Dependence on caregivers and others for assistance, and potential reliance on medical equipment that could be damaged or inoperable during power outages. Individuals with disabilities are likely to need special assistance during evacuations.

Evacuation challenges following Hurricanes Harvey, Irma, and Maria

In 2017, three sequential hurricanes—Harvey, Irma, and Maria—affected more than 28 million people. Survivors aged 65 and older and those with disabilities faced particular challenges evacuating to safe shelter, accessing medicine, and obtaining recovery assistance. “A range of officials from entities that partner with FEMA—including states, territories, localities, and nonprofits)—reported challenges providing assistance to individuals who are older or have disabilities following the 2017 hurricanes. For example, officials said that many of these individuals required specialized assistance obtaining food, water, medicine, and oxygen, but aid was sometimes difficult to provide. Officials in Puerto Rico and the U.S. Virgin Islands cited particular difficulties providing this assistance due to damaged roads and communication systems, as well as a lack of documentation of nursing home locations.”¹⁶⁸

Public health agencies should create inclusive emergency preparedness and response plans that incorporate people with disabilities¹⁶⁹ and disability organizations as stakeholders in inclusive health adaptation and disaster planning. EMAs should engage the disability community by using an all-hazards planning process that includes stakeholders from the disability community. Federal and state agencies should offer trainings that empower people with disabilities to participate in the disaster risk management process.

Limited Data on Extreme Weather Impacts on People With Disabilities

There is limited research and data at the national and local levels documenting the impacts of extreme weather events on people with disabilities. Data collection is key to creating a clearer picture of how extreme weather events impact people with disabilities. Reliable data serve as a starting point for developing better policies, programs, and initiatives to support people with disabilities. Data can help SLTTs better understand the needs of their communities to better

prepare, respond, and support people with disabilities as they recover from disasters. Historically, there has been a lack of data on disability.¹⁷⁰ Federal and state healthcare data collection practices fail to capture baseline information about functional disability status of patients, leaving people with disabilities uncounted during and after emergencies.¹⁷¹ The U.S. Census Bureau ACS¹⁷² does provide disability data across a wide range of variables and geographies. In fact, the ACS provides county-level disability data for variables such as gender, race, veteran status, poverty status and employment for people with disabilities. However, according to a University of Montana Rural Institute report (2017),¹⁷³ the ACS data “is not without limitations.” The ACS provides data estimates for disability in rural counties and estimates are drawn from smaller

sample sizes, resulting in higher margins of error. These high margins of error make data less reliable at smaller geographies and forces researchers to aggregate the data to increase data validity. This limits the ability to analyze county-level disability data, particularly for subgroups like race and ethnicity.¹⁷⁴ Other concerns previously raised about ACS data included the ability of the question sets to adequately represent the population with disabilities, because the data do not capture all those eligible for certain benefit programs such as Social Security Income/Social Security Disability Insurance (SSI/SSDI).¹⁷⁵ Disability

stakeholders stated that data should account for where people with disabilities are clustered. For example, Gallaudet University in Washington, DC, has a Deaf community where students live and learn using American Sign Language (ASL).

Convening participants said that data sets often do not include all disability types. For example, Deaf individuals are excluded from phone surveys; Deafblind individuals, multiply marginalized people with disabilities, or those who are in carceral or institutional settings or are unhoused are often not included in data collection or research studies.

In our 2021 Progress Report: *The Impact of Covid-19 on People with Disabilities*,¹⁷⁶ NCD reported that the COVID-19 pandemic exposed gaps in disability data collection and antidiscrimination laws that need to be rectified before the next pandemic or public

health emergency.¹⁷⁷ The report stated that a decades-long dearth in the collection of detailed disability and functional status information has left people with disabilities overlooked. The report also noted that there is a complete lack of standardized or historical gathering of death rates among LTCFs,¹⁷⁸ and that disability status is not a recognized component of mortality data. The report points to the need for state collection of healthcare demographic data relating to functional disability and HCBS use for all Medicaid enrollees, including better data collection across the full range of long-term care, group homes, and congregate settings licensed, certified, or approved by the state. Without these data and analyses, it is extremely hard to get a full picture of how much emergency Medicaid and other measures developed as a response to the pandemic benefited people with disabilities. It is even more difficult to see, for example, whether other populations within the disability community, such as Black or Brown people, face discernible compound discrimination.¹⁷⁹ According to FEMA's *National Preparedness Report* (2021)¹⁸⁰ during initial response efforts of the COVID-19 pandemic, "GAO found that the Federal Government did not have a process to systematically define and ensure the collection of standardized data across relevant federal agencies and related stakeholders to support the response to COVID-19, communicate the status of the pandemic with citizens, or prepare for future pandemics."¹⁸¹ Federal and SLTT government planning will benefit from more accurate data as extreme weather events increase in intensity and severity and as the number of people with disabilities increases. Policymakers can use improved disability data

to promote the health and safety of this long-understudied population.

The health staffing shortage is placing pressure on an already overwhelmed U.S. healthcare system by reducing access to healthcare providers, including DSPs. People with disabilities and chronic health conditions, and persons who rely on DSPs for day-to-day support are often more vulnerable to health complications and are disproportionately impacted by the shortages of healthcare and DSP. Without support, PWDs can experience decline in health status, face unnecessary hospitalizations due to compromised care, or have increased need for emergency services. Existing shortages in healthcare workers exacerbate risks to individuals who require immediate care during disasters and are not able to get the assistance they require and leaves those individuals and their caregivers with reduced support during and after disasters.

The growing shortage of DSPs that existed prior to the pandemic became worse during the pandemic. In our Progress Report: *The Impact of Covid-19 on People with Disabilities* (2021),¹⁸² NCD reported that well before the pandemic, the direct care workforce was subject to frequent turnover and a shortage of providers who could supply personal care services.¹⁸³ A Mercer report (2018)¹⁸⁴ projects that by 2025 demand for healthcare workers will outpace supply. In its analysis of the U.S. health workforce, Mercer estimated that by 2025, there will be a shortage of 446,000 home health aides, nearly 100,000 medical and laboratory technicians, 95,000 nursing assistants, and 30,000 nurse practitioners.¹⁸⁵ Even in 2018, prior to the pandemic, this shortage was of concern to maintaining health care quality; it has since contributed to increases in doctors and nurses

leaving their jobs, with 8 percent of doctors closing their practices altogether in 2020—an estimated loss of 16,000 practices. This reduction in healthcare providers amid the pandemic only worsened the shortage. Staffing shortages also further exacerbated the vulnerabilities of CCF residents and staff.¹⁸⁶

The United States is also facing crisis-level shortages of life-saving medical supplies and pharmaceuticals, such as pain medications. Common classes of drugs affected by shortages include anesthesia medications, antibiotics, pain

medications, nutrition and electrolyte products, and chemotherapy agents. Clinically, patients have been harmed by the lack of drugs or inferior alternatives, resulting in more than 15 documented deaths.¹⁸⁷ The sum of these shortages is placing an unprecedented strain on the U.S. health care system and impacting those who depend on it.

People with Disabilities and Healthcare Disparities and Barriers

People with disabilities experience decades of health care disparities and systemic barriers to healthcare and treatment. Compromised health makes people with disabilities more vulnerable to extreme weather events, which are likely to exacerbate existing health conditions and

increase barriers to health care. Research shows that adults with disabilities are three times more likely than adults without disabilities to have heart disease, diabetes, cancer, or stroke.¹⁸⁸ In our *Framework to End Health Disparities of People with Disabilities* (2022), NCD reported that people with disabilities are “more

In its analysis of the U.S. health workforce, Mercer estimated that by 2025, there will be a shortage of 446,000 home health aides, nearly 100,000 medical and laboratory technicians, 95,000 nursing assistants, and 30,000 nurse practitioners.

than three times as likely to have arthritis, diabetes, and a heart attack; five times more likely to report a stroke, COPD, and depression; and more likely to be obese.”¹⁸⁹ Adults with any level of hearing loss are three to five times more likely

to have heart disease and are more likely to report fair or poor health compared to those who do not have hearing impairments.¹⁹⁰ People with IDD have a shorter life expectancy than people without IDD.¹⁹¹ These underlying medical conditions put adults with disabilities at higher

risk for severe infection, hospitalization, or even death. In addition, factors such as race and ethnicity, age, language, sex or gender, poverty, and low education can compound the effects of having a disability.¹⁹²

Compromised health makes people with disabilities more vulnerable to extreme weather events, which are likely to exacerbate existing health conditions and increase barriers to health care.

These disparities are exacerbated if you are a person with a disability and a person of color. Studies have found that adults with disabilities in underserved racial and ethnic groups are more likely to report fair to poor health or that their health has worsened over the past year,

compared with people without disabilities in the same racial/ethnic groups and with non-Hispanic Caucasians with disabilities.¹⁹³ Indigenous people in the United States also have an increased risk of chronic conditions including diabetes and heart disease. Many tribal nations may have limited access to clean water, a key component of infection control. In the Navajo Nation, about 15 percent of the population does not have access to piped water in their homes.¹⁹⁴ Older adults, as a result of chronic health conditions and limitations, experience general "frailty."¹⁹⁵

Women with disabilities

are likely to receive poorer maternity care,¹⁹⁶ and pregnant women with disabilities have a much higher risk for severe pregnancy- and birth-related complications, including 11 times the risk of maternal death.¹⁹⁷

Extreme Weather Events Exacerbate Underlying Health Conditions

Extreme weather events exacerbate underlying health conditions, can lead to injury, illness, or death, and can have long-term adverse effects on mental health. People with disabilities are two to four times more likely to be injured or killed in a natural disaster.¹⁹⁸ Extreme weather events can disrupt critical infrastructure, including roads and bridges, power/electricity, water and wastewater, communications systems, which are essential to maintaining access to healthcare and emergency

response services. Limited access to healthcare services includes loss of access to hospitals and pharmacies, medication, oxygen, personal care assistance, and medical devices. Extreme weather events can limit access to food and water. People with disabilities, those with preexisting health conditions, are especially vulnerable to the health impacts of power outages due to their reliance on electrically powered medical equipment such as ventilators oxygen, BiPAP machines and power wheelchairs. Extreme weather often causes utility interruptions. Between the 2000s and the 2010s,

the U.S. saw a 67% increase in significant power outages due to weather-related incidents. In 2020, U.S. electricity consumers experienced over eight hours of power interruptions on average, the longest interruption time since the U.S. Energy Information Administration began collecting data

in 2013.¹⁹⁹ Children with chronic illnesses who use medical equipment and services that require a functioning electrical power grid are also

at significantly higher risk for poor outcomes after disasters. In rural communities, power and communications can take longer to restore after damage from an extreme event, placing people in rural communities at high risk.

Extreme temperature days, or days that are substantially hotter than the average seasonal temperature in summer, or substantially colder than the average seasonal temperature in

Many tribal nations may have limited access to clean water, a key component of infection control. In the Navajo Nation, about 15 percent of the population does not have access to piped water in their homes.

People with disabilities are two to four times more likely to be injured or killed in a natural disaster.

winter, cause increases in illnesses and death by compromising the body's ability to regulate its temperature.²⁰⁰ Exposure to extreme temperature may result in more severe health responses or death because it exacerbates preexisting conditions, including cerebral, respiratory, and cardiovascular diseases, and because it has a greater impact on those who are taking prescription or other drugs that may affect the body's ability to regulate its temperature.²⁰¹

People whose disabilities are affected by temperature sensitivity or thermoregulation are negatively impacted by high

ambient temperatures. People with spinal cord injuries (SCIs) are especially at risk during extreme weather, both hot and cold, because of their inability to control their body temperature.²⁰² Socially vulnerable populations are disproportionately affected by extreme heat, particularly those who live with disabilities, communities of color, low-income individuals, individuals lacking a high school diploma, and populations 65 or older.¹⁴

These groups often live in areas with increasing childhood asthma diagnoses from climate-driven changes, higher labor hour losses from extreme heat exposure, and growing climate driven mortality rates.²⁰³ High temperatures in the summer are conclusively linked to an increased risk of a range of illnesses and death.²⁰⁴ The National Weather Service

(NWS) confirmed that extreme heat is now the leading weather-related killer in America. Rising temperatures pose an imminent threat to millions of American workers exposed to the elements, to students in schools without air-conditioning, to seniors in nursing homes without cooling resources, and particularly to disadvantaged

communities.²⁰⁵ Extreme heat is linked to elevated emergency room visits, hospital admissions, and mortality for individuals with mental health issues, cardiovascular and respiratory complications, and other disabilities.

Rising temperatures will lead to an increase in heat-related illnesses and

deaths.²⁰⁶ Heat waves triple the risk of death for people with preexisting psychosocial disabilities. With continued warming, cold-related deaths are projected to decrease and heat-related deaths are projected to increase; in most regions, increases in heat-related deaths are expected to outpace reductions in cold-related deaths.²⁰⁷

Droughts are associated with reduced water quality and quantity; respiratory impacts related to reduced air quality; and

mental health impacts.²⁰⁸ Long periods of record high temperatures are associated with droughts that contribute to dry conditions and drive wildfires in some areas. Wildfires are directly linked to air pollution. Wildfire smoke contains particulate matter, carbon monoxide, nitrogen oxides, and various volatile organic compounds

and can significantly reduce air quality, both locally and in areas downwind of fires.²⁰⁹ Smoke exposure and inhalation increases respiratory and cardiovascular hospitalizations; medication dispensations for asthma, bronchitis, chest pain, COPD, and respiratory infections; and medical visits for lung illnesses. Wildfires are associated with burns or other traumatic injury, and mental health impacts.²¹⁰ Wildfires are also associated with hundreds of thousands of deaths annually. For people with disabilities, wildfires are especially dangerous because mobility limitations can make it difficult to evacuate in an emergency if accessible transportation is not available. During wildfires,

people with disabilities often lose critical AT, tools, and devices.

Floods can cause power, water, and gas outages; disrupt transportation routes; pollute drinking water systems; damage homes, buildings, and roads; and cause severe environmental problems including landslides and mudslides.²¹¹ Flooding related to extreme precipitation, hurricanes, and coastal storms can lead to fatalities and serious injuries when people do not (or cannot) evacuate areas that are flooded.²²² Flooding is also associated with mental health impacts; disease spread; contaminated water; and carbon monoxide poisoning related to power outages.²²³ People with disabilities who

California Wildfires

During the 2017 California Wildfire season, there were 9,270 wildfires, the largest of which was the Thomas Fire.²¹² The wildfires led to mass evacuations, displaced over 100,000 people, caused \$12 billion in damages, exceeding the total losses from the previous 10 costliest fires combined, and took 47 lives.²¹³ People with disabilities struggled to receive evacuation information and find adequate transportation and shelter. In addition, professional caregivers were ordered to evacuate and unable to work.²¹⁴ The fires burned rapidly and unpredictably, aided by strong winds.²¹⁵ The speed and unpredictability of the wildfires quickly overcame communities while trying to evacuate.²¹⁶ In California, most people rely on personal vehicles for evacuations because there is minimal public transportation for wildfire evacuees and some areas have little to no access to public transit.²¹⁷ People with disabilities evacuating from rural areas face particularly steep challenges. In Northern California, many people with disabilities live in rural areas and lack the resources to evacuate during disasters. Roughly twice as many people with disabilities live in rural areas in Northern California versus the rest of the state, and they lack critical infrastructure for safe evacuations.²¹⁸ After an evacuation occurs, there is still the risk of inhaling polluted air from wildfires. After the Thomas Fire, Ventura and Santa Barbara counties had extended periods of air quality categorized as "hazardous."²¹⁹ This led to an increase in hospital visits related to the dangerous air quality.²²⁰ While the impact of air pollution is usually temporary, underlying health conditions and long-term exposure can lead to severe impacts.²²¹

live in flood zones, coastal areas, and drought prone areas face greater vulnerability to health impacts.²²⁴

Winter storms and severe thunderstorms are associated with traumatic injury and death; carbon monoxide poisoning related to power outages; hypothermia and frostbite; and mental health impacts.²²⁵ Freezing temperatures and winter storms leave people with disabilities and chronic health conditions without power for life-saving medical supplies and a way to charge ATs or other dependent devices.

People with disabilities in rural communities, U.S. territories, and tribal nations are less likely to have access to broadband and the Internet which limits access to national weather warnings and alerts and limits access to telehealth options.

Limited Internet Access Puts Communities at Risk

People with disabilities in rural communities, U.S. territories, and tribal nations are less

likely to have access to broadband and the Internet which limits access to national weather warnings and alerts and limits access to telehealth options. Limited access to the Internet puts these communities at a disadvantage before, during, and

after disasters. Analysis of 2019 ACS data established that people with disabilities,

Winter Storm Uri in Texas

According to the Disability Rights Texas report (2021),²²⁶ during Winter Storm Uri in Texas (2020), 75 percent of people surveyed lost power for 24 hours or longer (22 percent for 4 days or longer); 45 percent of those who lost power believed they were in danger; 80 percent lost water for 24 hours or longer (32 percent for 4 days or longer). The loss of power and lack of refrigeration resulted in spoilage of life-saving medication and food; lack of access to medications and in-home healthcare assistance; the inability to use breathing devices or mobility equipment that depend on electric power; and trauma impacting mental health.²²⁷

Case Study – Proximity to Pollution

A University of Texas at El Paso study observed that Houston neighborhoods located near pollution sources—like Superfund sites and hazardous waste facilities—were home to a significantly higher proportion of people with disabilities than the rest of the city. In addition, race, ethnicity, and age all further amplified these inequalities—people with disabilities of color and those aged 75 years or older both lived in even closer proximity to polluted areas, likely decreasing their quality of life.²²⁸

older adults, and people of color including Native Americans, Black, and Latino people lacked Internet access in higher proportions when compared to their White and Asian counterparts. In all groups between the ages of 18 and 74, Native Americans (non-Latino) had the highest percentage of people without household Internet access. When grouped by age and disability, 34 percent of people age 75 and older were without household Internet access, the highest percentage of all the groups.

According to a June 2021 AARP study, “rural residents are much more likely than suburban or urban residents to say that access to high-speed internet is a problem—more than half, 58 percent, vs. about a third of urban and suburban residents.”²²⁹ About 14.5 million Americans live in areas without broadband Internet access, and the “urban-rural divide is vast. At the end of 2019, 17 percent of rural residents and 21 percent who live on tribal lands lacked even the slowest definition of high-speed internet access compared with about 1 percent in urban areas, according to a Federal Communications Commission (FCC) report released in January 2021.”²³⁰ The lack of reliable Internet access for many rural communities can mean limited access to healthcare, specifically telehealth.

Telehealth can provide medical assistance to those who lack reliable transportation. Lack of transportation is a recurring problem for people with disabilities who live in rural communities or are sheltering in place during a disaster.

Native Americans (non-Latino) had the highest percentage of people without household Internet access. When grouped by age and disability, 34 percent of people age 75 and older were without household Internet access.

Tribal nations and Indigenous peoples are disproportionately vulnerable to the impacts of extreme weather events, due in part to their dependence on specific geographic areas for their livelihoods; unique cultural, economic, and political characteristics; and limited resources

to prepare for, respond to, and recover from extreme weather hazards.²³¹ The 2021 \$1.2 trillion Bipartisan Infrastructure Law²³² allocates over \$13 billion in new tribal infrastructure projects is the largest investment in tribal nation infrastructure projects. It includes \$214 million

to bring running water to 40 percent of Navajo families from the Navajo Utah Water Rights Settlement, \$2 billion for a tribal broadband connectivity program to expand broadband Internet access, and \$11.2 billion in grants for abandoned coal mine land and water

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reclamation projects. However, according to tribal stakeholders NCD spoke with, not enough progress has been made to improve Internet access on tribal lands, leaving tribes still at risk for the next disaster.

Assistive Technology, Durable Medical Equipment, and Electronic Equipment

Extreme weather events can interrupt utilities. Resulting power outages place people with disabilities, some who are power dependent and require AT or DME at a disproportionate health risk. These populations often have more health problems, medication needs, and/or limited mobility.²³³ As previously discussed, during a power outage people with disabilities lose access to medications, DME, and ATs. During a power outage, the lack of refrigeration can result in the spoilage of life-saving medications, such as insulin, which needs to be kept cold, impacting people with diabetes. Power outages mean the inability to use breathing devices or mobility equipment that depend on electric power.²³⁴ People who depend on electric medical devices²³⁵ (e.g., require oxygen equipment and accessories

(ventilators), require heat to regulate their body temperature due to an SCI, require dialysis, or require power for wheelchairs are disproportionately at risk during a power outage.

People with spinal cord injuries as well as mental health disabilities on medication will find it difficult to regulate their body temperatures. Given the extreme uptick in summer temperatures and colder temperatures in the winter, provisions have to be available for people with disabilities who are unable to regulate their body heat, meaning portable generators to assist those who are power dependent in the winter and portable air-conditioning units available to those who are unable to access cooling stations.

The loss of power also means the loss of access to AT—that is, alternate and augmentative communication equipment,



Case Study – Winter Storm Uri in Texas, 2021

During Winter Storm Uri in 2021, 4.5 million homes and business were without power at its peak.²³⁶ Nearly 70 percent of Texans lost power at some point during the storm.²³⁷ In a Disability Rights Texas survey of 600 people with disabilities, 75 percent lost power for 24 hours or longer.²³⁸ One resident lost power and heat, and was in danger because she can't control her body temperature, stating "cold temperatures are more severe for a person with a spinal cord injury." Another resident who lost electricity, struggled with utilizing a ventilator (via battery) because the humidifier was blowing cold air from the house into her lungs, "I could barely use it," she said.

devices, strategies, tools, and supportive services that allow individuals to live in their homes. Mobile devices for accessing the Internet or receiving texts are generally the most common way information would be obtained during a power outage. Other AT products such as video-remote interpreting (VRI), transcription services, Communication Access Realtime Translation (CART), and assistive listening devices; or low-tech solutions such as communication boards; can assist individuals who are Deaf or Hard of

Hearing by keeping them informed. However, loss of power makes it difficult to charge devices and disrupts services, rendering the devices useless.²³⁹

People with disabilities use AT to maintain their independence. A conservative estimate of 20 percent of the population age 60 and over require an assistive technology device leads to a worldwide estimate of at least 800 million items being used by older adults with disabilities by 2050. During disasters, assistive products may not function properly or may be lost or damaged, increasing the likelihood that people with disabilities and at-risk populations face threats, vulnerabilities, and severe health complications.²⁴⁰ The loss of power can affect any assistive devices that need electricity, and backup batteries may not always be at hand. Medication access and pharmacy refills (or refrigeration for some types of medications) may also not be present after a disaster.²⁴¹ According to disability stakeholders, people with disabilities require appropriate ATs but developers have struggled to get new ATs in the market due to lack of investment.

Recovery

Those Forced to Relocate Out of State Lose Access to Medicaid Services

People with disabilities forced to relocate out of state due to a disaster lose their Medicaid health benefits, which means a disruption in their health care regimen which includes access to medicines, medical services, and supports. During extreme weather

The loss of power also means the loss of access to AT—that is, alternate and augmentative communication equipment, devices, strategies, tools, and supportive services that allow individuals to live in their homes.

events, people with disabilities may lose access to proof of identification and medical records. They may also lose access to their medicines and medical services and supports. They may be separated from their AT and DME, increasing the risk of severe health complications. During recovery, people with disabilities who do not have access to medical records and other key paperwork will struggle to access healthcare, services, and programs because of limited knowledge and a complex application process. When an

individual with a disability moves out of state, state supports rarely move with them. In the case of students, individual education plans do not transfer to new schools. In the case of adults, state-run Medicaid benefits do not transfer out of state.

The Centers for Medicare & Medicaid Services (CMS) issued (2021) a final rule "to strengthen Medicare by expanding access to certain durable medical equipment, such as continuous glucose monitors that increase diabetes treatment choices for people with Medicare. The Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) final rule could help to improve accessibility, quality, affordability, empowerment and innovation."²⁴² According to disability stakeholders, Medicaid has historically had

issues maintaining coverage when disaster survivors evacuate across state lines and the rule will need to be tested and updated over time to ensure that services are transportable and can easily be transferred to new providers in the event of disaster.

DRMA, S.2646,²⁴³ would ensure that individuals receiving Medicaid, who are forced to relocate due to a disaster, are able to continue to access their Medicaid-supported services, making coverage transportable across state lines for

disaster survivors. DRMA would provide states with resources to support the Medicaid needs of individuals forced to relocate following a disaster. This legislation would designate an individual who resides in an area covered under a presidential disaster declaration as a relief-eligible survivor and allow them to continue to access their Medicaid services if they are

forced to relocate to another state as a result of a disaster. DRMA helps states meet the needs of relief-eligible survivors through a limited-time 100 percent federal

match for displaced individuals and technical assistance and support to develop innovative state strategies to respond to an influx of out-of-state individuals. The bill also creates a grant to help states develop an emergency response corps to provide HCBS. The legislation

also guarantees a 100 percent federal matching payment for medical assistance to states in disaster areas.²⁴⁴

Extreme Weather Events Contribute to Mental Health Issues

Experiencing severe or repeated extreme weather events can contribute to anxiety, depression, and other mental health impacts.

In the Strategy to Address Our National Mental Health Crisis, President Biden stated that “the U.S. faces an unprecedented mental health crisis among people of all ages. “Two out of five adults report symptoms of anxiety or depression.”²⁴⁵

Research has found correlations between disaster exposure and psychological distress. While a person with a disability experiences the same natural disasters as anyone else, the disaster

is likely to exacerbate daily challenges and increase stress.²⁴⁶ The health impacts following Hurricanes Irma and Maria in Puerto Rico were wide ranging, and increases in anxiety, depression, and PTSD were widely reported.²⁴⁷

A study of wildfire survivors showed that 10 to 30 percent developed diagnosable mental health conditions, including PTSD and depression.²⁴⁸ Another study found that children with disabilities that evacuated during

the 2017 wildfire season exhibited stress, grief, emotional and behavioral reactions one year post-disaster.²⁴⁹ While wildfires have been causing stress, California has also been experiencing a shortage

of mental health professionals.²⁵⁰ While it is well documented that wildfires contribute to physical health effects such as lung conditions like asthma, COPD, other respiratory conditions, and can be life-threatening, studies now show that air

pollution resulting from wildfires can also contribute to mental health issues.²⁵¹ There is limited mental health support after a disaster, and it is often not included in the planning

process. Communities and organizations need structures in place to mentally prepare residents for disasters and after disasters, those organizations should include trauma-informed responses.

The Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS) final rule could help to improve accessibility, quality, affordability, empowerment and innovation.

A study of wildfire survivors showed that 10 to 30 percent developed diagnosable mental health conditions, including PTSD and depression.

Recommendations

- Congress should pass legislation such as the REAADI in Disasters Act to address gaps in meeting civil rights obligations to people with disabilities impacted by disasters. The bill would establish a research center to be defined in legislation, to conduct research to determine recommended practices for including people with disabilities and older adults in planning during and following disasters; Establish a “projects of national significance” program to increase the involvement of people with disabilities and older adults in the planning and response to disasters and identify strategies for reducing deaths, injuries, and losses to those groups as a result of disasters; Establish a National Commission on Disability Rights and Disasters that will provide recommendations on how to ensure effective emergency preparedness, disaster response, recovery, and community resilience efforts for people with disabilities and older adults; Establish Training and Technical Assistance Disability and Disaster Centers that provide comprehensive training, technical assistance, development of funding sources, and support to state, tribal, and local disaster relief; public health entities; social service agencies; and stakeholder groups.
- Congress should appropriate funds to FEMA for the express purpose to advise SLTTs EMAs and state health departments to conduct reviews and update emergency management plans and guidance to prepare for an increase of people with disabilities. The plans should be data-driven, inclusive, and compliant with disability laws to ensure equal access including effective communication, evacuations, and shelters that provide accommodations and modifications to ensure the safety of people with disabilities.
- HHS Office of Civil Rights (OCR) should develop additional guidance for healthcare providers to actively prepare and plan for an increase of people with disabilities requiring healthcare services during disasters.
- HHS and the National Advisory Council on Innovation & Entrepreneurship (NACIE) should launch a multiagency national emergency management strategy to help states plan for an increase in the number of people with disabilities to mitigate risks during disasters.
- Federal and SLTT EMAs and state health departments should request congressional funding to surge medical resources (equipment and supplies) for disasters.
- HHS should provide guidance to SLTTs on standardized disability categories and levels to inform emergency management planning. The methodology should be used at all levels of government to ensure complete and consistent data collection.

(continued)

Recommendations: *continued*

- Congress should require state collection of health care demographic data relating to functional disability and HCBS use for all Medicaid enrollees, including better data collection across the full range of long-term care, group homes, and congregate settings, licensed, certified, or approved by the state.
- FEMA should resurrect the Interagency Coordinating Council to include the U.S. Census Bureau, CMS, and DOT, to identify methods to efficiently, collect disability information to identify how many people with disabilities are affected during specific disasters, where they live or work in the community, and whether they have HCBS needs. This information should be used to inform emergency management policies and anonymized data should be regularly updated and shared with SLTTs.
- Congress should pass legislation to address the shortage of primary care doctors and other health care providers. The legislation should address shortfalls in the nation's supply of health care providers and include inclusive recruitment for a diverse health care workforce, loan forgiveness that encourages health care providers to work with underserved populations, and other innovative targeted incentive measures.
- Congress should provide funding to HHS for the Secretary to implement section 5307 of the Patient Protection and Affordable Care Act. Funding section 5307 would allow for the development, evaluation and dissemination of research, demonstration projects, and model curricula for cultural competency, prevention, public health proficiency, reducing health disparities, and aptitude for working with people with disabilities, training for use in health professions schools and continuing education programs.²⁵²
- FEMA, in coordination with SLTT Department of Public Works, should identify people with disabilities in the community at risk of heat-related illnesses and death and ensure such individuals have access to cooling stations. If, because of their disabilities they are unable to access cooling stations, portable air-conditioning units should be made available to mitigate the risk of heat-related illness or death.
- HHS should commission a study to identify health disparities and gaps in access to healthcare in relation to extreme weather impacts on people with disabilities, older adults, tribal nations, and other impacted communities. HHS should also identify strategies to mitigate those gaps.

Recommendations: *continued*

- State health departments, in coordination with state EMAs, should plan and track medical infrastructure and medical equipment and equipment stockpiles, (e.g., medications, generators, PPE, and necessary medical equipment like oxygen, dialysis machines, wheelchairs, and other DME) to ensure availability and distribution in a disaster, especially in U.S. territories.
- HHS Office of the Assistant Secretary for Preparedness and Response (ASPR), when replenishing the Strategic National Stockpile (SNS), should coordinate with SLTT partners on available equipment that can be requested from the SNS and provide or update guidelines on how to request such equipment.
- Congress should make R&D investments that promote assistive technology. This should involve: (a) Greater investments for R&D of accessible apps and devices to incentivize developers to create innovative technology, which can help people with disabilities enhance functional performance to improve outcomes in areas such as education, employment, and independent living. (b) Increase the R&D budget for NIDILRR, the Medical Research and Development Program. (c.) Provide funding to a federal unit such as the Administration for Community Living (ACL) to design and fund technical assistance on R&D for the technology industry to support accessible design of emerging technology. And (d) Provide funding to ACL to establish and expand peer support programs on accessible assistive technology. These programs could be provided through independent living centers and grassroots experts and should involve a community of practice platform for exchanging information and managing requests for peer consultation.
- The Federal Energy Regulatory Commission (FERC) should work with utility companies to improve their power outage notification programs and create public awareness campaigns to build knowledge. They should improve power resiliency programs and enhance power restoration priority for people with disabilities who are power dependent. Additionally, utility companies should invest in portable generators to be made available to people with disabilities who are power dependent and unable to evacuate in the event of extended power outages.
- Congress should pass the Disaster Relief Medicaid Act (DRMA). Upon passage, states should immediately implement DRMA to ensure that individuals who are eligible for Medicaid and are forced to relocate due to a disaster, are able to continue to access their Medicaid-supported services.

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Recommendations: *continued*

- CMS should clarify and promote its new rules and regulations about replacing ATs and DME damaged or lost in a disaster.
- FEMA should more broadly publicize its mental health programs and the Substance Abuse and Mental Health Services Administration (SAMHSA) Disaster Distress Helpline, which provide crisis counseling and support to people experiencing emotional distress related to natural or human-caused disasters. FEMA should monitor SLTTs execution and accessibility of its crisis care hotline and provide guidance as needed to ensure programs are accessible to all disabilities.

Chapter 3: Housing

People with disabilities face significant challenges securing affordable, accessible housing. The U.S. housing shortage, low vacancy rates, high prices, limited availability of accessible units, and increasing extreme weather events that damage or destroy homes are increasing risks for people with disabilities who are more likely to be low income and live in areas affected by disasters.

Poverty rates for people with disabilities is more than twice the rate of people without disabilities.²⁵³ Extreme weather events are exacerbating the housing crisis as disasters damage and destroy homes with increased frequency within the same community. People with disabilities are more likely to live in low-income areas and areas affected by disasters, including flood zones where low-income housing is often built. In the event of evacuation, some SLTTs offer a registration

program for people with disabilities to register who may need assistance evacuating their home during emergency. However, the majority of these registries provide a false sense of

hope for the person with a disability. The city of Houston had such a registry. During Hurricane Harvey less than 5 percent of registrants were contacted and even less

were provided evacuation assistance.²⁵⁴ Some SLTTs operate special needs or medical needs shelters which are segregated from the general population shelters. These shelters are often

underfunded, separates families, typically only allow one other person to accompany the PWD, are costly to run, and often do not have the amenities required to accommodate a PWD. After leaving shelters, people with disabilities, if their home is damaged

or destroyed, often cannot afford to move to another location or rebuild without assistance and may be forced to return to an uninhabitable

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home. In addition, there is a scarcity of accessible temporary housing and personal care assistance placing people with disabilities at an increased risk of institutionalization or homelessness. Finally, government assistance programs are complex, confusing, and sometimes inaccessible to people with disabilities.

Preparedness

The Shortage of Affordable, Accessible Housing is a Serious Concern

Living independently and as part of a community are goals shared by all families and an affordable, accessible home is key to achieving those goals. However, people with disabilities face significant challenges securing affordable, accessible housing. The U.S. housing shortage, low vacancy rates, high prices, limited availability of accessible units, and increasing extreme weather events that damage or destroy homes are increasing risks for people with disabilities who are more likely to be low income and live in areas affected by disasters. The White House "Housing Supply Action Plan" To Help Close the Housing Supply Gap in Five Years (2022) states that the housing supply shortfall is more than 1.5 million homes nationwide (2021).²⁵⁵ The low housing stock correlates with low vacancy rates. A U.S. Census Bureau report (2020) showed that the

"national vacancy rate decreased from 11.4 percent in 2010 to 9.7 percent in 2020."²⁵⁶

In 2020, more than 37 million people were living in poverty, approximately 3.3 million more than in 2019.²⁵⁷ For adults with disabilities, the poverty rate is more than twice the rate of adults without a disability.²⁵⁸ These factors contribute to a housing affordability crisis for people with disabilities. Housing is the largest expense for families: more than 38 million U.S. households live in housing that they cannot afford.²⁵⁹ The Federal Government considers housing unaffordable if it costs more than 30 percent of a household's income. More than 23 million people (in over 10 million low-income households) pay more than half their income for rent, often forgoing food or medicine to keep a roof over their heads. Of the 23 million, 18 percent have a disability.²⁶⁰ As of July 2020, Census data shows that 13.8 million adults in rental housing—one in five

renters—report being behind on rent, with households of color reporting far higher rates of missed payments than the national average.²⁶¹ One report showed that the average rent for a basic one-bedroom apartment is \$1,063 per month, or about 128 percent of an individual with a disability's income, leaving no money for food, transportation, and other necessities.²⁶² Moreover, with the end of the eviction moratorium (August 26, 2021),²⁶³ 4.2 million renters reported being at risk of losing their homes.

One report showed that the average rent for a basic one-bedroom apartment is \$1,063 per month, or about 128 percent of an individual with a disability's income, leaving no money for food, transportation, and other necessities.

In the United States, an individual living solely on SSI cannot afford a safe, decent apartment without rental assistance.²⁶⁴ But the available assistance is not enough. Of more than 10 million people (5 million households) who use federal rental assistance to afford modest housing, 25 percent (2.5 million) have a disability.²⁶⁵ Approximately 4.7 million noninstitutionalized

people with disabilities who rely on federal monthly SSI have incomes averaging only about \$9,156 per year, in other words, not enough to afford

rent. Many people with an IDD live with aging caregivers (60 and older). As this generation of caregivers ages, their adult children with IDD may be at risk of institutionalization or homelessness.²⁶⁶ More than 397,000 individuals live on the street or in shelters; many others in expensive institutions at a cost of \$232 to \$1,467 per person per day.²⁶⁷ Renters with disabilities struggle to find affordable and accessible homes. In 18 percent of extremely low-income renter households, at least one adult member is a person with a disability. This accounts for over 5 million households, which are likely to need accessibility features like grab-bars, extra-wide hallways, or entry-level bedrooms, further limiting their housing options. As of 2011, just 3.5 percent of all homes had these basic accessibility features.²⁶⁸ While homeowners and higher-income households can add such features, the lowest-income renters often cannot afford to do so. Thus, extremely low-income renters with disabilities often

face severe difficulties in finding affordable, available, and accessible housing.²⁶⁹

Increasing Extreme Weather Events Exacerbates the Housing Crisis

As extreme weather events increase, they will damage or destroy more and more homes or make them uninhabitable. In 2021, about 1 in

10 U.S. homes (or 14.5 million homes) were impacted by natural disasters, totaling nearly \$57 billion in

disability are more likely because of their income, to live in areas affected by disasters. Unaffordable and insecure housing leaves

In 2021, about 1 in 10 U.S. homes (or 14.5 million homes) were impacted by natural disasters, totaling nearly \$57 billion in property damage.

Impact of Recent Disasters on Housing

Hurricane Harvey (2017) flooded 154,170 homes in Harris County, Texas of which only 36 percent had flood insurance.²⁷¹ Hurricane Irma (2017) destroyed about 25 percent of homes in the Florida Keys.²⁷² During Hurricane Laura (2020), Grand Isle, Louisiana took a direct hit with 100 percent of its homes damaged and nearly 40 percent were destroyed.²⁷³

California's wildfire season (2017) burned over 1.2 million acres, a 112 percent increase over the previous year, destroyed or damaged 32,000 homes, and displaced 100,000 people.²⁷⁴ The Marshall Fire in Boulder County, Colorado (2021) damaged or destroyed more than 1,000 homes and businesses.²⁷⁵

families less able to cope with extensive repairs or rebuilding after extreme weather events such as flooding or wildfires. As disasters increase, they will have devastating impacts damaging or destroying homes or making them uninhabitable.

Communities affected by extreme weather events are often impacted by multiple natural disasters in a relatively short period. In 2015 and 2016, Harris County, Texas suffered four Presidential Declared Disasters before Hurricane Harvey (2017). The county was impacted by six Presidentially Declared Disasters in 10 years.²⁷⁶ In Fall 2020, two hurricanes hit Southwest Louisiana within a month, affecting working-class residents the most. Homes that survived the high winds of the first hurricane were damaged by the flooding of the second. In addition, the COVID-19 pandemic limited private aid and public assistance, thereby slowing the recovery. Two months later, many families were still rebuilding, often living in rented trailers or tents as their homes were repaired by a limited supply of contractors.²⁷⁷

Section 504 Requirements For Federally Assisted New Construction

HUD's 5 percent accessibility requirement for federally assisted new construction housing developments²⁷⁸ does not meet the needs of people with disabilities, who represent 25 percent of the population. The Section 504 requirements for federally assisted new construction²⁷⁹ state that all federally assisted new construction housing developments with five or more units must ensure that 5 percent of the dwelling

units, or at least one unit, are accessible to people with mobility disabilities. An additional 2 percent of the dwelling units, or at least one unit, must be accessible for people with hearing or visual disabilities. The project must also meet all Section 504 requirements in HUD's implementing regulation.²⁸⁰ In the United States, of the 61 million adults with disabilities many require accessible housing, which includes such features as lowered kitchen counters and sinks, widened doorways to allow passage by persons in wheelchairs, and wheel-in showers. Currently, fewer than 200,000 housing units in the United States are universally accessible, and only a fraction are affordable.²⁸¹ Neither the aging population nor the impact of long COVID has yet to be realized. The need for

accessible housing will increase because of our aging population and persons newly disabled from long COVID. The percentage of accessible houses must be

increased to accommodate for the newly disabled as well as existing accessible units damaged by extreme weather events.

Tribal nations also face a shortage in accessible units. In the United States there are 574 federally recognized tribal entities (347 federally recognized American Indian tribes within the contiguous 48 states and 227 federally recognized tribal entities within the state of Alaska).²⁸² According to the U.S. Census, an estimated 24 percent of American Indians and Alaska Natives live with disabilities, compared to 19 percent of the general population.²⁸³ According to tribal stakeholders NCD spoke with, in the Navajo Nation, housing is a top priority for people with disabilities. Although the Navajo Nation

Currently, fewer than 200,000 housing units in the U.S. are universally accessible, and only a fraction are affordable.

receives HUD funding, it does not meet the needs of the Navajo disability community.

Low-Income People with Disabilities in Flood Zones are at High Risk

In the United States, affordable housing units tend to be built in flood-prone and coastal areas leaving people with disabilities who may be low-income, unsafe, and at risk of environmental contamination, to contend with expensive reconstruction or homeless in the aftermath of a natural disaster. The sea level rise has increased the damage caused by hurricane storm surge flooding.²⁸⁴ Between 1990 and 2000, affordable housing was often built in floodplains where property values are lower and developed for multifamily housing, mobile homes, and single-family housing in the very

low-income neighborhoods. Harris County, Texas has an estimated 184,546 homes in a 100-year floodplain; over 26 percent of these homes were affected by Hurricane Harvey (2017).²⁸⁵ Households of color are more likely to live in a floodplain, exacerbating inequalities after a disaster strikes and making it harder for these communities to recover.²⁸⁶ Some of the low-income complexes are privately-owned buildings with a U.S. Department of Housing and Urban Development (HUD) contract. The landlord receives payment from the government in exchange for renting to low-income tenants. During disasters, residents who are often recipients of housing vouchers, cannot afford to move to another location without a housing choice voucher.²⁸⁷ There appears to be limitations preventing individuals to be able to "transfer/



transport” their housing voucher to a new location leaving them no choice but to return to a property that may be un-livable. Some disability stakeholders suggested HUD issue “climate vouchers” for individuals whose home is damaged or destroyed in a disaster.

Scenarios like the one described above because of the increased prevalence of extreme weather events will also become more prevalent. In the United States, the frequency of coastal flooding has increased sharply over the last few decades, and rising sea levels indicate further acceleration. Estimates put 14.6 million properties at substantial risk of flooding (2020), and 7.1 million single-family homes and 253,000 multifamily units under threat from storm

surges, with a total reconstruction cost of \$2.65 trillion.²⁸⁹ The risk of coastal floods damaging or destroying low-income homes will triple over the next 30 years as rising tides and storm surges encroach on low-lying developed areas. By 2050, more than 25,000 affordable housing units are expected to see coastal flooding at least once in a typical year with the largest number of at-risk housing units in three states: New Jersey, New York, and Massachusetts.²⁹⁰ As extreme weather events increase and continue to impact low-income people with disabilities living in flood zones, federal funding, including housing choice vouchers and CDBG, are needed. According to the Joint Center for Housing Studies at Harvard University’s “the State of the Nation’s Housing 2020 Report,” “funding for Housing for Persons with Disabilities has been reduced by 43 percent over the decade and critical programs (e.g., CDBG funding down 34 percent in 2020) have lost funding.”²⁹¹

Case Study

In 2018, tenants of Arbor Court Apartments in Houston, Texas filed a federal lawsuit against HUD and the owners of Arbor Court Apartments, an HUD-funded low-income rental housing project. After the complex had flooded several times, including in 2016 and during Hurricane Harvey in 2017, the plaintiffs cited “dangerous,” “uninhabitable,” and “life-threatening” conditions. The City of Houston Fire Marshall deemed it a fire hazard. But tenants could not afford to leave without voucher assistance which HUD allegedly refused to provide. Several of the residents identified as living with disabilities. One resident, whose sole income was SSDI, was unable to move to a more secure, less flood-prone residence without the assistance of a housing voucher.²⁸⁸

Congregate Care Facilities (CCFs) Have Insufficient Evacuation Plans

Many states either do not prepare evacuation plans for CCFs, or requirements are not robust enough to ensure an actionable, executable evacuation plan that maintains appropriate care during and after an evacuation. The reliance on CCFs for lower-income people with disabilities increases when housing expenses rise. The approximately 4.7 million people with disabilities who rely on SSI cannot afford to live in their own homes, even where home-based care might be available,²⁹² and may live in CCFs. In addition, a large, aging population will continue to expand the need for accessible and integrated housing solutions and health care infrastructure.²⁹³ The pandemic highlighted

the tragic impact of substandard conditions at CCFs and nursing homes, which are home to many of the most at-risk community members. The recent CMS Emergency Preparedness Rule was designed in part to increase the mitigation and preparedness activities of long-term care facilities to reduce these risks.²⁹⁴ Assisted living communities are not regulated nationally like nursing homes. Instead, each state has its own laws, regulations, and licensing standards for assisted living communities. In some states, as many as 25 hours of training

are required for caregiving staff; other states have no training requirements. Even where states require robust, actionable evacuation plans, they have historically overcommitted resources, impacting the ability of all CCFs to execute their plans (e.g., multiple CCFs will have a contract with the same transport service that only has the capacity to evacuate one or two CCFs).

Response

Special Needs Registries Cause Confusion and Are Unreliable

Special needs registries (or emergency assistance) are not consistently used by local emergency management agencies, and create a false sense of security for people with disabilities that emergency responders will alert and inform

them and ensure their safety during disasters. Some states do not have plans in place for how they will use registries and do not address that people with disabilities may move or may not be home during a disaster. Prior to disasters, people with disabilities can sign up on registries which are designed to identify individuals who may require special assistance during

The pandemic highlighted the tragic impact of substandard conditions at CCFs and nursing homes, which are home to many of the most at-risk community members.

emergencies. Disability stakeholders said that people with disabilities expect that, during a disaster, individuals who have signed up on a registry can remain in their homes and

state emergency responders will contact them and ensure their safety. In reality, when local municipalities are in the midst of a disaster, most municipalities have no plan on how to utilize the registry list to assist people with disabilities.

Special needs registries . . . are not consistently used by local emergency management agencies, and create a false sense of security for people with disabilities that emergency responders will alert and inform them and ensure their safety during disasters.

A GAO report (2019) found that²⁹⁵ Texas and Florida operate registries to help local governments prepare to assist residents with disabilities during evacuations and sheltering, but state, local, and nonprofit officials in those locations reported confusion about

the registries limited effectiveness.

State officials in Texas created a state registry to provide local emergency management officials with information about the needs of community members with disabilities. According to representatives of state, local, and

nonprofit agencies, it created a misconception among residents who thought being on the Texas registry guaranteed direct evacuation or transportation assistance. Prior to Hurricane Harvey, officials from Texas expressed concerns that confusion about the registry would lead to residents' overreliance on public disaster services.²⁹⁶ People who registered with

the State of Texas Emergency Assistance Registry (STEAR) erroneously assumed that by registering they would receive assistance during a natural disaster.

It was quite the

opposite, Texas' purpose for the registry was to collect data to better inform SLTTs on the disability population in their jurisdiction. Very few STEAR registrants received assistance or wellness checks during or in the days following Hurricane Harvey.²⁹⁷

The state of Florida has a similar registry program. However, in addition to providing registrant data to local emergency managers to use as a tool for disaster preparation, their registry is also used to register people with disabilities for special needs shelters. Florida, by statute, requires special needs shelters and uses the registry to determine eligibility. Disability stakeholders assert that even though persons with disabilities registered for a special needs shelter, their names were never shared with the county and they were denied admittance.

Registries are managed by individual states and are not standardized across regions or the country. Registries do not guarantee assistance, such as accessible transportation to shelters.

Mass Population Shelters Are Underprepared for People With Disabilities

In reality, when local municipalities are in the midst of a disaster, most municipalities have no plan on how to utilize the registry list to assist people with disabilities.

Some mass population shelters do not meet the accessibility needs of people with disabilities as required by law, breaking the trust of people with disabilities and increasing the risk to their safety

during disasters. SLTTs are obligated to ensure equal opportunity for individuals with disabilities when providing mass care services.²⁹⁸ The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) Section 308 prohibits disability-related discrimination during disaster relief and assistance activities.²⁹⁹

However, mass population shelters are often not ADA compliant. Disability stakeholders

reported that shelters are often set up in schools or houses of worship with basic design that may not physically accommodate

people with disabilities, like wide aisles for navigation and accessible bathroom and bathing facilities. During Hurricane Florence (2019), Pender County, North Carolina, experienced more than 40 inches of rain, and officials opened shelters in four middle and elementary schools. The Pender County After-Action Report

(AAR), identified areas for improvement, including developing shelter plans with roles and responsibilities, completing Red Cross site approval of primary pre-storm shelters, and developing a plan to manage special need citizens.³⁰⁰ Developing a plan to “manage special needs citizens” a.k.a. people with disabilities should not be an item that is consistently an item to address in an after action report.

Because of the inconsistencies of shelter access, people with disabilities often wait out a storm in their accessible homes than evacuate to an inaccessible shelter. Some feel that shelters marginalize people with disabilities. People with disabilities going to shelters should know that their needs will be met (e.g., they will

be able to use the restroom, with or without assistance).

FEMA's Mass Care/Emergency Assistance Pandemic Planning Considerations for State, Local, Tribal, Territorial and Nongovernment Organizational Planners, Providers and Support Agencies (2020) states that congregate sheltering facilities must ensure that facilities can accommodate people with disabilities, and provide support for household pets, service animals, and support animals. Messaging should be provided in various languages and forms to reach survivors with disabilities.³⁰¹ Emergency managers and shelter operators should identify the disability-related needs of a shelter and make advance arrangements to meet



those needs. EMAs must involve community members with a variety of disabilities in the advance planning process to ensure that their needs will be accommodated in the aftermath of a community disaster.³⁰²

Medical/Special Needs Shelters Are Underperforming

Medical and special needs shelters are often not fully accessible and fail to meet the needs of people with disabilities. They are often designed only for individuals who are power dependent, rather than for all people with disabilities. People with disabilities get separated from their family, friends, and neighbors when they enter “special needs” or “special medical needs” shelters, who may not know when their loved one with a disability left the shelter or where they went.³⁰³

in 2007, DOJ

instructed state and local governments in their ADA Best Practices Toolkit for State and Local Governments, Chapter 7, that “the ADA requires people with disabilities to be accommodated in the most integrated setting appropriate to their needs, and the disability-related needs of people who are not medically fragile can typically be met in a mass care shelter. For this reason, people with disabilities should generally be housed with their families, friends, and neighbors in mass care shelters and not be diverted to special needs or medical shelters.”³⁰⁴

FEMA estimates that more than 50 percent of individuals visiting disaster recovery centers have disabilities that limit their ability.³⁰⁵ As history

has taught us and is discussed in more detail in NCD’s 2019 report, Preserving our Freedom: Ending the Institutionalization of People with Disabilities, stand-alone “special needs” shelters do not provide equivalent provisions to people with disabilities. When at least half of the shelter population may be people with disabilities, a best practice should be to ensure that mass shelters are accessible to all and not segregate people with disabilities.

Shelters Lack Supplies and Staffing

During a disaster, people with disabilities must bring their own medications and equipment to shelters and many have limited access to support staff, putting them at risk. Emergencies can strike quickly and force people to evacuate promptly. During disaster evacuations, people with disabilities may lose essential medications or assistive

devices.³⁰⁶ Some private nonprofits have programs in place to replace lost medications and provide equipment for people with disabilities.

Historically, shelter operators fail to plan and meet the need for personal attendant services (PAS), attendant care services, and personal care services in shelters. Although PAS is required by federal law, this gap has persisted, leading to the denial of full and equal services³⁰⁷ increasing the risk of institutionalization to people with disabilities. In 2021, FEMA updated its Guidance on Planning for Personal Assistant Services in General Population Shelters and recommended that SLTTs incorporate PAS as a natural part of

... [A] best practice should be to ensure that mass shelters are accessible to all and not segregate people with disabilities.

shelter preparations and that contracts for PAS services be established well before an extreme weather event.³⁰⁸

Shelter staff and FEMA personnel require additional training and resources to provide aid and assistance to people with disabilities. According to the GAO (2022) FEMA has faced long-standing challenges with its workforce staffing including providing timely, program-specific training.³⁰⁹ Staff who work in shelters must be trained on disability competency awareness to meet the needs in the field. FEMA previously offered a two-day disability integration course to its nonfederal partners but canceled the course in 2017. In 2018, FEMA required all staff to take a 30-minute training on basic disability integration principles and offered targeted ‘just-in-time’ training to deployed staff. FEMA’s disability integration specialists are also critical to ensuring that people with disabilities are adequately supported.

People with Disabilities Face ‘Institutionalization’ During Disasters

Due to a lack of accessible shelters, or when PAS care is not made available, people with disabilities are at risk of being institutionalized.³¹⁰ While disability rights laws protect against people with disabilities from being placed in long-term care facilities, these requirements

are often waived during disasters allowing for institutionalization. Emergency managers often consider hospitals and CCFs as appropriate locations for short-term housing for people with disabilities. Individuals may be placed in nursing homes, psychiatric institutions, assisted living facilities and other long-term care facilities.

Due to a lack of accessible shelters, or when PAS care is not made available, people with disabilities are at risk of being institutionalized.

Oftentimes, this occurs when a person with a disability does not require medical care but just accessible facilities. When a shelter is not made accessible

for all, it places people with disabilities at a higher risk of being institutionalized in order to attain the needed physical access or services required. Such institutionalization is detrimental to people with disabilities who were living independently and is also a violation of their civil rights. As NCD reported in *Preserving Our Freedom: Ending Institutionalization of People*

with Disabilities During and After Disasters,³¹¹

once someone is in an institution, they are likely to remain even after the threat of the disaster has passed. The DOJ ADA Tool Kit (2007) says “people should receive services

in the most integrated setting appropriate to the needs of the person, and only persons who require the type and level of medical care that would ordinarily be provided by trained medical personnel in a nursing home or hospital” can be placed in a restrictive setting.

While disability rights laws protect against people with disabilities from being placed in long-term care facilities, these requirements are often waived during disasters allowing for institutionalization.

However, HHS CMS issues waivers to these rules during disasters, allowing states to place people with disabilities in institutions. Some states to combat institutionalization have used Appendix K waivers to pay legally responsible relatives to provide care that is *extraordinary* and is necessary in order to prevent institutionalization.³¹²

HHS must approve the waivers for states to cover services that are ordinarily not covered.

Recovery

Federal Reimbursement Programs Favor Property Owners

Federal housing assistance programs favor individuals who own property. Individuals recovering from disasters will often require documentation to verify their eligibility, such as proof of homeownership and insurance information, to qualify for federal or other assistance. This

requirement places a significant burden of proof on the applicant to prove home ownership if property records are destroyed in a disaster and limits assistance to those who rent.

FEMA's Individuals and Households Program (IHP) provides financial and direct services to eligible individuals and households affected by a disaster who have uninsured or underinsured necessary expenses and serious needs. Federal reimbursement

[O]nce someone is in an institution, they are likely to remain even after the threat of the disaster has passed.

This requirement places a significant burden of proof on the applicant to prove home ownership if property records are destroyed in a disaster and limits assistance to those who rent.

programs use property tax data to determine property value, favoring homeowners and leaving out a huge population, including individuals with disabilities who often are not homeowners. In Puerto Rico, post Hurricane Maria, some individuals did not have titles or deeds to their homes, which created a significant barrier to receiving assistance.

Finding Accessible Housing Post-Disaster is Difficult for People with Disabilities

Relocation creates challenges for people with disabilities, including separation from their support services and community and finding affordable, accessible housing. Some individuals have difficulty understanding FEMA's IHP application process, including required documentation, supporting applications, and approval processes. Some low-income families do not qualify for disaster loans.

After a disaster, some individuals leave shelters to find their home has been destroyed and they must find accessible, safe housing which sometimes requires relocating. Individuals may land in temporary housing far from their support services and community. In addition, they may need to replace lost resources such as their DME or AT which may have been lost or destroyed. People with disabilities may need

financial assistance, in the form of rental or relocation assistance or to replace assistive technologies.

Several federal assistance programs are typically activated to support large-scale disaster recovery. Unfortunately, these programs fail to provide needed assistance to the most vulnerable people.

Through the Emergency Housing Voucher program, HUD can provide housing choice vouchers to local public housing authorities

(PHAs) to assist individuals and families. As mentioned in an earlier section, there appears to be limitations preventing individuals to be able to “transfer/transport” their housing voucher to a new location requiring them to return to a property that may be unlivable.

FEMA IHP process allows FEMA, in coordination with states, to provide financial assistance and direct services to individuals and households that have disaster-related expenses and serious needs that cannot be met through other organizations and programs.

However, FEMA's IHP application process is complicated, may require assistance or AT that might not be available in the immediate aftermath of a disaster, and the approval process is lengthy, leaving people without housing and support for extended periods. Research has highlighted barriers faced such as lack of knowledge of disaster-aid

processes, discomfort with these processes, and difficulty accessing disaster assistance facilities because of transportation, childcare, and work challenges.³¹³ For some low-income individuals and families, FEMA's IHP grants may not be enough to fund rebuilding (e.g., homes that have specific accessibility requirements)

and HUD funding takes months or even years to reach families. A GAO report (2021), “found that FEMA requires that certain survivors first be denied a U.S. Small

Business Administration (SBA) disaster loan before receiving certain Individual Assistance (IA) grants, and survivors did not understand and were frustrated by this requirement.”³¹⁴ Some FEMA programs require applicants to complete the SBA application, even if the applicant does not want or cannot qualify for the SBA loan.

Many applicants will fail to apply for SBA disaster loans, not realizing that the loan application is a prerequisite for most IHP programs. Disability stakeholders said, many lower-income families do not qualify for disaster loans, the FEMA IA grants are insufficient

to fund rebuilding, and funding from HUD takes months or even years to reach families.

HUD CDBG-DR Programs Are Not Permanently Authorized

HUD's Community Development Block Grant-Disaster Recovery (CDBG-DR) programs are

supplemental appropriations typically tied to a presidentially declared disaster. Unlike other recovery assistance programs administered by FEMA and SBA, CDBG-DR assistance is not permanently authorized leaving communities and people with disabilities waiting for years for accessible housing to be rebuilt. HUD's CDBG program provides disaster recovery grants to rebuild areas impacted by extreme weather and provide crucial seed money to start the recovery process. The grants help states, cities, and counties recover from presidentially declared disasters, especially in low-income areas.

HUD's CDBG Mitigation (CDBG-MIT) program funds can be used by grantees in areas impacted by disasters to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses. The CDBG-DR assistance can be used to help communities recover from disaster.³¹⁵ This may include building accessible facilities in the community. CDBG

MIT and DR, are not standing programs but supplemental appropriations tied to a specific disaster. CDBG-DR funds are appropriated by

A GAO report (2021), "found that FEMA requires that certain survivors first be denied a U.S. Small Business Administration (SBA) disaster loan before receiving certain Individual Assistance (IA) grants, and survivors did not understand and were frustrated by this requirement"

Congress in response to a specific disaster or series of disasters—there is no standing authority for HUD to grant DR funds without an act of Congress.³¹⁶ Statutory requirements of CDBG-DR appropriations, recovery needs of grantees, and waivers granted by HUD may change from one disaster to the next, thus, causing grantees to seek clarifying guidance each disaster about which activities are covered by the funding. For people with disabilities who require accessible homes, schools, places of work and worship,

waiting years is unacceptable. Reinvestment must be part of the disaster recovery process—not only in getting people back into apartments and houses but in rebuilding accessible, habitable communities. Restoring communities after disasters presents SLTTs opportunities to review accessibility standards and requirements and to update inaccessible public facilities and infrastructure. The recovery process is an opportunity to ensure that ADA and other

disability laws, and federal rebuild standards are met and to build resilient communities accessible to all.

Recommendations

- Congress should pass legislation to spur affordable housing production and measures to preserve existing homes so that people with disabilities can return to their homes post an extreme weather event as outlined in the White House Actions to Ease the Burden of Housing Costs. Doing so would expand and improve existing forms of federal financing for affordable multifamily development and allocate a percentage of the housing development units to be accessible to people with disabilities.
- Congress should pass legislation to ease rising costs for renters and prospective homebuyers and encourage construction of new affordable and accessible housing units.
- SLTTs should encourage the construction of universally designed accessible units by passing universal design ordinances that go beyond the ADA and require that builders offer accessibility features to buyers as upgrades.³¹⁷
- HUD should increase the number of accessible units from the 5 percent accessibility requirement for federally assisted new construction housing developments to 25 percent, which represents the percentage of people with disabilities in the United States.
- HUD Office of Public and Indian Housing (PIH) should expand its housing voucher program³¹⁸ to offer climate vouchers for families affected by extreme weather events to relocate in the event their home is not habitable.
- HUD should initiate a policy that will not approve funding of federal financed housing in floodplains.
- HUD should require developers use materials that are more resilient to extreme weather events indicative of the area, for instance, metal shingles in California to mitigate wildfires, or a safe room in units designed for people with disabilities that should withstand high winds from hurricanes or tornadoes.
- HUD should establish and implement a Federal Flood Risk Management Standard (FFRMS); update/modernize HUD's floodplain management regulations in 24 CFR part 55; extend increased flood protection across all HUD programs; increase flood resilience; and clarify processes and standards in floodplain decision-making.
- CMS should examine and consider changes to emergency preparedness plans to bolster the resiliency of the health care sector as part of an administration-wide effort to be ready for the next weather-related emergency.

Recommendations: *continued*

- HHS ASPR should require that states develop written emergency evacuation plans and response procedures for CCFs that include situation assessment and plans for protecting residents, staff, volunteers, visitors, equipment, medications, and vital records as part of the states' assisted living licensing and regulation requirements.
- No federal funds—including but not limited to federal funds from DHS and HHS—should be used in development, deployment, and maintenance of emergency “special needs” registries exclusively created for people with disabilities. Instead of registries, SLTTs should take an innovative, holistic, and inclusive approach to include people with disabilities in their overall emergency management plans.
- SLTTs should develop/update shelter management plans with clear roles and responsibilities that fully integrate the needs of people with disabilities to meet legal requirements.
- DOJ and HUD should monitor and enforce compliance obligations for emergency sheltering in a disaster consistent with emergency sheltering requirements under the Fair Housing Amendments Act. Whether the disaster shelter is considered transient or long-term, the rights of people with disabilities in these shelters should be seamlessly protected.
- The federal entity (typically FEMA and DHS) providing funds ultimately received by local emergency management departments should require the participation of local staff in training on the scope of obligations under the Rehab Act.
- HHS and DOJ should issue joint guidance and provide technical assistance to SLTTs and shelter planners on the ADA and other legal requirements as well as Crisis Standards of Care (CSC) requirements for all shelters.
- SLTTs and emergency planners should involve people with disabilities and disability organizations in emergency evacuation planning, ensure that shelters are physically accessible, and provide guidance on post-evacuation residency for individuals with disabilities.
- FEMA, SLTTs, and shelter providers should join private nonprofits to develop contingency plans to replace lost medications and DME equipment.
- FEMA should continue outreach to SLTTs on the requirement to provide PAS in shelters and advise the importance of acquiring a contract for PAS services prior to a shelter opening and advise SLTTs of the proper method for reimbursement following disasters.

Recommendations: *continued*

- FEMA, SLTTs and NGOs (e.g., the Red Cross or religious organizations) should provide adequate planning and training, to include disability cultural competency training and resources, including supplies and equipment, to staff working in shelters, health care professionals, first responders, and search-and-rescue teams to better support people with disabilities in shelters. Expand training to individuals and community groups and recruit, train, and provide clearance for volunteers with specific skill sets, such as interpreters, mental health professionals, counselors, behavioral therapists, and PCAs.
- The FEMA Administrator should develop a plan for delivering training to FEMA staff that promotes competency in disability awareness. The plan should include milestones and performance measures and outline how performance will be monitored. (GAO Recommendation 6).³¹⁹ The plan should include FEMA Disability Integration Cadre. NCD recommends FEMA should ensure its emergency management workforce receives formal training on guidance related to supporting people with disabilities prior to their deployment in a disaster response role.³²⁰ FEMA should lengthen its two-hour course (IS-368: Including People With Disabilities and Others With Access & Functional Needs in Disaster Operations (2014))³²¹ and ensure that people with disabilities are consulted during course development.
- SLTT EMAs should ensure that shelter staff receives specific training to address the needs of people with IDD and mental/behavioral health issues.
- FEMA should ensure emergency shelter providers plan for and ensure all shelters are accessible and compliant with the ADA and the Rehab Act to avoid the threat of institutionalization. Employing local disability organizations to collaborate on shelter operations will assist to ensure shelter facilities are more accessible to people with disabilities
- HHS CMS should cease issuing waivers that allow people with disabilities to be institutionalized in the absence of accessible shelters and services. Absent an alternative, if waivers are issued, SLTTs should require EMA's to immediately remedy or face severe penalties with a stipulation that the people institutionalized be moved into other accessible accommodations within a specified short timeframe or additional penalties will be applied.
- HHS should approve Appendix K waivers for SLTT partners to pay legally responsible relatives to provide care during disasters.

(continued)

Recommendations: *continued*

- Congress should fund legislation to enable states to increase accessibility to HCBS and to expand access to assistive technologies in order to promote independence and community integration.
- FEMA should revise and provide technical assistance in plain language to its IHP application process
- which would include enhancing and publishing guidance for requesting and receiving such services and removing any challenges related to language accessibility, literacy, technical expertise, or disability and the prerequisite to apply for SBA disaster loans.³²²
- Congress should permanently authorize HUD Community Development Block Grant (CDBG) funding or in the alternative, streamline the authorization process after a disaster so that subsidies reach recovering communities earlier, so rebuilding can begin immediately following a disaster.
- HUD should authorize CDBG-DR and CDBG-MIT grants to be used toward long- term relocation of housing projects and other infrastructure including building in safer zones or retrofitting buildings to be more resilient to expected weather events. HUD should work with and offer guidance to local leaders to help community planning and development.
- HUD should provide guidance to CDBG recipients of the requirement to comply with federal disability rights laws and require the incorporation of universal design in any rebuild to ensure accessibility for PWDs.
- HUD should update its CDBG-DR Policy Guidance for Grantees (2019) and include references to people with disabilities.
- FEMA should provide guidance and training to SLTT partners on the legal requirements for Functional Needs Support Services (FNSS) for general population shelters and the potential loss of shelter reimbursement funds and propensity for lawsuits should they not provide accessible sheltering.

Chapter 4: Employment

Xtreme weather events disrupt access to employment for people with disabilities and yet there is limited public research and data about how disasters impact job rates for people with disabilities.³²³ Employees with disabilities are displaced at a disproportionate rate to people without disabilities outside of extreme weather events. The employment rate of people with disabilities is 19.1 percent compared to 63 percent of people without disabilities.³²⁴

During COVID, unemployment rates were 12 percent for people with disabilities and only 9.5 percent for people without disabilities.³²⁵

Employees with disabilities are 89 percent more likely to experience an involuntary job loss than those without disabilities in the United States.³²⁶ Data shows people with disabilities are more likely to experience an involuntary job loss absent of extreme weather events. Extreme weather events disrupt the job market, therefore, it is easy to hypothesize that since the unemployment rate of employees with disabilities is consistently higher than those without disabilities. Extreme weather events exacerbate the unemployment rate of people with disabilities.

People with disabilities are 89 percent more likely to experience an involuntary job loss than people without disabilities.

Preparedness

Measuring the Impact of Extreme Weather on Employment of People with Disabilities

Extreme weather events often involve temporary disruptions to the local economy through direct and indirect effects on local infrastructure, business structures, homes, and the workforce, and limit access to reliable employment. After a natural disaster, the labor demand tends to decrease because businesses are forced to close or relocate. Even businesses with long-term

viability will have difficulty operating immediately after a disaster because of disruptions to the supply chain, power grid, communications, and other infrastructure.³²⁷

Businesses that are damaged in a disaster may take weeks or months to reopen or may never reopen due to many factors including the loss of customers. In 2017, the California Wildfires “destroyed or damaged more than 10,000 structures in the state (destroyed 9,470, damaged 810), a higher tally than the previous nine years combined.” According to CalFire, “in terms of property damage, 2017 was the most

destructive wildfire season on record in California at the time.”³²⁸ In 2012, Hurricane Sandy, which was one of the deadliest hurricanes to make landfall on the continental U.S., struck the northeastern region of the United States resulting in over \$19 billion in losses and the deaths of at least 53 people in New York City. A decade later, New York City has rebounded. However, there is still a void as to the labor outcomes of people affected by Hurricane Sandy.³²⁹

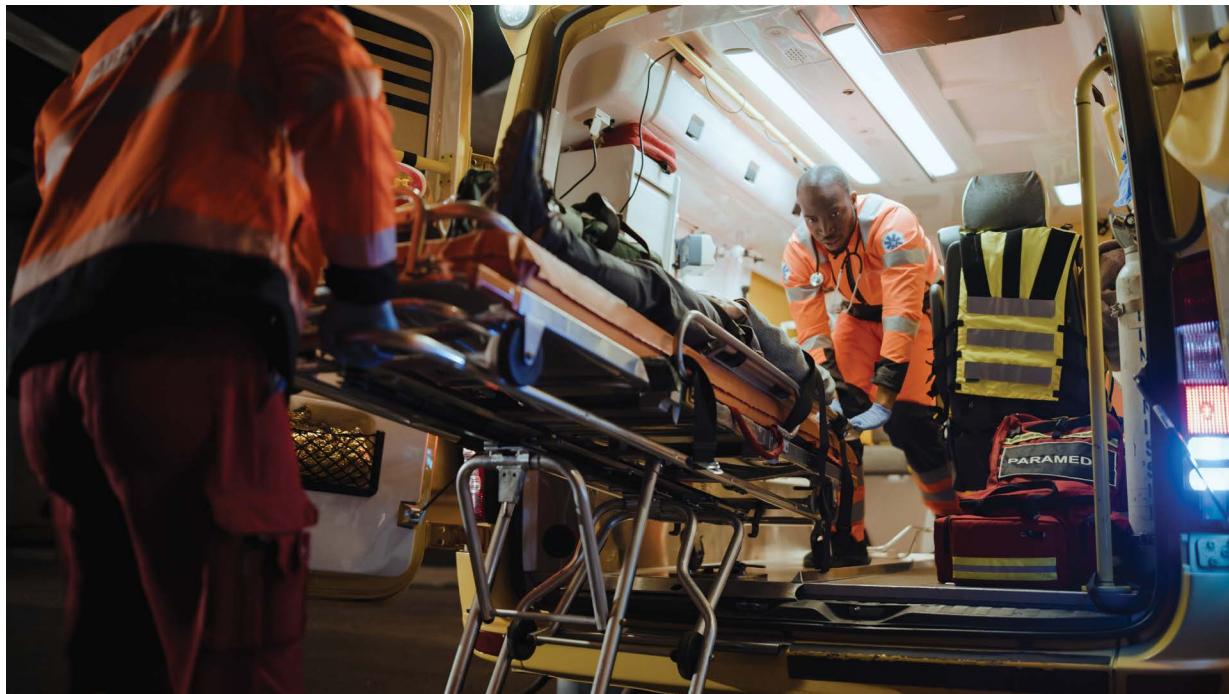
Recent COVID-19 pandemic-related layoffs have disproportionately impacted people with disabilities. From March to April 2020, the number of employed working-age people with disabilities fell by 20 percent (950,000 people), while the number of employed working-age people without disabilities decreased by 14 percent.³³⁰

One of the difficulties of measuring employment after a disaster is the inability to run standard surveys in disaster-affected areas.³³¹ While there is some information about how the labor market and employment in general are impacted by natural hazards, and while DOL produces labor force statistics on

people with disabilities, it is unclear whether there are Federal Government efforts underway to measure how extreme weather

events impact the employment outcomes for people with disabilities. Although DOL tracks the impacts of disasters on people with disabilities in terms of employment, the agency primarily focuses on large disasters or crises, such as the COVID-19 pandemic and its economic impact. DOL does not track how individual disasters impact people with disabilities in terms of

One of the difficulties of measuring employment after a disaster is the inability to run standard surveys in disaster-affected areas.



employment and it does not track real-time data. The limited data on how extreme weather impacts people with disabilities makes it difficult to measure and build capacity.

Recovery

Extreme Weather Events Exacerbate Mental Health Issues

Extreme weather events impact the labor market by loss of life, injury, and the evacuation of people to areas outside the disaster zone. After a disaster, individuals may require mental health support and other accommodations at work that were not previously required. Natural disasters can have cascading impacts on people with disabilities, further limiting employment opportunities. Disasters can affect stress levels, labor productivity, and mental health. Disasters may lead to or exacerbate mental health issues. People who become unemployed after a disaster must take care of their basic life and safety requirements before seeking employment.³³² It is critical that employees are educated and made aware of their rights, especially after a disaster. During disaster recovery, federal crisis counseling programs provide funding and infrastructure for individual states to administer and implement guidance. DOL provides information on available mental health services on its Office of Disability Employment Policy website at <https://www.whatcanyoudocampaign.org/psa-campaigns/mental-health-psa/>.

Displaced Employees Require Vocational Assistance Programs

People with disabilities displaced after a disaster may need access to assistance programs such as vocational rehabilitation (VR) services

to find new employment. The Rehabilitation Services Administration (RSA) provides four programs that service people with disabilities to achieve successful employment outcomes. The VR Service Program and the Supported Employment Service (SE), both state formula grant programs; the American Indian Vocational Rehabilitation Service Program (AIVR); and the Demonstration and Training programs, which are discretionary grant programs with up to five years of competitive awards.³³³

Approximately 1.2 million youths and adults are served by the 100-year-old VR Service Program each year. The system is designed to assist people with disabilities, including those with the most significant disabilities, who have visual, auditory, physical, intellectual, and learning disabilities, and psychosocial or psychological disabilities, to achieve and maintain employment. The VR Service Program performance data from the last decade—FYs 2010 through 2019—revealed that each year, there were approximately one million people with disabilities receiving VR services under an individual plan for employment.³³⁴

In our 2020 report, *Progress Report on National Disability Policy: Increasing Disability Employment*, NCD reported that, “historically, American Job Centers (AJCs) have been found to be physically and programmatically inaccessible to people with disabilities and not well coordinated with the other parts of the adult employment system,³³⁵ although several identified steps are being taken to remedy these barriers.” In its 2018 report, GAO found “some gaps exist in federal guidance intended to enhance coordination. Employers GAO spoke with cited challenges navigating workforce programs, yet few agencies reported



documenting roles and responsibilities of the agencies they partner with to work with employers. While Education and the Department of Labor (DOL) have provided some related technical assistance, they have not provided examples of documentation of roles and responsibilities. GAO's prior work has found that such documentation can help improve coordination by clarifying who does what in a partnership.³³⁶ In addition to schools, VR, and Medicaid, the public workforce system also provides employment services to people with disabilities, albeit to a smaller share of self-identified people with disabilities, through AJCs.³³⁷

Access to Transportation is Necessary for Returning to Work

The process of finding employment is significantly disrupted if the employee relies on accessible public transportation or paratransit.

As mentioned in previous chapters, disruption or damage to critical infrastructure such as public facilities, roads, bridges, and public transportation systems limits options for people with disabilities to get to work. People with disabilities face significant obstacles to employment because accessible and affordable transportation often cannot be found.³³⁸ This obstacle is often exacerbated after a disaster. Lack of public transportation because of damaged infrastructure is a common barrier for people with disabilities to return to work.³³⁹

Employees staffing these services may also be displaced during disasters. Many businesses may not be able to recover no matter the amount of support. In this instance, employees should be provided support and job placement assistance for alternative employment. Displaced employees could benefit from job-search assistance or new training if needed.³⁴⁰

Recommendations

- DOL Bureau of Labor Statistics should collaborate with the National Institute on Disability, Independent Living, and Rehabilitation Research to commission a study on how individual disasters impact people with disabilities in terms of employment and economic impacts.
- Given the dearth of data on employment losses due to natural disasters, DOL should create a system to collect and share data on how individual disasters impact people with disabilities in terms of employment.
- Rehabilitation counselors should work with disability program navigators (DPNs) (people trained to utilize the One-Stop Career Centers to help people with disabilities) to help navigate the web of career services.
- Federal agencies and private sector employers should offer remote work as an option, especially after a disaster where people with disabilities who rely on public transportation may not have access to transportation or paratransit services.

Chapter 5: Education

Eighteen extreme weather events affected the United States in 2022 with losses exceeding \$1 billion each.³⁴¹ As these events have shown, extreme weather events affect communities, school districts, and institutions of higher education.³⁴² Students with disabilities face extra risks and challenges to their academic, physical, and mental well-being when extreme weather events disrupt education. U.S. public schools provide special education services to more than 7.2 million, or 15 percent of all public school students³⁴³ ages 3 to 21.³⁴⁴ Since 2017, more than 341 presidentially declared major disasters have occurred across all 50 states and U.S. territories,³⁴⁵ with devastating effects on K-12 schools, including those in socially vulnerable communities where disaster recovery is more challenging.³⁴⁶ During the 2018–2019 school year in California, more than one million students were impacted by school closures because of wildfires, specifically

the Camp Fire (2018), which impacted more than 2,200 schools.³⁴⁷ After Hurricanes Maria and Irma (2017), Puerto Rican students missed an average of 78 days of school because of

infrastructure damage and transportation disruption; the storms also accelerated declines in school enrollment. One year later, 1 in 10 students

with special needs were still not receiving special education services.³⁴⁸ Hurricane Harvey impacted 181 school districts in Texas, including the Houston school district, one of the nation's largest, with more than 200,000 students.³⁴⁹

Hurricane Harvey kept 1.4 million students out of public schools for at least one week.³⁵⁰

Nearly 1 in 10 U.S. schools are located in a floodplain, placing 4 million students at risk of being flooded

out of school.³⁵¹ Students with disabilities face challenges during response and evacuation and disasters have long-term impacts on students' physical and mental health, and on

During the 2018–2019 school year in California, more than one million students were impacted by school closures because of wildfires...

After Hurricanes Maria and Irma (2017), Puerto Rican students missed an average of 78 days of school because of infrastructure damage and transportation disruption; the storms also accelerated declines in school enrollment.

academic outcomes. More research, data, and preparedness planning on how to protect students with disabilities during disasters is needed.

Preparedness

Students with Disabilities in Rural, Tribal, and Low-Income Areas

The special education system lacks resilience, or capacity to quickly recover, and students with disabilities living in rural, tribal and low-income areas are especially susceptible to educational disruption because the present shortage of special education professionals, which is exacerbated when an extreme weather event occurs.

Students with disabilities already face multiple and substantial barriers to accessing a quality inclusive education. Their education is resource-intensive, requiring access to specialized equipment, educators with unique training,³⁵² and accessible transportation.

Even before the COVID-19 pandemic, the United States was facing a nationwide shortage of qualified special education teachers and related service providers.³⁵³ Research shows that these shortages disproportionately impact students with disabilities, students of color, students from low-income backgrounds, and students from rural communities.³⁵⁴ Students in rural, territorial, or tribal areas may have access to just one occupational therapist,³⁵⁵ a single adapted school vehicle, or a few nurses capable

of tending to specialized needs.³⁵⁶ If a disaster puts these assets out of commission, students lose services with no alternative.

Multiply Marginalized

Research shows that socially vulnerable groups are particularly susceptible to the adverse effects of disasters, such as increased housing instability, food insecurity, parental job loss, and social disconnection.³⁵⁷ In our 2021 report, *The Impact of COVID-19 on People with Disabilities*,³⁵⁸ NCD reported that many students with disabilities

face additional barriers to equal educational opportunity as they are multiply marginalized.³⁵⁹ For example, students with disabilities are more likely to be low-income,³⁶⁰ are disproportionately Black,³⁶¹ and may be in foster care or juvenile justice systems, or both. (About 32 percent of children in foster care have disabilities,³⁶² and, as noted, up to 85 percent of children in juvenile detention have disabilities.) Disabled students also may be homeless³⁶³ and may be English language learners.³⁶⁴ Many experience intersectional discrimination based on disability, sex, race, ethnicity, and size. These

additional burdens exacerbate the vulnerabilities of students already struggling with academics, behavior, planning, speech, motor skills, and other areas essential to long-term success.³⁶⁵ Because of their marginalization, parents of these children may not be aware of the required processes and procedures for securing services and accessing programs and opportunities.

Hurricane Harvey kept 1.4 million students out of public schools for at least one week.

Nearly 1 in 10 U.S. schools are located in a floodplain, placing 4 million students at risk of being flooded out of school.

Poverty and Academic Impacts

In the United States, a higher percentage of children (18.3 percent) and individuals with severe disabilities (26 percent) live in poverty than does the population as a whole (13.3 percent; U.S. Census Bureau, 2006).³⁶⁶ A January 2022 GAO report, *Disaster Recovery: School Districts in Socially Vulnerable Communities Faced Heightened Challenges after Recent Natural Disasters*, reported that most school districts that received key federal disaster recovery grants following 2017–2019 presidentially declared major disasters had elevated proportions of students from socially vulnerable groups.³⁶⁷

Academic achievement may be particularly disrupted by disasters in districts with high proportions of socially vulnerable students, including those with disabilities. One recent study found that lower-income school districts' academic achievement tended to be adversely affected by natural disasters, whereas higher-income districts did not see extended declines in academic achievement.³⁶⁸ For example, one county education official noted that, over the last decade, school districts in his county had narrowed the gap between White and Hispanic students in high school graduation rates and college attendance. However, after natural disasters, both rates declined for Hispanic students.

Limited Research and Data

Limited research exists on the specific educational impacts of natural disasters on

children with disabilities.³⁶⁹ We do know that globally, 86 percent of children with disabilities did not participate in national disaster management; thus, their fatality rates during disasters are 4.3 percent higher than those of children without disabilities.³⁷⁰ To impact policy on how to better prepare children with a disability in disasters data collection on the subject is needed. Although research has reported that children are particularly vulnerable to the impact of extreme weather events,³⁷¹ few studies examined the impacts of extreme weather events on children with disabilities and their families and how disasters impact physical and mental health, and interrupt children's educational achievement.

One recent study found that lower-income school districts' academic achievement tended to be adversely affected by natural disasters, whereas higher-income districts did not see extended declines in academic achievement.

Few studies address how to support young people's feelings regarding extreme weather events.³⁷² Although some studies have examined the threats to children's physical health, the psychological and mental health impacts of extreme weather events have been less well-researched; however, evidence from extreme weather event disasters shows that they can be equally devastating. Impacts include significant increases in PTSD, depression and anxiety, sleep problems, cognitive deficits, and learning problems.³⁷³ Further, few studies have examined the intersection of psychological and mental health impacts of extreme weather events on children with disabilities and how they disrupt students' academic achievement.

Research on and collection of high-quality data concerning children with disabilities is critical for



mitigation, preparedness, response, and recovery efforts related to disasters. Without research and data, the needs of children with disabilities fail to be included as an appropriate and significant part of nations' overall discussion of disaster management planning.

In the United States, federal, and SLTT EMAs and school districts must improve processes for collecting data about and including children with disabilities and their families in disaster management planning. This means identifying and then eliminating the challenges faced by children with disabilities during disasters.³⁷⁴ These challenges could include the need for accommodations such as screen reader access to computers, or a sign language interpreter,³⁷⁵ during or after a disaster.

An accurate assessment of people with disabilities allows for a proper distribution of project resources and provides a greater understanding of inclusion needs to local officials. It may also be valuable to collect data following a disaster to better inform future prevention initiatives.³⁷⁶

States and Territories Face Special Education Funding Challenges

States and territories faced challenges acquiring specialized services and personnel needed to comply with federal IDEA requirements. IDEA Part B was designed to ensure that all children with disabilities are provided a FAPE³⁷⁷ in the least restrictive environment. However, many states and territories do not have nonfederal

funding to cover the costs for these services and personnel.³⁷⁸ In addition, school districts have historically found it challenging to meet federal special education requirements after natural disasters. Section 504 of the Rehabilitation Act of 1973 guarantees that no student “shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”³⁷⁹ Per Section 504, for students with disabilities who do not require special education services, school districts must provide students with disabilities with related aids and services (including reasonable accommodations) to meet their individual needs as adequately as students without disabilities.³⁸⁰ One way to meet FAPE requirements under Section 504 is the creation of an individualized education program (IEP)³⁸¹ per IDEA. An IEP includes details about the students’ education goals and the supports and services that student will receive to meet those goals.³⁸²

IDEA Continues to Be Underfunded

Multiple factors impact the quality of education provided to students with disabilities, including a school district’s access to funding. The lack of financial resources and the impact of natural disasters can delay recovery and directly impact educational services to all students, but especially for students with disabilities. Under the 1975 IDEA legislation, the Federal Government committed to pay 40 percent of the excess cost of special education. However, that pledge has never been met, and current funding is at just 15.7 percent. The Federal Government provides

no additional funds to comply with Section 504. The IDEA Full Funding Act (S.3213)³⁸³—bipartisan, bicameral legislation to ensure Congress’s commitment to fully fund IDEA—was reintroduced on November 16, 2021. It would require regular increases in IDEA spending, increasing direct support for public schools and students with disabilities so Congress can meet its commitment to schools and children and help provide every American student with a quality education.³⁸⁴ This legislation is imperative, as its passage would ensure ample funding to accommodate any additional students requiring special education services because of the impact of climate change on the student. According to the National Education Association, the IDEA nationwide shortfall in 2021 was \$23.58 billion.³⁸⁵ There is no non legislative mechanism to ensure that IDEA funding commitments are met and that additional funds are appropriated for compliance with Section 504 of the Rehab Act.

***Some estimates indicate that
12 percent of the displaced students
have disabilities.***

Response

Evacuation and Transferring Schools

For student disaster evacuees with disabilities, transferring between school systems presents unique challenges. Although there is limited data about these student transfers, what data is available provides information on population movements. Some estimates indicate that 12 percent of the displaced students have disabilities.³⁸⁶ One of the most crucial challenges for disaster-recovery efforts is to continue the education of student-evacuees while rebuilding educational services.³⁸⁷

Studies indicate that the average child requires between four and six months to “catch up” academically each time they transfer schools.³⁸⁸ Students with disabilities likely require even longer. First, families with students with disabilities may need extra time to secure accessible housing, meaning they may linger in shelters or require multiple transfers between school districts. Without secure housing, students may lack the residency documentation they need to register for school. Second, families may not have the educational records (e.g., IEPs, 504 plans) for the supports and services the student requires in their new school district. The lack of records may require additional evaluations

to determine a student’s eligibility, which may delay the provision of services. Finally, the new school district may require time to procure additional equipment or hire additional personnel, particularly troublesome if a student transfers to a rural, tribal, territorial, or low-income school district where resources are already scarce.

Studies indicate that the average child requires between four and six months to “catch up” academically each time they transfer schools.
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Recovery

Limited Functionality and Services After School Reopening

When schools reopen after an extreme weather event, limited school facilities and services can deny students with disabilities who remain in the disaster-affected district equal access to an education. Extreme weather events



Hurricane Maria's Impact on Students with Disabilities in Puerto Rico

In 2017, Hurricane Maria, a Category 5 hurricane, disrupted the lives of some 350,000 Puerto Rican public school students. It took nearly five weeks before the first public schools began to reopen, though most were still operating without power. Since the hurricane, some schools have been converted into community centers and shelters, requiring students to relocate and find alternate routes to resume their studies. Economic trouble exacerbated by the storm forced the closure of 265 schools—roughly a quarter of all of the island's public schools, affecting an estimated 60,000 students. These school closures had cascading impacts on 35 percent or ~103,318 students between the ages of 3 and 21 that receive special education services in Puerto Rico. One of these cascading impacts is that as of March 2020, ~9,800 special education students did not have access to transportation, placing the burden on the parents to transport their children to school.³⁸⁹

can result in extensive damage to homes, education infrastructure, and transportation networks. School rebuilding and reopening tends to be prioritized by actions that help the greatest number of students and staff return to learning, which means students who have more specialized needs tend to be left behind. For example, some students require in-person

services or supports such as physical therapy or behavior intervention strategies to receive FAPE.³⁹⁰ If a district's Braille printer is damaged, blind students may not be able to read their schoolwork. School personnel who provide related services like occupational therapy or adapted transportation may be unable to return to work because of damaged homes or road networks, and schools may experience delays hiring new personnel for the same reasons.³⁹¹

Legal guidance from the U.S. Department of Education (ED) OCR is clear: school districts owe compensatory services to students with disabilities who are denied FAPE, even for "situations outside of a district's control or where the district is not at fault."³⁹² To ensure these students' rights are protected, school districts must have a way of recording which services were not delivered and for how long, in order to provide appropriate resources for compensatory services. Guidance³⁹³ from ED (2017) recommends that IEP or 504 teams meet after a natural disaster to determine and document which services can and cannot be provided during the period of limited functionality, e.g., if trained and certified personnel are not available, or if a student cannot access school facilities or adapted technology. After full functionality is reached, school districts must assess students with disabilities for regression or loss of skills during the period of limited functionality, and these losses must also be accounted for during the determination of the type, duration, and amount of compensatory services. Finally, school districts must track delays in eligibility evaluations or starting new special education services or accommodations, so students can receive appropriate compensatory services for those delays.

In addition to this documentation following the extreme weather event, school districts should assess their risk factors for educational disruption and work with federal and SLTT governments to mitigate them. For example, some areas may have private service providers such as speech or occupational therapists who substitute temporarily for school personnel who are affected by extreme weather events. School districts should consider identifying and pre-contracting with these private providers to shorten the period during which special education services are disrupted. School districts should consider making more of their transportation fleet accessible to students with disabilities. During disasters, available school buses are used as public transport rather than for schools. Having only a few accessible vehicles presents risk to disabled students.

Limited Special Education Staffing

There is a chronic shortage of special education teachers in the United States and replacing qualified educators after a disaster can be challenging. It has been noted that, after extreme weather events, some communities lack sufficient housing for educators and their families. Thus

teachers, including special education teachers, cannot serve their students, compounding an already significant shortage of special education professionals.

Several studies have found special education teachers provide critical psychological support to children with disabilities and their families post-disaster, even when schools are closed and students have been displaced from their school districts.³⁹⁴ School districts must consider working with their state and local governments to prioritize educational staff for access to housing close to their schools.

School rebuilding and reopening tends to be prioritized by actions that help the greatest number of students and staff return to learning, which means students who have more specialized needs tend to be left behind.

Disruption to College-Aged Students

Extreme weather events, such as heat waves, are impacting college-aged students with disabilities.

At the University of California, Los Angeles (UCLA), the growing number of heat waves is impacting students—either through the increased risk of wildfires or more difficulty in learning. UCLA's campus is located near high fire hazard zones, according to data from the California Department of Forestry and Fire Protection. In 2019, UCLA administrators canceled classes when the Getty Fire spread less than two miles from campus.

Recommendations

- Congress should enact legislation to combat special education and rural teacher shortages across the United States and appropriate funding for programs to assist in recruitment of special education teachers.
- Congress should require ED to conduct a study assessing the impact of extreme weather events on students with and without disabilities. The study should assess the physical, psychological, and mental health impacts of extreme weather events, the impact on academic achievement and utilize collected data to inform school districts in disaster management planning.
- ED should commission a study to examine the impacts of extreme weather events and adaptation strategies on children with disabilities and their families. The study should include findings to support disaster planning.
- Congress should take action to strengthen the safety net for socially vulnerable groups, such as students with disabilities, school staff with disabilities, and their families.
- Congress should provide funding to ED to develop information technology standards for secure, interoperable electronic education records. These records must include the supports and services a student receives under IDEA and Section 504, and the standards must interoperate with electronic health record systems to allow school districts, students, and parents to access their IEPs, 504 plans, and supporting medical documentation. Once the information technology standards are established, ED should strongly encourage and provide technical assistance for local school districts to avail themselves of the technology to mitigate delays in special education services because of relocation or loss of records due to extreme weather events.
- Congress should amend the IDEA funding formula to mitigate the high incidence of poverty in rural and low-income communities, including U.S. territories.
- ED should collect standardized tracking and reporting of educational services and supports that are unable to be provided to students with disabilities during and after a disaster.
- Congress should require ED to track and report on post-disaster compensatory services provided to students in any school district located in a presidentially declared major natural disaster area to better prepare and develop best practices for recovery after extreme weather events.

Chapter 6: Emergency Management

Emergency management planning is critical to prevent, protect against, mitigate, respond to, and recover from the extreme weather events that pose a risk to communities. As the scope, scale, and frequency of weather-related incidents increases, the capabilities of FEMA and SLTTs EMAs will be tested. Emergency management cannot be reactionary. Climate change directly impacts the frequency and intensity of natural disasters and our ability to ensure the safety of our communities. Building community-wide resilience to climate change through targeted mitigation investments and leveraging future risk data needs to be a primary focus for all levels of government and partners.³⁹⁵ Resilience cannot be achieved without equitable consideration for, and participation of, all community members. Ensuring equitable disaster risk reduction for all marginalized populations, including people with disabilities, should remain a high priority for emergency managers nationwide.³⁹⁶ People with disabilities, especially those living in underserved populations, are disproportionately impacted by disasters and more than ever, federal and SLTTs must include people with disabilities in all facets of emergency

In 2020, the number of disasters that were either declared in, or still open at the end of the year made up almost 20 percent of all federally declared disasters since 1953.

management to ensure that they can participate in, and benefit from, programs and services during all phases of emergency management.³⁹⁷

Preparedness

Concurrent Extreme Weather Events Pose Unprecedented Challenges to Federal Agencies and SLTTs

Concurrent extreme weather events pose unprecedented challenges to federal and SLTT EMAs, reducing capacity, testing capabilities,

straining resources, and complicating and potentially delaying response and recovery efforts, all which impact people with disabilities. Concurrent disasters of unparalleled nature are

becoming more common, and climate change will likely continue to increase disaster activity in the coming years.³⁹⁸ According to the DHS *National Preparedness Report* (2021), disasters are lasting longer, are increasingly complex, and are happening simultaneously. In 2020, the number of disasters that were either declared in, or still open at the end of the year made up almost 20 percent of all federally declared disasters since 1953.³⁹⁹ The increased severity, duration, and occurrence rate of climate-related disasters puts immense strain

on emergency responders. It continues to cause delays in recovery efforts which can take weeks, months, or even decades.⁴⁰⁰ At the height of the COVID-19 pandemic, the United States experienced an unprecedented number of disasters, including one of the most active wildfire seasons on record across the western U.S., a record of 30 named tropical storms and hurricanes, and severe weather, including hailstorms and flooding, across the Midwest.⁴⁰¹ According to the CDC, 47 million people were impacted by Hurricanes Harvey, Irma, and Maria, and of those, an estimated 12 million were people with disabilities. Communities and individuals are impacted differently by disasters, which often magnify existing social and economic trends that drive inequities in recovery. As the frequency of natural disasters continues to increase, so does the disproportionate risk exposure to, and consequences for, individuals and communities who are likely to be rendered most vulnerable. Several factors, including poverty, lack of access to transportation, and crowded housing may weaken an individual and community ability to prevent financial loss, injury, and fatalities in a disaster.⁴⁰² Concurrent disasters disproportionately impact people with disabilities. One of the myriad of reasons is the failure to provide reasonable accommodations in the form of supports and services during the recovery phase of a disaster.

Reducing Capacity

When concurrent disasters overwhelm a community's capacity to provide critical services, state and federal resources may be available to support local emergency response and recovery

In 2020, the COVID-19 pandemic, coupled with the active wildfire and hurricane seasons, taxed the capabilities of the emergency management community at all levels of the government.

Concurrent disasters in Louisiana

In 2020, changing climate dynamics led to a confluence of disaster events that Louisiana local government leaders and emergency managers had not faced previously: a global pandemic and an “epidemic” of landfalling hurricanes during the 2020 season, including two hurricanes (Marco and Laura) passing over the same location within 36 hours with 150-mile-per-hour winds. The two storms in direct succession created difficulties in forecasting the magnitude of storm surge and wind speeds. The resulting initial reporting errors led to issues in immediate response and delayed long-term recovery efforts. The impacts were later compounded by Hurricane Zeta, which passed directly over a densely populated area.

efforts. When multiple large-scale incidents require simultaneous support, however, state and federal capability may be strained, reducing capacity to enable ongoing recovery efforts and respond to

additional incidents. In 2020, the COVID-19 pandemic, coupled with the active wildfire and hurricane seasons, taxed the capabilities of the emergency management community at all levels of the government. FEMA’s

National Response Coordination Center (NRCC) was not intended to be staffed full-time. The NRCC has been activated for the longest period in FEMA’s history—606 days since activating the Response

Operations Cell on March 5, 2020, as of November 1, 2021. It was activated to the highest operating level (Level 1) for 168 days, starting on March 19, 2020. Comparatively, during the 2017 hurricane season, for hurricanes Harvey, Irma, and Maria, and concurrent wildfires, the NRCC was activated at Level 1 for only 76 days (the previous record).⁴⁰³

Testing Capabilities

The concurrent disasters of 2020 overwhelmed federal, regional, and local governments and tested capabilities. In its *COVID-19 Initial Assessment Report* (2020), FEMA reported being unable to “anticipate SLTT requirements due to insufficient understanding of SLTT projected consequences and capabilities; regional pandemic plans either did not exist or did not account for jurisdiction-specific capabilities or deficiencies; and pandemic plans lacked the specificity and guidance to establish data collection and reporting mechanisms for effective decision-making for a national event. Thus, decision-makers initially did not have all the information they needed to make the most informed decisions about scarce resource allocation and prioritization of medical supplies.”⁴⁰⁴

Straining Resources

Concurrent disasters strain resources including staffing resources. According to the *National Advisory Council Report to the FEMA Administrator* (2020), during disasters, SLTTs

“At the federal level, the National Response Coordination Center (NRCC) was not designed or intended to be staffed full-time and as a result FEMA was not prepared to staff the NRCC for a long-duration pandemic incident of national scale...”

[D]uring disasters, SLTTs may not be aware of each other’s resource capabilities, potentially resulting in duplicate, inadequate, or poorly distributed resources.

may not be aware of each other’s resource capabilities, potentially resulting in duplicate, inadequate, or poorly distributed resources. SLTTs may become overly dependent upon federal resources, which limits the ability of FEMA and other agencies to prepare for and respond to simultaneous extreme weather events. Just-in-time delivery supply chains are not designed to accommodate a large-scale disaster. Material and equipment may not be available in large enough quantities, and the transportation network may be compromised by the

disaster, due to vulnerable interdependencies and cascading effects. Government stockpiles may be outdated or quickly exhausted by a large event or simultaneous events.⁴⁰⁵ In addition, mutual aid agreements may be impacted by reducing the

viability of those lending and receiving assistance. California’s 2020 wildfire season stressed local capacity due to the timing and severity of the fires. The large wildfires occurred earlier than

expected and impeded standard patterns of state-to-state mutual aid.⁴⁰⁶

FEMA’s *Hurricane AAR* (2017)⁴⁰⁷ states that during Hurricanes Harvey, Irma, and Maria, FEMA faced multiple challenges. The sequential and overlapping timing of the hurricanes caused staffing shortages and required FEMA to shift staff who were already deployed. There were

Response Coordination to Alabama Tornadoes (2011)

Following the devastating tornadoes in Alabama during the spring of 2011, various agencies, organizations, and volunteers united to locate recovery resources in the community and communicate information about those resources to the public. Two days after the tornadoes, they formed the Alabama Interagency Emergency Response Coordinating Committee. The committee was led by representatives from Independent Living Resources of Greater Birmingham, United Cerebral Palsy of Greater Birmingham, and the Alabama Governor's Office on Disability. The committee also included representatives from FEMA and the American Red Cross. A daily conference call was attended by as many as 60 individuals representing agencies that serve people with disabilities and chronic illnesses. Volunteers with disabilities scanned media and called agency contacts to obtain the latest information on disaster recovery resources. For instance, volunteers called local hospitals, clinics, faith-based organizations, and organizations representing clinical professionals to request help with crisis counseling. Recovery resource information was compiled in a database and information was disseminated in multiple formats.⁴⁰⁸

also logistic challenges that complicated efforts to deploy federal resources and personnel quickly. There was also limited preparedness by the U.S. Virgin Islands and Puerto Rico for

a Category 5 hurricane; and incapacitation of local response because of loss of power and communications, which led FEMA to assume response functions that SLTTs would usually perform themselves.

FEMA's strategic plan states that the agency should coordinate with other federal agencies and SLTTs to foster a common understanding of how concurrent disasters are reshaping emergency management. Federal and state agencies should build better resources and tools to drive understanding of future risk and enhance agencies' ability to act.⁴⁰⁹ In recent years, FEMA has called up its surge capacity force – Other Federal Agencies (OFAs) personnel supplementing FEMA personnel – much more frequently than in the past.⁴¹⁰ In 2019, a FEMA National Advisory Council convened to address the future vision of emergency management and FEMA, coordination between FEMA and nonfederal partners in an outlook of increasing disasters; ways to build capacity and response, recovery, preparedness, and mitigation at the local, tribal, territorial, and state levels and actions FEMA should take to ensure marginalized and vulnerable communities recover quickly. Over 20 recommendations were proffered to the FEMA Administrator in November 2020. Disability was mentioned only four times in the 52-page report.

The needs of people with disabilities are not well integrated in emergency management planning. People with disabilities face a unique set of barriers during disasters, and EMAs consistently fail to account for people with disabilities or coordinate with disability organizations and CBOs to mitigate the risk. Excluding people with disabilities in plan development can lead to increased injury and death during disasters. People with disabilities

have unique needs that EMAs must plan for before a disaster occurs. Despite the documented importance of accounting for the unique needs of people with disabilities in planning for emergencies, many state and local emergency plans throughout the United States fail to do so.⁴¹¹ NCD has released multiple reports on the outcomes of people with disabilities when emergency planning does not incorporate the needs of people with disabilities. The negative outcomes highlighted in NCD's prior reports will increase because of the increased prevalence of extreme weather events. During disasters, people with disabilities may have accessibility needs that must be met for evacuation and/or sheltering. For example,

During disasters, people with disabilities may need emergency information in clear, plain, and actionable language. People who are Deaf or Hard of Hearing may

need systems in place to receive messages about the need to evacuate or shelter in place. People with disabilities may need accessible transportation for those who use wheelchairs and need evacuation assistance; emergency shelters with accessible entrances and bathrooms, accessible temporary housing, life-sustaining medications, consumable medical supplies, durable medical equipment, or assistance in eating, dressing, or toileting for people with disabilities who require these things to survive in an emergency shelter, or in-home assistance or sheltering options for people with disabilities whose survival depends on electrically powered equipment during a shelter-in-place response, such as during a power outage.

Over 20 recommendations were proffered to the FEMA Administrator in November 2020. Disability was mentioned only four times in the 52-page report.

Federal, state, and local officials often fail to engage disability led organizations when planning for disasters. As a result, required resources and programs to assist people with disabilities during and after disasters is inadequate.⁴¹²

Although there is some engagement and collaboration with people with disabilities, inclusive disaster management collaboration is not happening at scale. Many SLTTs do not conduct inclusive planning to meet the needs of people with disabilities and ensure access for these individuals across the full spectrum of its emergency programs, services, and activities.⁴¹³ During a federal, state, and local government convening, participants shared that it is often not

until a disaster happens that federal, state and local agencies plan for people with disabilities. Relationships with the disability community should start well before disasters.

Convening participants shared that state and local government EMAs and State Homeland Security Advisory Council (HSAC) need to gain a better understanding of their communities. EMAs and HSAC teams should engage people with disabilities during steady state conditions and plan for communications and accommodations before disasters. Federal and SLTT emergency managers should conduct outreach to determine the unique needs of people with disabilities, such as who will need assistance evacuating their homes and take a people-first,

whole-of-community approach to emergency management by collaborating and planning with people with disabilities and organizations representing people with disabilities to create fully integrated emergency management policies, plans, and programs.

Underrepresentation in Emergency Management Leadership Roles

During convenings with stakeholder organizations and separately with federal, state, and local governments, participants

said that people with disabilities are not represented in emergency management agencies in leadership and key decision-making roles nor on planning committees in relation to emergency management policy, planning, and program development. While decision-makers come with a host of different qualifications and backgrounds, it is not possible to replace lived experience. One example a participant gave was of a state whose emergency management division lacks expertise on disability but has not hired disability coordinators, although encouraged to do so. Although a few states' EMAs may have disability integration roles or disability integration coordinators, this approach is not adopted nationwide. During disasters, because of the lack of preparedness for response and recovery, the state's Office for People with Disabilities representative (or ADA coordinator) has had to step into the emergency management role. Hiring

people with lived experience would go a long way to improve emergency planning and safety.

Gap in Tribal Nations Emergency Management Plans

The status of tribal emergency management planning is generally unknown. Some Tribal Nations' emergency management plans are out

Some Tribal Nations' emergency management plans are out of date and/or do not specifically include the needs of people with disabilities.

of date and/or do not specifically include the needs of people with disabilities. There are 574 federally recognized Tribal Nations in the United States and its

territories and they all have individual concerns and challenges.⁴¹⁵ Some Tribal Nations are well resourced and have robust emergency management programs (e.g., Seminole Tribe emergency management program), while other Tribal Nations do not have any plan in place. It is unclear which Tribal Nations have emergency management plans, how many of those plans are current, and how many specifically are

inclusive of people with disabilities. One indicator of community planning is FEMA's Threat and Hazard Identification and Risk Assessment (THIRA) process. FEMA requires states, territories, Tribal

GAO identified that not all Tribal Nations have sufficient funding to develop emergency management departments, which can be a barrier to accessing federal resources.

Nations, and urban areas that receive federal preparedness grant funding to report their threats and hazards of greatest concern and set preparedness goals through the THIRA process. According to the National Preparedness Report (2021), many Tribal Nations have not completed a THIRA/Stakeholder Preparedness Review.⁴¹⁶

In a GAO report (2021), GAO identified that not all Tribal Nations have sufficient funding to develop emergency management departments, which can be a barrier to accessing federal resources.⁴¹⁷ Remote Tribal Nations face specific challenges in recovery planning and receiving assistance after a disaster, such as a lack of access to transportation, which makes it difficult for Tribal Nation members to get to disaster recovery centers where they can learn about and apply for assistance.

The November 2020 National Advisory Council

report suggests that if low-resource communities continue to face barriers to accessing funding for preparedness and disaster resilience, there is a potential for a compounding effect.⁴¹⁸ The November 2020 National Advisory Council report included multiple recommendations to the FEMA Administrator. The recommendations NCD believes would improve the outcome of people with disabilities

before, during, and after disasters has been incorporated through reference herein.⁴¹⁹

A Tribal Nations representative told NCD that although they have emergency operations plans, the plans are not “disability specific.” However, the representative also said that although people with disabilities may not be specifically identified in emergency management plans, the concept of taking care of seniors or people with special needs is inherent in Native American culture. The representative

said that funding should be set aside for Tribal Nations to plan for people with disabilities during disasters.

While the Bureau of Indian Affairs (BIA) works with Tribes, BIA does not provide guidance on emergency management plans or conduct emergency management exercises or

response. Tribal Nations are responsible for emergency management planning for disaster events on Tribal lands. Tribal Nations have requested or applied for Federal Government funding for planning.

They also coordinate with states and FEMA for funding after a disaster. Tribal Nations have access to FEMA's Tribal Homeland Security Grant Program (THSGP),⁴²⁰ which provides \$15 million for all 574 federally recognized tribes to enhance their ability to prevent, protect against, respond to and recover from potential terrorist attacks and other hazards.⁴²¹ The vast majority of

tribes do not participate in the THSGP because the money is given to states to distribute and while some states share the grants with tribes, others may only give small amounts or none.

Tribal Nations are exceptionally underserved and underrepresented when it comes to emergency management planning. Tribal Nations do not receive services and support needed to build resilience. FEMA and other federal agencies should dedicate more staff to help tribes plan for the next disaster.⁴²²

Response

Provide Accessible Communication During Disasters

Limited effective communications during extreme weather events means people with disabilities do not have equal access to information, which increases the risk to their safety and infringes on their civil rights protections.

Websites

People with disabilities need access to information.⁴²³ Some weather and emergency management websites are not interoperable with AT such as screen readers used by people who are blind or have low vision. For example, there are parts of the National Hurricane Center (NHC) website that some people have difficulty accessing. NOAA's website is currently updating its site for 508 compliance.⁴²⁴

Some weather and emergency management websites are not interoperable with AT such as screen readers used by people who are blind or have low vision.

ASL, Plain Language and Multiple Languages

The way information is transmitted and communicated in response to natural disasters is not accessible to all people with disabilities. During disasters, federal and SLTTs are required to provide accessible communications to people with disabilities in accordance with the ADA. However, information is not always provided in accessible, plain language or in different languages or in different forms and formats and via multiple methods or platforms. Federal and SLTT governments must ensure that public warning and alert systems are accessible to people who are

Deaf, Hard of Hearing, blind, low vision, or have sensory and cognitive disabilities. Federal and SLTT governments must improve communications to ensure disaster information is accessible to people with disabilities and must integrate additional technologies and encourage industry innovation to meet the needs of all people. Community organizations also provide lifesaving and life-sustaining support related to advocacy and communication. It is critical that people with various communication disabilities, people who are Deaf or Hard of Hearing have different means of effective communication to stay safe and stay alive.

Traditional Alert and Warning Systems Do Not Reach Everyone

Many SLTTs continue to rely primarily on the traditional EAS that interrupt television or radio programming to provide disaster notifications. Also used are sirens, loudspeakers,

and public address systems. More than half (55.1 percent) of U.S. consumers have "cut the cord" from cable and rely on streaming and web-based services rather than television.⁴²⁵ EAS in addition, auditory alert systems are ineffective for individuals who are Deaf and Hard of Hearing and place the Deaf community at a high risk of being left behind during an emergency. Executive Order 13407 mandates that the Federal Government "include in the public alert and warning system the capability to alert and warn all Americans, including those with disabilities and those without an understanding of the English language." Although some EMAs are improving disaster warnings by sending warnings directly to cellphones.

FEMA's Common Alerting Protocol

Best Practice

FEMA developed the Common Alerting Protocol (CAP), a digital format for exchanging emergency alerts, that allows a consistent alert message to be disseminated simultaneously over multiple communications pathways, an Integrated Public Alert and Warning System (IPAWS) standard. FEMA's IPAWS office has identified emerging technologies and assistive technology products that support or provide direct alert and warning capabilities for people with disabilities, including braille readers, wall beacons, sign language interpretation, and video remote interpreting.⁴²⁶

It is unclear whether the warnings reach all people, including individuals without access to power sources or internet, people who do not have smart phones or social media accounts, or those who rely on alternative forms of communication. People with sensory and cognitive disabilities are specifically among those excluded from traditional media. FEMA's IPAWS is available for SLTTs to sign up and use to alert their communities. IPAWS send alerts through the EAS, Wireless Emergency Alerts (WEA), NOAA Weather Radio, and an Internet-Based Services and Unique Systems.⁴²⁷

During disasters people who are Deaf and Hard of Hearing may not have equal access to warning alerts.⁴²⁸ Video Relay Service (VRS) is a good way to reach Deaf people who sign. For Deaf people who do not sign, and Hard of Hearing people who use residual hearing and augmented hearing for the phone, there are captioned relay services. However, many jurisdictions do not know who in their community requires these services and risk leaving these members of the community behind during disasters. SLTT EMAs must review their EASs to ensure they know the needs of their community and that emergency alerts are reaching everyone.

The National Oceanic and Atmospheric Administration (NOAA) supports a nationwide network of NOAA weather radio stations (NWR). The stations broadcast continuously and provide local weather service warnings, watches, forecasts, and hazard information. NOAA collaborates with the Federal Communication Commissions (FCC) Emergency Alert System. Federal, state, and local EMAs may also access NWR to broadcast warnings and post event information on natural, environmental and public safety events.⁴²⁹

A benefit of many of the All-Hazards Radios is

the visual and vibrating alarm feature & text readouts to ensure that people who are deaf and hard of hearing receive timely alerts.⁴³⁰

Some states and counties do not provide qualified sign language when providing public information about emergencies and disasters (e.g., during press conferences) where vital information is shared about emergencies or disasters.

Emergency Communications Need to Be Inclusive

Some SLTTs do not use ASL interpreters when broadcasting announcements or emergency weather alerts. SLTTs that do not have sign language interpreters as part of their emergency

preparedness plan may unwittingly hire unqualified sign language interpreters; And local news stations also fail to use sign language interpreters for weather alerts. The national shortage of ASL interpreters⁴³¹ may play a small part as to availability, but SLTTs must ensure that effective communication,

a.k.a. sign language interpreters are baked into their emergency management preparedness plans to ensure that the entire community has access to all emergency weather alerts and updates.

Convening participants stated that Florida's governor and counties have a list of qualified interpreters. NCD recommends that all SLTTs should create a database of sign language interpreters and share that database with neighboring SLTTs to help mitigate the usage of unqualified or no sign language interpreters during broadcast announcements and press conferences.

Of additional concern, even if sign language interpretation is integrated into an SLTTs emergency preparedness plan, often times other languages are not provided. For example, in Puerto Rico, most Deaf individuals use Puerto Rican Sign Language (PRSL) not ASL. However, during Hurricane Maria (2017) in Puerto Rico, FEMA brought in ASL interpreters who were not able to effectively communicate with people who were Deaf or Hard-of-Hearing. There are also

many communities in the United States who use PRSL and other international sign languages.

The Need of Accessible Transportation for Evacuation is High

Jurisdictions face transportation resource gaps for emergency evacuations. The need for accessible transportation during disaster response and evacuation often surpasses the resources of the local community, forcing jurisdictions to be creative, dependent on volunteers, and with a patchwork

approach to provide accessible transportation to safely evacuate people with disabilities during disasters. Accessible transportation is critical for evacuating during a disaster. During a disaster there may be individuals who do not have access to personal or public transportation. In rural and tribal communities,

some people do not have consistent access to public transportation during blue sky days. During a convening of federal, state, and

local government representatives, participants said that there are more people who need accessible transportation than many local jurisdictions can accommodate. In other words, some jurisdictions do not have enough vehicles to evacuate everyone during disasters. With limited resources and capabilities, local

[I]n Puerto Rico, most Deaf individuals use Puerto Rican Sign Language (PRSL) not ASL. However, during Hurricane Maria (2017) in Puerto Rico, FEMA brought in ASL interpreters who were not able to effectively communicate with people who were Deaf or Hard of Hearing.

[S]ome jurisdictions do not have enough vehicles to evacuate everyone during disasters.



jurisdictions have to be creative to determine where resources are available and how to work with other federal agencies and SLTTs to “braid” their services together. SLTTs often work with mutual aid disability organizations and other organizations to identify accessible transportation options. Community organizations who have wheelchair accessible vehicles and know where people with disabilities live in their community provide transportation support during disasters. However, such organizations have experienced difficulties attaining reimbursements, and when reimbursed, being sufficiently compensated to fully cover the costs of the services provided.

Some local jurisdictions set up agreements with outside jurisdictions to “surge” transportation supplies during disasters.

Although some local jurisdictions’ emergency operation plans state that they will provide accessible transportation, not all have identified the resources to provide such accessible transportation. Where contracts, agreements, and memorandum of understanding (MOUs) with accessible transportation providers exist, not all contain the types of emergency services provisions one might need. For example, they may not explicitly require that the providers must be available 24 hours a day, 7 days a week, or that the transport is free for those being transported.

Paratransit Needs Workers and Improvement

Given the limited availability of paratransit services, and constraints on such services, SLTT

EMAs do not consistently incorporate paratransit agencies into emergency management plans. According to the U.S. DOT, paratransit systems provide transportation in areas served by fixed-route public transit systems, for people with disabilities who cannot use the fixed-route transit, in an equivalent manner to the users of the fixed-route transit. They only provide services within $\frac{3}{4}$ mile of fixed-route transit lines, and only during the hours of operation of those transit lines. With few exceptions, paratransit does not provide services outside of the specified service requirements. The level of service capacity is sized to meet the limited demand constrained by these service requirements. Seventy-five percent of paratransit across the U.S. is provided by contractors.

The contracts with the providers are constrained by these requirements and it is unclear whether the constraints can be waived during an emergency. During disasters, people with disabilities may need transportation to a safe location outside of the evacuation area. It is also unclear whether paratransit can provide services to evacuees outside of the $\frac{3}{4}$ mile constraints or outside of the normal operating hours.

Disability stakeholders recommended a review of how paratransit is used during an emergency. They said that paratransit needs funding and improvement and DOT should provide additional funding to contract paratransit workers. The DOT Coordinating Council on Access and Mobility (CCAM),⁴³² is a multiagency group with 11 federal agencies. The purpose of CCAM is to coordinate funding and provide expertise on human services

transportation for three targeted populations: people with disabilities, older adults, and people of lower income⁴³³. CCAM-issued transportation coordination guidance aims to reduce overlap between the 130 CCAM programs across nine agencies that may fund human services transportation and incentivize collaboration by clarifying eligible reporting into the National Transit Database (NTD). CCAM reviews components of transportation including access to employment, access to health care, and access to community living. CCAM was not authorized by Congress to review the role of paratransit during a disaster.⁴³⁴

Public Law 117-58, the Infrastructure Investment and Jobs Act⁴³⁵ promises to rebuild America's roads, bridges, and rails; expand access to clean drinking water; ensure every American has access to high-speed Internet; tackle the climate crisis; and invest in

communities that have too often been left behind. The legislation includes \$39 billion of new investment to modernize transit, in addition to continuing the existing transit programs for five years as part of surface transportation reauthorization. In total, the new investments and reauthorization provide \$89.9 billion in guaranteed funding for public transit over the next five years—the largest federal investment in public transit in history. The legislation will expand public transit options across every state in the country; replace thousands of deficient transit vehicles (including buses) with clean, zero-emission vehicles. Since paratransit service must be provided within three quarters of a mile of a bus route or rail station and

The contracts with the [paratransit] providers are constrained by these requirements and it is unclear whether the constraints can be waived during an emergency.



during the same hours of operation, passengers with disabilities who rely on paratransit will reap the benefits of the expanded service. A.

FEMA Regional Disability Integration Specialists (RDIS) Play a Critical Role

Before disasters, RDIS provide essential support to SLTT partners in their planning and preparedness efforts. During a disaster, FEMA RDIS and other FEMA Disability Integration Advisors are critical to adequately support people with disabilities. SLTT partners should engage and collaborate with FEMA RDIS, state-designated disability integration coordinators, and members of the disability community to better understand the needs of people with disabilities in disasters. RDIS may also be able to help identify resources for shelter, housing, and

other disaster services. Accessible resources, accommodations, and reasonable modifications ensure that housing plans and operations include people with disabilities. For example, survivors with disabilities must often stay near their established support systems, which restricts accessible housing options.⁴³⁶

Recovery

Community Organizations Have Difficulty Getting Compensated

Volunteer organizations play key roles in disaster response. They, and other disability-led nonprofit organizations, respond to disasters on the ground and play a pivotal role in emergency response to meet the needs of the disability community. However, many disability-led nonprofit organizations have reported difficulty

in applying for reimbursement or do not know how to be reimbursed for their services. Some disability organizations reported that they have to prove value to receive reimbursements for the life-sustaining and lifesaving work they do. FEMA PA funding is available for other emergency protective measures (Category B), when authorized for a new incident, for work necessary to meet

immediate threats to life and property.⁴³⁷ Some community disability organizations provide services that should be covered under FEMA PA Category B funds but have reported

reimbursement for services is onerous. The application process may be unclear or there may be a lack of understanding for how disability organizations can receive FEMA PA Category B Funding support. FEMA has convened a federal working group to create a document to assist SLTTs and nonprofits on federal disaster assistance for people with disabilities. The final document will simplify the different disaster relief funding programs available to SLTTs and nonprofit agencies.

FEMA's strategic plan for 2022 to 2026 includes removing barriers to FEMA programs through a people-first approach and include community outreach to make sure that FEMA programs are accessible to the whole community, including people with disabilities.

[M]any disability-led nonprofit organizations have reported difficulty in applying for reimbursement or do not know how to be reimbursed for their services.

Disability lessons learned should be incorporated into overarching Emergency Management lessons learned, rather than a side issue.

Sharing Lessons Learned Will Enhance Emergency Planning

Following disasters, SLTT EMAs and other responders do not sufficiently share lessons learned among responders and with disability organizations and CBOs. While FEMA develops and publishes Disaster AARs, it is unclear how the agency

shares the best practices and lessons learned with OFAs, SLTT EMAs, NGOs, and CBOs working with people with disabilities and other stakeholders. Efforts by the Partnership for Inclusive Disaster Strategies and the National State Level Disability Coordinators have resulted in the sharing and implementing of numerous best practices across the state coordinators and

nonprofit partners. It is important to ensure the resources are made available to incorporate the lessons from CBOs working with people with disabilities.

FEMA and SLTT EMAs should proactively share best practices and lessons learned with key stakeholders. Disability lessons learned should be incorporated into overarching Emergency Management lessons learned, rather than a side issue.

Recommendations

- FEMA and emergency managers at all levels of government should develop strategies to manage multiple concurrent disasters. Federal entities and SLTTs should adjust planning and response protocols developed for “standard” events to satisfy new response needs. These strategies could include a list of anticipated gaps, prioritizations for which gaps to invest in, and proactive planning to manage those gaps through other means when investments are not available. This recommendation works both for the overarching issues and the specifics around disability inclusion.
- FEMA should prioritize the implementation of the FEMA 2020 National Advisory Council recommendations (2020-01, 2020-02 2020-03 2020-05, 2020-06, 2020-07, 2020-08, 2020-09, 2020-11, 2020-12, 2020-13, 2020-15, 2020-18, 2020-19, 2020-20, 2020-21, 2020-22, 2020-25a).⁴³⁸ Implementation should ensure that the needs of people with disabilities are integrated into the final policy, plans and services.
- FEMA should determine what steps are needed to address the nation’s emergency management capability gaps across all levels of government and inform federal partners, such as the Office of Management and Budget, and Congress, about what level of resources would be necessary to address the known gaps.⁴³⁹
- SLTTs should put in place state HSAC teams. State HSAC teams meet regularly with and coordinate with public health, NGOs, and other area agencies to plan and better understand how to work together during response.
- FEMA should enhance its stakeholder engagement strategy to intentionally include people with disabilities and disability-led organizations in emergency management planning and exercises. FEMA should then encourage and share this strategy with SLTT EMAs.
- Federal agencies responsible for emergency preparedness, community resilience, and disaster-related services, programs, supports, or activities should engage with national, state, and local coalitions of disability-led organizations and stakeholders. These federal agencies include but are not limited to: DHS, FEMA, CRCL, HHS, ASPR, ACL, CDC, HUD, DOT, DOJ, DRS, ED, OSERS, DOL, the Office of Disability Employment (ODEP), DOD, Veterans Affairs, and U.S. Access Board.

(continued)

Recommendations: *continued*

- FEMA Administrator should communicate to Regional Administrators and RDIS a written plan for implementing its new disability integration staffing approach, consistent with the objectives established for disability integration. Such a plan should include an implementation timeline and details on staff responsibilities, which regions could use to evaluate staff performance.⁴⁴⁰
- All federal and SLTT EMAs should engage people with disabilities, disability organizations, and CBO's in disaster management planning. Ensuring that recommendations and concerns from people with disabilities are prioritized and incorporated into any disaster management plan.
- The federal and SLTT EMAs should hire people with disabilities to help inform emergency management policy and planning.
- Congress should authorize additional funding and FEMA should provide guidance to Tribal Nations to strengthen/establish an emergency preparedness plan inclusive of people with disabilities.
- Tribal Nations should form Disability Advisory Councils to liaise with federal, state, and local EMAs.
- State EMAs should work with Tribal Nations to develop emergency management plans that specifically include people with disabilities. FEMA, the Indian Health Service (IHS), and BIA should advise and support these efforts.
- Tribal Nations should put in place personal preparedness plans and create Communication, Maintaining Health, Independence, Support, and Transportation (CMIST)⁴⁴¹ response teams to prepare their communities. Examples of personal preparedness plans are found at <https://www.ready.gov/disability>.
- Congress should appropriate funds and require DOJ, in collaboration with OFAs to increase monitoring and enforcement of federal disability laws, which requires that emergency communications be fully accessible to people with disabilities.
- DOJ should review websites such as the National Hurricane Center (NHC) to ensure that it is 508 compliant and that all federal webpages are accessible to people who use screen readers or other assistive technology devices.
- FEMA, FCC, and SLTT partners should inform and encourage all SLTT emergency managers to utilize the full IPAWS alerting system, since IPAWS includes EAS, along with numerous other, more accessible, communications methods.

Recommendations: *continued*

- Federal and SLTT EMAs should activate alerts via IPAWS simultaneously when they activate alert sirens and public address systems, to ensure alerts are accessible for people who are Deaf and Hard of Hearing.
- NOAA, FEMA and/or HHS ASPR and/or ACL should promote the availability and distribution of adapted weather radios for people who are Deaf and Hard of Hearing through SLTT, Center for Independent Living (CIL), and NGO partners.
- NOAA, NCEI and the NWS should collaborate with FEMA, state EMAs, and public health agencies to share data and develop agile strategies to manage multiple concurrent disasters.
- FEMA, DOJ, and the FCC should review, consolidate, and enhance existing guidance for effective communications before, during, and after disasters, compiling these materials into a comprehensive guide that is distributed, and promoted, across federal, SLTT, and NGO partners.
- FEMA should hire multilingual sign language interpreters and contract for VRI services for all major sign languages, to meet the needs of specific communities such as Puerto Rican Spanish Sign Language in the U.S. and its territories.
- FEMA should better inform SLTT and OFA partners that providing sign language interpreters is required for any activities funded by FEMA. Also, FEMA should make its VRI services available to all SLTT and OFA partners to ensure that SLTT partners have access to such services, whenever needed to support stakeholders and disaster workers who are Deaf or Hard of Hearing.
- All SLTT partners should incorporate provisions for accessible transportation in their Emergency Operations Plans. Such incorporation should include analysis of the required demand for such services and appropriate contracts, agreements, and MOUs to support that demand in an emergency. Appropriate contracts should include emergency requirements such as ensuring 24/7 availability on short notice, with costs being charged to the jurisdiction, rather than passengers. Such agreements do not need to be commercial contracts. In fact, mutual aid agreements with other jurisdictions and/or NGOs may be the most effective and cost-effective options, provided that both partners are not impacted by the same disaster.

(continued)

Recommendations: *continued*

- FEMA should assess the resource needs of RDIS to ensure that they are fully resourced to meet the needs of their SLTT partners for planning and preparedness. FEMA should assess the resource needs to ensure that there is a sufficient cadre of trained disability integration advisors (DIA), including reservists to staff all disaster operations.
- FEMA should conduct outreach to, and training for, community organizations, to ensure that all interested community organizations know how to prepare for and apply for PA program Category B public assistance funds, when performing essential services.
- FEMA and SLTT partners should share their processes for capturing and disseminating disability-related lessons learned and best practices.
- The President should sign an executive order (EO) charging federal agencies to develop/update emergency management plans to anticipate an increase in extreme weather events, address the impact to agency functions, and provide guidance to the SLTTs. The EO should specifically address how each agency will integrate people with disabilities into the emergency management plan to ensure services for people with disabilities are available before, during, and after disaster.

Appendices

Appendix A: Convening Participants

March 21 & 24 2022: NGO Stakeholder Meeting

Allie Cannington	Manager of Advocacy and Organizing with The Kelsey
Claire Stanley	Public Policy Analyst with the National Disability Rights Network
Gail-Ann Guy-Cupid	Assistant Professor of Social Work at the University of the Virgin Islands, works with the Disability Rights Center for the Virgin Islands
Gelila Selassie	Staff Attorney with Justice in Aging
Germán Parodi	Co-Executive Director of The Partnership for Inclusive Disaster Strategies
Hoskie Benally	Community & Government Liaison with the Native American Disability Law Center
Howard Rosenblum	Attorney, Chief Executive Officer and Director of Legal Services with the National Association of the Deaf
Justice Shorter	National Disaster Protection Advisor with the National Disability Rights Network
Laura Weidner	Vice President of Government Relations & Advocacy for the Epilepsy Foundation and the Vice Chair for the Consortium of Citizens with Disabilities
Marcie Roth	Executive Director and CEO of the World Institute on Disability
Michael Morris	Founder and Senior Strategic Advisor of the National Disability Institute
Noah Patton	Housing Policy Analyst (Disaster Recovery) with the National Low Income Housing Coalition
Olivia Babis	Senior Public Policy Analyst with Disability Rights Florida
Philip Kahn-Pauli	Policy and Practices Director with RespectAbility
Shaylin Sluzalis	Co-Executive Director of The Partnership for Inclusive Disaster Strategies
Stephanie Duke	Attorney and Equal Justice Works Disaster Fellow with Disability Rights Texas
Zainab Alkebsi	Attorney and Policy Counsel with the National Association of the Deaf

May 16, 2022: Government Stakeholder Meeting

David Goldbloom-Hetzner	Physical Scientist with the Environmental Protection Agency (EPA)
Gabe Cazares	Director of the City of Houston's Mayor's Office for People with Disabilities
Imke Durre	Physical Scientist for NCEI and the Center for Weather and Climate with NOAA
Jason T. Lagria	Acting Director of the Office of Disability Integration and Coordination (ODIC) at FEMA

Kevin Perkins	Disability Program Manager with the Office of Equal Rights at FEMA
Lisa N. Bothwell	Program Analyst with the Office of Policy Analysis & Development, the Center for Policy & Evaluation, and the Administration for Community Living at the U.S. HHS
Margaret Schaefer	Senior Policy Advisor with the CRCL at the U.S. DHS
Michael Houston	Regional Disability Integration Coordinator (Region 8) with the ODIC at FEMA
Michael Reardon	Supervisory Policy Advisor with the ODEP ODEP's Employment Related Supports Team and the ODEP at the U.S. DOL
Rebekah Tosado	Section Chief of the Antidiscrimination Group in the CRCL at the U.S. DHS
Sadie Martinez	Access and Functional Needs Coordinator with Colorado's Office of Emergency Management
Sean T. Barrett	Program Analyst with the Office of Compliance and Disability Rights and the Office of Fair Housing and Equal Opportunity at U.S. HUD
Shira E. Gordon	Trial Attorney with the Office of General Counsel and the Fair Housing Compliance Division at the U.S. HUD
Sonia Klukas	Deputy Director of the ODIC at FEMA
Vance Taylor	Chief of the Office of Access and Functional Needs with the California Governor's Office of Emergency Services (CalOES)
Victoria Porto	Director of Programs with the CRCL at the U.S. DHS

Appendix B: Report Recommendations by Administration, Congress and Agency

NCD Recommends the Administration:

- The President sign an executive order (EO) charging federal agencies to develop/update emergency management plans to anticipate an increase in extreme weather events, address the impact to agency functions, and provide guidance to the SLTTs. The EO should specifically address how each agency will integrate people with disabilities into the emergency management plan to ensure services for people with disabilities are available before, during, and after disaster.

NCD Recommends Congress:

- Congress should request the Government Accountability Office (GAO) commission a study of which states have developed and maintain state-level emergency management plans and guidance that fully integrate people with disabilities.
- Congress should pass legislation such as the Real Emergency Access for Aging and Disability Inclusion for Disasters Act (REAADI) to address gaps in meeting civil rights obligations to people with disabilities impacted by disasters. The bill would establish a research center to be defined in legislation, to conduct research to determine recommended practices for including people with disabilities and older adults in planning during and following disasters; Establish a “projects of national significance” program to increase the involvement of people with disabilities and older adults in the planning and response to disasters and identify strategies for reducing deaths, injuries, and losses to those groups as a result of disasters; Establish a National Commission on Disability Rights and Disasters that will provide recommendations on how to ensure effective emergency preparedness, disaster response, recovery, and community resilience efforts for people with disabilities and older adults; Establish Training and Technical Assistance Disability and Disaster Centers that provide comprehensive training, technical assistance, development of funding sources, and support to state, tribal, and local disaster relief; public health entities; social service agencies; and stakeholder groups.
- Congress should appropriate funds to FEMA for the express purpose to advise SLTTs emergency management agencies (EMAs) and state health departments to conduct reviews and update emergency management plans and guidance to prepare for an increase of people with disabilities. The plans should be data-driven, inclusive, and compliant with disability laws to ensure equal access including effective communication, evacuations, and shelters that provide accommodations and modifications to ensure the safety of people with disabilities.
- Congress should enact legislation to combat special education and rural teacher shortages across the United States and appropriate funding for programs to assist in recruitment of special education teachers.

- Congress should require state collection of health care demographic data relating to functional disability and home- and community-based services (HCBS) use for all Medicaid enrollees, including better data collection across the full range of long-term care, group homes, and congregate settings, licensed, certified, or approved by the state.
- Congress should pass legislation to address the shortage of primary care doctors and other health care providers. The legislation should address shortfalls in the nation's supply of health care providers and include inclusive recruitment for a diverse health care workforce, loan forgiveness that encourages health care providers to work with underserved populations, and other innovative targeted incentive measures.
- Congress should make R&D investments that promote assistive technology. This should involve:
 - (a) Greater investments for R&D of accessible apps and devices to incentivize developers to create innovative technology, which can help people with disabilities enhance functional performance to improve outcomes in areas such as education, employment, and independent living.
 - (b) Increase the R&D budget for NIDILRR, the Medical Research and Development Program.
 - (c.) Provide funding to a federal unit such as the Administration for Community Living (ACL) to design and fund technical assistance on R&D for the technology industry to support accessible design of emerging technology.
 - and (d) Provide funding to ACL to establish and expand peer support programs on accessible assistive technology. These programs could be provided through independent living centers and grassroots experts and should involve a community of practice platform for exchanging information and managing requests for peer consultation.
- Congress should pass the Disaster Relief Medicaid Act (DRMA). upon passage, states should immediately implement DRMA to ensure that individuals who are eligible for Medicaid and are forced to relocate due to a disaster are able to continue to access their Medicaid-supported services.
- Congress should provide funding to HHS for the Secretary to implement section 5307 of the Patient Protection and Affordable Care Act. Funding section 5307 would allow for the development, evaluation and dissemination of research, demonstration projects, and model curricula for cultural competency, prevention, public health proficiency, reducing health disparities, and aptitude for working with people with disabilities, training for use in health professions schools and continuing education programs.⁴⁴²
- Congress should pass legislation to ease rising costs for renters and prospective homebuyers and encourage construction of new affordable and accessible housing units.
- Congress should pass legislation to spur affordable housing production and measures to preserve existing homes so that people with disabilities can return to their homes post an extreme weather event as outlined in the White House Actions to Ease the Burden of Housing Costs. Doing so would expand and improve existing forms of federal financing for affordable multifamily

development and allocate a percentage of the housing development units to be accessible to people with disabilities.

- Congress should fund legislation to enable states to increase accessibility to HCBS and to expand access to assistive technologies in order to promote independence and community integration.
- Congress should permanently authorize HUD Community Development Block Grant (CDBG) funding or in the alternative, streamline the authorization process after a disaster so that subsidies reach recovering communities earlier, and so rebuilding can begin immediately following a disaster.
- Congress should authorize additional funding and FEMA should provide guidance to Tribal Nations to strengthen/establish an emergency preparedness plan inclusive of people with disabilities.
- Congress should require ED to conduct a study assessing the impact of extreme weather events on students with and without disabilities. The study should assess the physical, psychological, and mental health impacts of extreme weather events, the impact on academic achievement, and utilize collected data to inform school districts in disaster management planning.
- Congress should require ED to track and report on post-disaster compensatory services provided to students in any school district located in a presidentially declared major natural disaster area to better prepare and develop best practices for recovery after extreme weather events.
- Congress should provide funding to ED to develop information technology standards for secure, interoperable electronic education records. These records must include the supports and services a student receives under IDEA and Section 504, and the standards must interoperate with electronic health record systems to allow school districts, students, and parents to access their IEPs, 504 plans, and supporting medical documentation. Once the information technology standards are established, ED should strongly encourage and provide technical assistance for local school districts to avail themselves of the technology to mitigate delays in special education services because of relocation or loss of records due to extreme weather events. Congress should take action to strengthen the safety net for socially vulnerable groups, such as students with disabilities, school staff with disabilities, and their families.
- Congress should amend the IDEA funding formula to mitigate the high incidence of poverty in rural and low-income communities, including U.S. territories.

NCD Recommends the Center for Medicare & Medicaid Services (CMS):

- CMS should examine and consider changes to emergency preparedness plans to bolster the resiliency of the health care sector as part of an administration-wide effort to be ready for the next weather-related emergency.
- CMS should clarify its new rules and regulations about replacing ATs and DME damaged or lost in a disaster.

NCD Recommends the U.S. Department of Education:

- ED should commission a study to examine the impacts of extreme weather events and adaptation strategies on children with disabilities and their families. The study should include findings to support disaster planning.
- ED should collect standardized tracking and reporting of educational services and supports that are unable to be provided to students with disabilities during and after a disaster.

NCD Recommends the U.S. Department of Health and Human Services (HHS):

- HHS Office of Civil Rights (OCR) should develop additional guidance for healthcare providers to actively prepare and plan for an increase of people with disabilities requiring healthcare services during disasters.
- HHS and the National Advisory Council on Innovation & Entrepreneurship (NACIE) should launch a multiagency national emergency management strategy to help states plan for an increase in the number of people with disabilities to mitigate risks during disasters.
- HHS should provide guidance on standardized disability categories and levels to inform federal and SLTT government emergency management planning. The methodology should be used at all levels of government to ensure complete and consistent data collection.
- HHS commission a study to identify health disparities and gaps in access to healthcare in relation to extreme weather impacts on people with disabilities, older adults, tribal nations, and other impacted communities. HHS should also identify strategies to mitigate those gaps.
- HHS Office of the Assistant Secretary for Preparedness and Response (ASPR), when replenishing the Strategic National Stockpile (SNS), should coordinate with SLTT partners on available equipment that can be requested from the SNS and provide or update guidelines on how to request such equipment.
- HHS ASPR should require that states develop written emergency evacuation plans and response procedures for CCFs that include situation assessment and plans for protecting residents, staff, volunteers, visitors, equipment, medications, and vital records as part of the states' assisted living licensing and regulation requirements.
- HHS and Department of Justice (DOJ) should issue joint guidance and provide technical assistance to SLTTs and shelter planners on the ADA and other legal requirements as well as Crisis Standards of Care (CSC) requirements for all shelters.
- HHS should approve Appendix K waivers for SLTT partners to pay legally responsible relatives to provide care during disasters.
- HHS CMS should cease issuing waivers that allow people with disabilities to be institutionalized in the absence of accessible shelters and services. Absent an alternative, if waivers are issued,

SLTTs should require EMAs to immediately remedy or face severe penalties with a stipulation that the people institutionalized be moved into other accessible accommodations within a specified short timeframe or additional penalties will be applied.

NCD Recommends the U.S. Department of Homeland Security (DHS)

- NCD recommends that the DHS CRCL and/or the DOJ DRS and other appropriate governing bodies should prioritize and strengthen oversight and enforcement capabilities to ensure recipients and sub recipients of federal funds comply with the scope of their obligations to people with disabilities.
- NCD recommends that the DHS CRCL and the DOJ DRS, should provide guidance to SLTTs emergency management operations frontline efforts to ensure nondiscrimination in the provision of emergency and disaster-relief services, benefits, and activities.

NCD Recommends the U.S. Department of Housing and Urban Development (HUD):

- HUD should increase the number of accessible units from the 5 percent accessibility requirement for federally assisted new construction housing developments to 25 percent, which represents the percentage of people with disabilities in the United States.
- HUD, PIH, should expand its housing voucher program⁴⁴³ to offer climate vouchers for families affected by extreme weather events to relocate in the event their home is not habitable.
- HUD should authorize CDBG-DR and CDBG-MIT grants to be used toward long- term relocation of housing projects and other infrastructure including building in safer zones or retrofitting buildings to be more resilient to expected weather events. HUD should work with and offer guidance to local leaders to help community planning and development.
- HUD should establish and implement a Federal Flood Risk Management Standard (FFRMS); update/modernize HUD's floodplain management regulations in 24 CFR part 55; extend increased flood protection across all HUD programs; increase flood resilience; and clarify processes and standards, and promote environmental justice concerns in floodplain decision-making.
- HUD should update its CDBG-DR Policy Guidance for Grantees (2019) and include references to people with disabilities.
- HUD should initiate a policy that will not approve funding of federal financed housing in floodplains.
- HUD should require developers use materials that are more resilient to extreme weather events indicative of the area, for instance, metal shingles in California to mitigate wildfires, or a safe room in units designed for people with disabilities that should withstand high winds from hurricanes or tornadoes.

NCD Recommends U.S. Department of Justice (DOJ):

- DOJ, in coordination with other relevant federal agencies, should provide updated comprehensive guidance (similar to its 2022 new Guidance on Web Accessibility⁴⁴⁴) and technical assistance to SLTT governments to better comply with federal civil rights and disability laws during emergency preparedness, response, and recovery.
- DOJ should reissue its Advance Notice of Proposed Rulemaking regarding Nondiscrimination on the Basis of Disability; Accessibility of Web Information and Services of State and Local Government Entities.
- DOJ and HUD should monitor and enforce compliance obligations for emergency sheltering in a disaster consistent with emergency sheltering requirements under the Fair Housing Amendments Act. Whether the disaster shelter is considered transient or long-term, the rights of people with disabilities in these shelters should be seamlessly protected.
- DOJ Disability Rights Section (DRS) should update the ADA Best Practices Tool Kit for State and Local Governments (March 9, 2017)⁴⁴⁵ to ensure that SLTT governments have the latest information on ADA best practices.
- DOJ should review websites such as the NHC to ensure that it is 508 compliant and that all federal webpages are accessible to people who use screen readers or other assistive technology devices.

NCD Recommends the U.S. Department of Labor (DOL):

- DOL Bureau of Labor Statistics should collaborate with the National Institute on Disability, Independent Living, and Rehabilitation Research to commission a study on how individual disasters impact people with disabilities in terms of employment and economic impacts.
- Given the dearth of data on employment losses due to natural disasters, DOL should create a system to collect and share data on how individual disasters impact people with disabilities in terms of employment.

NCD Recommends the Federal Emergency Management Agency (FEMA):

- FEMA should more broadly publicize its mental health programs and the Substance Abuse and Mental Health Services Administration (SAMHSA) Disaster Distress Helpline, which provide crisis counseling and support to people experiencing emotional distress related to natural or human-caused disasters. FEMA should monitor SLTTs execution and accessibility of its crisis care hotline and provide guidance as needed to ensure programs are accessible to all disabilities.
- FEMA should provide guidance and training to SLTT partners on the legal requirements for Functional Needs Support Services for general population shelters and the potential loss of shelter reimbursement funds and propensity for lawsuits should they not provide accessible sheltering.

- The federal entity (typically FEMA and DHS) providing funds ultimately received by local emergency management departments should require the participation of local staff in training on the scope of obligations under the Rehab Act.
- FEMA should provide guidance and training to SLTT partners on the legal requirements for Functional Needs Support Services (FNSS) for general population shelters and the potential loss of shelter reimbursement funds and propensity for lawsuits should they not provide accessible sheltering.
- FEMA should monitor SLTTs' execution and accessibility of its crisis care hotline ensuring accessibility for all disabilities and provide SLTTs with additional guidance as to promoting the availability and ease-of-use of the hotline.
- FEMA, SLTTs, and shelter providers should join private nonprofits to develop contingency plans to replace lost medications and DME equipment.
- FEMA should continue outreach to SLTTs on the requirement to provide PAS in shelters and advise the importance of acquiring a contract for PAS services prior to a shelter opening and advise SLTTs the proper method for reimbursement following disasters.
- FEMA Administrator should communicate to Regional Administrators and RDIS a written plan for implementing its new disability integration staffing approach, consistent with the objectives established for disability integration. Such a plan should include an implementation timeline and details on staff responsibilities, which regions could use to evaluate staff performance.⁴⁴⁶
- The FEMA Administrator should develop a plan for delivering training to FEMA staff that promotes competency in disability awareness. The plan should include milestones and performance measures and outline how performance will be monitored. (GAO Recommendation 6).⁴⁴⁷ The plan should include FEMA Disability Integration Cadre. NCD recommends FEMA should ensure its emergency management workforce receives formal training on guidance related to supporting people with disabilities prior to their deployment in a disaster response role.⁴⁴⁸ FEMA should lengthen its two-hour course (IS-368: Including People With Disabilities and Others With Access & Functional Needs in Disaster Operations (2014))⁴⁴⁹ and ensure that people with disabilities are consulted during course development.
- FEMA should ensure emergency shelter providers plan for and ensure all shelters are accessible and compliant with the ADA and the Rehab Act to avoid the threat of institutionalization. Employing local disability organizations to collaborate on shelter operations will assist to ensure shelter facilities are more accessible to people with disabilities.
- FEMA should revise and provide technical assistance in plain language to its IHP application process which would include enhancing and publishing guidance for requesting and receiving such services and removing any challenges related to language accessibility, literacy, technical expertise, or disability and the prerequisite to apply for SBA disaster loans.⁴⁵⁰

- FEMA and emergency managers at all levels of government should develop strategies to manage multiple concurrent disasters. Federal entities and SLTTs should adjust planning and response protocols developed for “standard” events to satisfy new response needs. These strategies could include a list of anticipated gaps, prioritizations for which gaps to invest in, and proactive planning to manage those gaps through other means when investments are not available. This recommendation works both for the overarching issues and the specifics around disability inclusion.
- FEMA should enhance its stakeholder engagement strategy to intentionally include people with disabilities and disability-led organizations in emergency management planning and exercises. FEMA should then encourage and share this strategy with SLTT EMAs.
- FEMA, FCC, and SLTT partners should inform and encourage all SLTT emergency managers to utilize the full IPAWS alerting system, since IPAWS includes EAS, along with numerous other, more accessible, communications methods.
- FEMA, DOJ, and FCC should review, consolidate, and enhance existing guidance for effective communications before, during, and after disasters, compiling these materials into a comprehensive guide that is distributed, and promoted, across federal, SLTT, and NGO partners.
- FEMA, in coordination with SLTT Department of Public Works, should identify people with disabilities in the community at risk of heat-related illnesses and death and ensure such individuals have access to cooling stations. If, because of their disabilities they are unable to access cooling stations, portable air-conditioning units should be made available to mitigate the risk of heat-related illness or death.
- FEMA should hire multilingual sign language interpreters and contract for VRI services for all major sign languages, to meet the needs of specific communities such as Puerto Rican Spanish Sign Language in the United States and its territories.
- FEMA should better inform SLTT and OFA partners that providing sign language interpreters is required for any activities funded by FEMA. Also, FEMA should make its VRI services available to all SLTT and OFA partners to ensure that SLTT partners have access to such services, whenever needed to support stakeholders and disaster workers who are Deaf or Hard-of-Hearing.
- FEMA should assess the resource needs of RDIS to ensure that they are fully resourced to meet the needs of their SLTT partners for planning and preparedness. FEMA should assess the resource needs to ensure that there is a sufficient cadre of trained disability integration advisors (DIA), including reservists to staff all disaster operations.
- FEMA should conduct outreach to, and training for, community organizations, to ensure that all interested community organizations know how to prepare for and apply for PA program Category B public assistance funds, when performing essential services.
- FEMA should prioritize the implementation of the FEMA 2020 National Advisory Council recommendations (2020-01, 2020-02 2020-03 2020-05, 2020-06, 2020-07, 2020-08, 2020-09, 2020-11, 2020-12, 2020-13, 2020-15, 2020-18, 2020-19, 2020-20, 2020-21, 2020-22, 2020-25a.)⁴⁵¹

Implementation should ensure that the needs of people with disabilities are integrated into the final policy, plans, and services.

- FEMA and SLTT partners should share their processes for capturing and disseminating disability-related lessons learned and best practices.
- FEMA should resurrect the Interagency Coordinating Council to include the U.S. Census Bureau, CMS, and DOT, to identify methods to efficiently, collect disability information to identify how many people with disabilities are affected during specific disasters, where they live or work in the community, and whether they have HCBS needs. This information should be used to inform emergency management policies and anonymized data should be regularly updated and shared with SLTTs.
- FEMA should determine what steps are needed to address the nation's emergency management capability gaps across all levels of government and inform federal partners, such as the Office of Management and Budget, and Congress, about what level of resources would be necessary to address the known gaps.⁴⁵²
- Federal and SLTT EMAs should activate alerts via IPAWS simultaneously when they activate alert sirens and public address systems, to ensure alerts are accessible for people who are Deaf and Hard-of-Hearing.

NCD Recommends the Federal Energy Regulatory Commission (FERC):

- Federal Energy Regulatory Commission (FERC) should work with utility companies to improve their power outage notification programs and create public awareness campaigns to build knowledge. They should improve power resiliency programs and enhance power restoration priority for people with disabilities who are power dependent. Additionally, utility companies should invest in portable generators to be made available to people with disabilities who are power dependent and unable to evacuate in the event of extended power outages.

NCD Recommends the National Oceanic and Atmospheric Administration (NOAA):

- NOAA, NCEI, and the NWS should collaborate with FEMA, state EMAs, and public health agencies to share data and develop agile strategies to manage multiple concurrent disasters.
- NOAA, FEMA, and/or HHS ASPR and/or ACL should promote the availability and distribution of adapted weather radios for people who are Deaf and Hard-of-Hearing through SLTT, Center for Independent Living (CIL), and NGO partners.

NCD Recommends the Rehabilitation Services Administration:

- Rehabilitation counselors should work with disability program navigators (DPNs) (people trained to utilize the One-Stop Career Centers to help people with disabilities) to help navigate the web of career services.

NCD Recommends State, Local, Tribal, And Territorial (SLTT) Government Emergency Management Agencies (EMAs):

- Federal and SLTT EMAs and state health departments should request congressional funding to surge medical resources (equipment and supplies) for disasters.
- State health departments, in coordination with state EMAs, should plan and track medical infrastructure and medical equipment and equipment stockpiles, (e.g., medications, generators, PPE, and necessary medical equipment like oxygen, dialysis machines, wheelchairs, and other DME) to ensure availability and distribution in a disaster, especially in U.S. territories.
- Federal and SLTT governments should encourage the construction of universally designed accessible housing units by passing universal design ordinances that go beyond the ADA and incentivize builders to offer accessibility features to buyers as upgrades.
- HUD should provide guidance to CDBG recipients of the requirement to comply with federal disability rights laws and require the incorporation of universal design in any rebuild to ensure accessibility for PWDs.
- No federal funds—including but not limited to federal funds from DHS and HHS—should be used in development, deployment, and maintenance of emergency “special needs” registries exclusively created for people with disabilities. Instead of registries, SLTTs should take an innovative, holistic, and inclusive approach to include people with disabilities in their overall emergency management plans.
- SLTTs should develop/update shelter management plans with clear roles and responsibilities that fully integrate the needs of people with disabilities to meet legal requirements.
- SLTTs and emergency planners should involve people with disabilities and disability organizations in emergency evacuation planning, ensuring that shelters are physically accessible, and provide guidance on post-evacuation residency for individuals with disabilities.
- FEMA, SLTTs, and NGOs (e.g., the Red Cross or religious organizations) should provide adequate planning and training, to include disability cultural competency training and resources, including supplies and equipment, to staff working in shelters, health care professionals, first responders, and search-and-rescue teams to better support people with disabilities in shelters. Expand training to individuals and community groups and recruit, train, and provide clearance for volunteers with specific skill sets, such as interpreters, mental health professionals, counselors, behavioral therapists, and PCAs.
- SLTT EMAs should ensure that shelter staff receives specific training to address the needs of people with IDD and mental/behavioral health issues.
- Federal agencies and private sector employers should offer remote work as an option, especially after a disaster where people with disabilities who rely on public transportation may not have access to transportation or paratransit services.

- All federal and SLTT EMAs should engage people with disabilities, disability organizations, and CBO's in disaster management planning. Ensuring that recommendations and concerns from people with disabilities are prioritized and incorporated into any disaster management plan.
- SLTTs should put in place state HSAC teams. State HSAC teams meet regularly with and coordinate with public health, NGOs, and other area agencies to plan and better understand how to work together during response.
- Federal and SLTT EMAs should hire people with disabilities into decision-making or leadership roles to help inform emergency management policy and planning.
- Tribal Nations should form Disability Advisory Councils to liaise with federal, state, and local EMAs.
- State EMAs should work with Tribal Nations to develop emergency management plans that specifically include people with disabilities. FEMA, IHS, and BIA should advise and support these efforts.
- Tribal Nations should put in place personal preparedness plans and create CMIST⁴⁵³ response teams to prepare their communities. Examples of personal preparedness plans are found at <https://www.ready.gov/disability>.
- SLTT partners should incorporate provisions for accessible transportation in their Emergency Operations Plans. Such incorporation should include analysis of the required demand for such services and appropriate contracts, agreements, and MOUs to support that demand in an emergency. Appropriate contracts should include emergency requirements such as ensuring 24/7 availability on short notice, with costs being charged to the jurisdiction, rather than passengers. Such agreements do not need to be commercial contracts. In fact, mutual aid agreements with other jurisdictions and/or NGOs may be the most effective and cost-effective options, provided that both partners are not impacted by the same disaster.
- Federal agencies responsible for emergency preparedness, community resilience, and disaster-related services, programs, supports, or activities should engage with national, state, and local coalitions of disability-led organizations and stakeholders. These federal agencies include but are not limited to: DHS, FEMA, CRCL, HHS, ASPR, ACL, CDC, HUD, DOT, DOJ, DRS, ED, OSERS, DOL, the Office of Disability Employment (ODEP), DOD, Veterans Affairs, and U.S. Access Board.

Appendix C: Figures, Tables, and Map Descriptions

Data: FEMA National Risk Index (NRI) All Hazards Risk Rating in U.S.

Description:

The purpose of this map is to identify risks of extreme weather events in the United States and its territories.

It is a map of the United States with all 50 states shown. It shows where extreme weather events are concentrated in the United States by county. It uses the FEMA National Risk Index – All Hazards data. FEMA's National Risk Index – All Hazards includes ratings for 18 natural hazards for each county in the United States. The next iteration of the FEMA National Risk Index will likely include U.S. territories.

The risk is categorized from Very High, Relatively High, Relatively Moderate, Relatively Low, to Very Low. The map uses shading of green from dark green to light green to illustrate Very High (dark green) to Very Low (light green). The map highlights U.S. counties in dark green that have a risk rating of "Very High" when it comes to all hazards. Risk ratings are based on a risk score. The map shows there is particularly high risk (or dark green) of natural hazards along the West Coast, specifically in Southern California, the Gulf Coast, and Florida.

Data: United States Census Bureau American Community Survey (ACS), Disability Status Variables (2015–2019) data; CDC (2019); Census Bureau (2010).

Description:

The purpose of this map is to identify locations in the United States with high percentages of people with disabilities.

This is a map of the United States with all 50 states shown. It also includes Guam and the Mariana Islands on the bottom left, and Puerto Rico and the U.S. Virgin Islands on the lower right side. The map uses U.S. Census Bureau, American Community Survey, Disability Status Variables

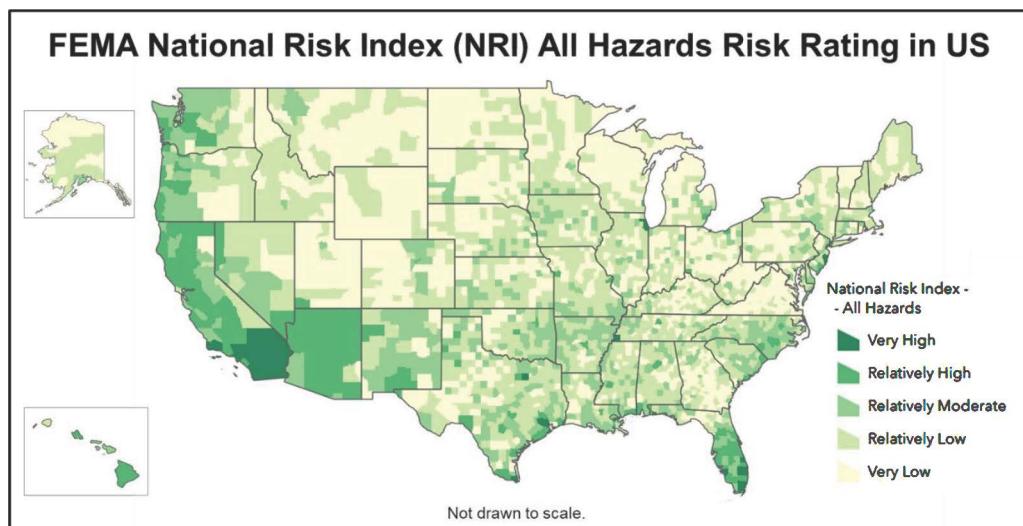


Figure 1: FEMA National Risk Index (NRI) – All Hazards Risk Rating in U.S.

(2015–2019) data; Centers for Disease Control and Prevention (CDC) (2019) data; and Census Bureau (2010) data sets.

The map shows the percentage of people with a disability in each county of the United States. The map uses shading of blue from dark blue to light blue to illustrate the percentage of the population with a disability. The percentages range from less than 10 percent to over 30 percent. The lowest percentages are in the Plains and Midwest and the highest percentages are in Appalachia. There are concentrations of higher percentages of people with disabilities in Arizona, New Mexico, Texas, and Kentucky.

Data: FEMA National Risk Index (NRI) – All Hazards data and Census Bureau ACS, Disability Status Variables (2015–2019). National Geospatial Data Asset (NGDA) from the U.S. Census Bureau

Description:

The purpose of this map is to show the risks of extreme weather events in the United States overlaid with locations in the U.S. with high populations of people with disabilities to identify where in the country people with disabilities are more at risk of natural hazards by county.

The map is a combination or layering of the FEMA National Risk Index – All Hazards data and the U.S. Census Bureau, American Community Survey, Disability Status Variables (2015–2019) data sets. The map also uses Federally Recognized Tribal Entities data from the National Geospatial Data Asset.

The map shows a circle filled in with green for every county in the United States. The circles scale from small to large, with the larger dark green circles indicating counties that have high national risk index ratings and high populations of people with disabilities.

The map highlights areas in the Bay Area in California, Southern California, Eastern Texas, and Florida, where there is a concentration of people with disabilities at high-risk of extreme weather events.

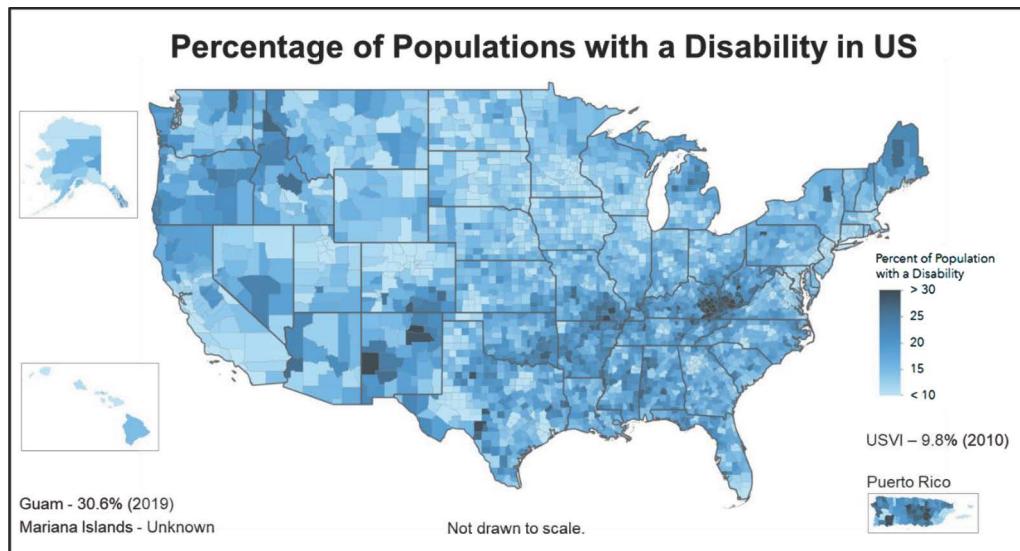


Figure 2. Percentage of Populations with a Disability in U.S.

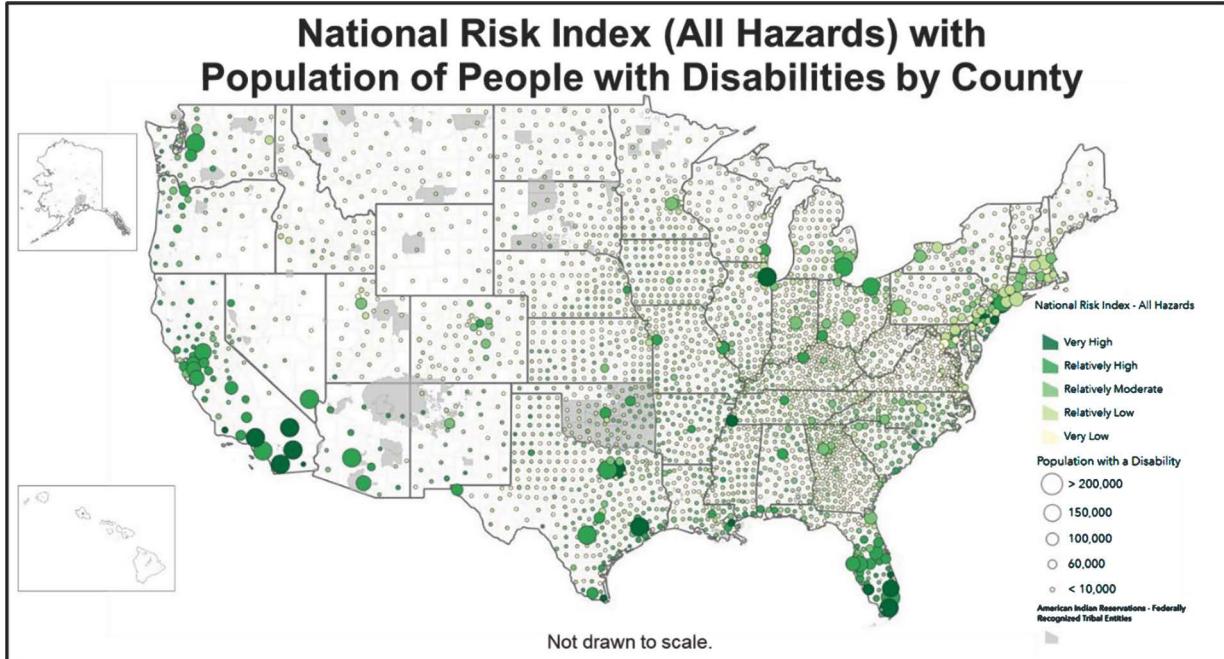


Figure 3: National Risk Index (All Hazards) with Population of People with Disabilities by County

Appendix D: Definitions and Terminology

Assistive Technology (AT)

- AT is any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of people with disabilities.
- AT helps people who have difficulty speaking, typing, writing, remembering, pointing, seeing, hearing, learning, walking, and many other things. Different disabilities require different assistive technologies.

Compounded Poverty

- Compounded poverty occurs when a series of circumstances and challenges work together to create or exacerbate barriers to economic stability.^A

Disability

- The ADA defines a person with a disability as a person who has a physical or mental impairment that substantially limits one or more major life activity. This includes people who have a record of such an impairment, even if they do not currently have a disability. It also includes individuals who do not have a disability but are regarded as having a disability. The ADA also makes it unlawful to discriminate against a person based on that person's association with a person with a disability.⁴⁵⁴

A <https://www.theatlantic.com/business/archive/2016/04/how-poverty-compounds/478539/>

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Equality

- “The nation’s proper goals regarding individuals with disabilities are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for such individuals” (emphasis added), (2020).⁴⁵⁹

Extreme Weather Events

- An extreme event is a time and place in which weather, climate, or environmental conditions—such as temperature, precipitation, drought, or flooding—rank above a threshold value near the upper or lower ends of the range of historical measurements. Though the threshold is subjective, some scientists define extreme events as those that occur in the highest or lowest 5 percent or 10 percent of historical measurements. They often describe events by how far they are from the mean or by their recurrence interval or probability.⁴⁶⁰

Indigenous People/Tribal Nations

- Considering the diversity of indigenous peoples, an official definition of *indigenous* has not been adopted by any UN-system body. Instead, the system has developed a modern understanding of this term based on the following:
 - Self-identification as indigenous peoples at the individual level and acceptance by the community as a member
 - Historical continuity with pre-colonial and/or pre-settler societies
 - Strong link to territories and surrounding natural resources
 - Distinct social, economic, or political systems
 - Distinct language, culture, and beliefs
 - Form nondominant groups of society
 - Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities⁴⁶²

Low Income

- A reference to populations characterized by limited economic resources. The U.S. Office of Management and Budget has designated the Census Bureau's annual poverty measure as the official metric for program planning and analysis, although other definitions exist.⁴⁶³

Network

- Related to a personal support network.⁴⁶⁶

People with Disabilities

- The ADA defines a person with a disability as a person who has a physical or mental impairment that substantially limits one or more major life activity. This includes people who have a record of such an impairment, even if they do not currently have a disability. It also includes individuals who do not have a disability but are regarded as having a disability. The ADA also makes it unlawful to discriminate against a person based on that person's association with a person with a disability.⁴⁶⁷
- To be protected by the ADA, one must have a disability or have a relationship or association with an individual with a disability. An individual with a disability is defined by the ADA as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. The ADA does not specifically name all of the impairments that are covered.⁴⁶⁸

People of Color (POC):

- A term primarily used in the United States and Canada to describe any person who is not White. It does not solely refer to African Americans; rather, it encompasses all Nonwhite groups and emphasizes the common experiences of systemic racism.⁴⁶⁹

Vulnerable and At-Risk Populations

- Vulnerable people are those who are relatively (or absolutely) incapable of protecting their own interests. More formally, they may have insufficient power, intelligence, education, resources, strength, or other needed attributes to protect their own interests.⁴⁷¹
- Vulnerable people are those “unnoticed and ignored by public health officials” and “people pushed to the back of the treatment line.”⁴⁷²

Sources

- A concise summary of evaluating sources includes the author’s credentials or authority, the purpose of the source, the intended audience, the quality of the publisher, currency of information, and accuracy and objectivity.⁴⁷³
- Credible academic sources include materials published within the last 10 years, research articles written by respected and well-known authors, websites registered by government and educational institutions (.gov,.edu,.ac), academic databases (i.e., Academic Search Premier or JSTOR), and materials from Google Scholar.⁴⁷⁴

Risk

- The potential for an unwanted outcome resulting from an incident or occurrence, as determined by its likelihood and the associated consequences.⁴⁷⁵

Threat

- A natural or manmade occurrence, individual, entity, or an action having or indicating the potential to harm life, information, operations, the environment, and/or property.⁴⁷⁶

Additional FEMA Definitions

Access/Accessible

- The suitability or adaptability of programs, services, activities, goods, facilities, privileges, advantages, or accommodations provided by a public or private (for-profit or not-for-profit) entity, or by any entity with which it contracts, for all members of the population, including people with disabilities.⁴⁷⁷

Whole of Community

- The whole community is an inclusive approach to emergency preparedness and management through the inclusion of individuals and families, including those with access and functional needs; businesses; faith-based and community organizations; nonprofit groups; schools and academia; media outlets; and all levels of government, including SLTT and federal partners.

Appendix E: Policies, Laws, and Regulations

This section provides an overview of how select legislation applies to extreme weather events and people with disabilities.

Achieving a Better Life Experience Act (ABLE Act)

The ABLE Act, which was signed into law on December 19, 2014, is designed to improve the financial stability of people with disabilities by authorizing tax-advantaged savings accounts, known as ABLE accounts, for youth and adults with disabilities. The law recognizes that many individuals and their families depend on a wide variety of means-tested public benefits for income, health care, food, and housing assistance. Eligibility for many of these benefits requires applicants to have few assets. Thus, to remain eligible for these programs, an individual must remain poor.

ABLE account funds and distributions for qualified disability-related expenses are not taken into consideration when determining eligibility for federally funded means-tested benefits, including SSI and Medicaid. According to language in the ABLE Act, an ABLE account will, with private savings, “secure funding for disability-related expenses on behalf of designated beneficiaries with disabilities that will supplement, but not supplant, benefits provided through private insurance, Medicaid, SSI, the beneficiary’s employment, and other sources.”

These accounts are similar in construction to college savings accounts; both are included in Section 529 of the IRS Code. Assets in ABLE accounts can be used to cover any “qualified disability expense” including housing, transportation, support services, and any other expense reasonably related to a disability.

An ABLE account may not receive annual contributions exceeding the annual gift-tax exemption (\$14,000 in 2015). A state must also ensure that aggregate contributions to an ABLE account do not exceed the state-based limits for 529 accounts.

Affordable Housing Act (AHA)

Officially passed as the Cranston-Gonzalez National Affordable Housing Act of 1990, this law established programs focused on housing and economic development programs HOME, Housing Opportunities for Persons With AIDS (HOPWA), Shelter Plus Care programs, and established the Section 811 Supportive Housing for Persons With Disabilities program and the HOPE programs that promoted homeownership opportunities for low-income individuals and people with disabilities. (Public Law 101-625)

Americans with Disabilities Act (ADA)⁴⁸⁰

The ADA, enacted in 1990 and amended in 2008, prohibits discrimination on the basis of disability in employment, state and local government programs, services and activities, public accommodations, and commercial facilities. The goal of the ADA is to ensure full participation in society for people with disabilities by facilitating equal opportunity, independent living, and economic self-sufficiency.

Title I: Employment

Title I of the ADA prohibits discrimination against people with disabilities in employment both before and after they are hired. Access to employment is one of the most important issues affecting people with disabilities. Although the ADA has led to increases in accessibility and accommodations in employment and public awareness about the capabilities of people with disabilities, there has been little change in available employment opportunities for people with disabilities. Reasonable accommodations are required for job applicants and employees with disabilities among employers with more than 15 employees. However, attitudes and stereotypes about the cost of reasonable accommodations and the abilities of people with disabilities persist.

Title II: State and Local Governments

Title II of the ADA requires that state and local governments give people with disabilities an equal opportunity to benefit from all state programs, services, and activities (e.g., public education, employment, transportation, health care, and social services) in compliance with regulations determined by DOJ. Title II also prohibits discrimination against people with disabilities for public transportation services. Under Title II, state and local governments must provide accessible buses, subways, or commuter rails, and also provide paratransit services in all areas where they operate fixed-route bus or rail systems.

Olmstead v. L.C. (1999) was the landmark case which determined that “unjustified isolation” of a person with a disability is a form of discrimination under Title II of the ADA. Under the decision, if a state treatment professional determines that community placement is appropriate, then a person with a disability should be placed in the community, if the person with a disability chooses. This case had a significant impact on the opportunities for people with disabilities to live and fully participate in their communities.

Title III: Public Accommodations and Commercial Facilities

Title III of the ADA requires places of public accommodation and commercial facilities to meet accessibility standards. All new construction as well as existing structures must conform to the ADA Accessibility Guidelines. Existing structures must remove architectural barriers if doing so can be accomplished easily and without significant expense. Places of public accommodation include restaurants, hotels, shopping centers, doctor’s offices, and day care centers.

While the applicability of web accessibility is not explicitly addressed in the ADA, recent lawsuits (since approximately 2016) and DOJ actions have made this question an increasing concern over the past few years. DOJ recently issued new web accessibility guidelines for entities covered by Titles II and III <https://www.justice.gov/opa/pr/justice-department-issues-web-accessibility-guidance-under-americans-disabilities-act>.⁴⁸¹

Architectural Barriers Act of 1968

“The Architectural Barriers Act (ABA) of 1968, as amended, stipulates that all buildings which are (1) financed with federal funds, and (2) intended for use by the public, or which may result in employment or residence therein of physically handicapped persons, be designed and constructed in accordance

with standards prescribed by the ABA to ensure that such buildings are fully accessible to and usable by handicapped individuals. The Act is enforced by the Architectural and Transportation Barriers Compliance Board (ATBCB), a federal agency created by Section 502 of the Rehabilitation Act of 1973, as amended. On May 9, 1983, the Secretary of Labor and the Executive Director of the ATBCB entered into a memorandum of agreement (MOA) whereby the Department agreed to implement a DOL-wide accessibility compliance system. This system, which must meet certain minimum criteria set forth by the Board, is intended to ensure full compliance with applicable GSA accessibility standards issued pursuant to the ABA. In return, the Board has agreed to refrain from initiating enforcement proceedings against DOL for noncompliance with accessibility standards if its Executive Director has approved a detailed plan for removal of barriers in covered buildings or facilities.⁴⁸² Additionally, the ADA builds upon the ABA and refers to the ATBCB and assigns it with the authority to define the standards for the architectural and communication barriers that are structural in nature.⁴⁸³

Assistive Technology Act of 1998

Initially passed in 1998, and reauthorized in 1994 and again in 1998 and 2004, the Act establishes a grant program to provide federal funds to support state programs that address the assistive technology needs of people with disabilities. With funds from this program, every state and territory in the United States established a Tech Act project (there are currently 54). These projects have developed individualized plans to meet state assistive technology needs in specific areas, including financing, technical assistance, education, training and other leadership activities, device reutilization, device loan, device demonstration, and device referral services.⁴⁸⁴ In the past, FEMA has had an MOU with the AT Act Projects to access their AT Reuse Programs in an emergency as a means of replacing/restoring lost DME and AT during a disaster. Many local governments have similarly established partnerships for smaller scale weather-related emergency responses with these projects.

***Fair Housing Amendments Act of 1988*⁴⁸⁵**

Title VIII of the Civil Rights Act of 1968, known as the Fair Housing Act, prohibited discrimination concerning the sale, rental, and financing of housing based on race, religion, national origin, and sex. The Fair Housing Amendments Act of 1988 (PL 100-430) expanded this to include disability and family status.⁴⁸⁶

Housing Act

Initially passed as the National Housing Act of 1934, which created the FHA “to encourage improvements in housing standards and conditions (and) to provide a system of mutual mortgage insurance.” (Public Law 73-479). The law has been amended numerous times to create a range of social service public housing programs. Examples include: the United States Housing Act of 1937, which created the public housing program (PL 75-412); the Housing Act of 1949 to establish grant programs to assist state and local governments; the Housing Act of 1959 that established Section 202 Supportive Housing for the Elderly program and the FHA Mortgage Insurance for Nursing Homes program. (Public

Law 86-372); and the Housing and Community Development Act of 1974, which created community development block grants for state and local governments and established Section 8 rent subsidies for low-income families. (Public Law 93-383) Section 8 additional amendments have expanded these programs throughout the years, and introduced vouchers to the Section 8 program. (For a complete timeline of Housing Act Statutes, see <https://www.hud.gov/hudprograms/keystatutes>). Twenty-five percent of those receiving rental assistance in the United States have disabilities, 20 percent are seniors, and 69 percent are seniors, children, or people with disabilities.⁴⁸⁷

Individuals with Disabilities Education Act (IDEA)⁴⁸⁸

The IDEA, enacted in 1975 (at the time called the Education for All Handicapped Children Act, or EHA) and reauthorized in 1990 and 2004, ensures that free public education resources are allocated to students with disabilities to meet their unique needs. IDEA ensures that students with disabilities have the same opportunities as other students. It mandates that students with disabilities who attend public schools receive a free appropriate public education that is tailored to their individual needs. The Office of Special Education Programs was created to help states with the implementation of IDEA.

Under IDEA, students in special education programs are expected to learn in the least restrictive environment, which means they spend as much time in an integrated classroom with their peers who do not receive special education services. Separate classes and schools are recommended only in cases where the disability is so severe that aids and services in the general education classroom are not adequate. How much time students with disabilities spend in general education classes will vary based on what is most appropriate for each student. School IEP teams work to ensure the most appropriate learning environments for each student.

IEPs are local, not national, and services and supports created or granted by an IEP in one educational district does not guarantee the same services or supports will be provided in another locale. IEPs take a significant amount of time to create, typically at least 30 to 90 days, assuming all tests, records, and medical information is available to the student/family, longer if new testing or assessments or medical records must be created. Budget and moneys for supports are set on an annual basis a year in advance, based on the currently enrolled students. Money for supports do not transfer with the student.

Medicaid Buy-In

The Ticket to Work Act also created the Medicaid Buy-In program, which offers Medicaid coverage to people with disabilities whose income is higher than the allowable substantial gainful activity levels. The purpose of the Medicaid Buy-In program is to allow people with disabilities to purchase Medicaid coverage while still being able to work. The eligibility requirements and benefits for this optional Medicaid program vary across states. Most states review employment status, disability status, income, and resources to determine Medicaid Buy-In eligibility. Some states require people who are eligible for the Medicaid Buy-In to pay a monthly premium or other cost-sharing charges, which are typically set on a sliding fee scale based on income. Many buy-in programs charge a state-specific premium and have copayments that are higher than traditional Medicaid.

Medicare Durable Medical Equipment, Prosthetics/Orthotics & Supplies Rules

CMS sets the fee services and rules that govern DMEPOS. In addition to setting the reimbursement and coverage fees for DMEPOS, the fee guidelines also state the frequency for which DMEPOS items may be purchased. Typically, private insurers adopt similar fee and replacement schedules as set forth by CMS. Traditionally, there is no exception in the guidelines for items lost or damaged during extreme weather events or other emergency disasters.⁴⁸⁹ However, CMS/Medicare is now replacing some DMEPOS and medications lost in disasters if the equipment/medicine was originally purchased under Medicare, there is a state or federal disaster declaration or federal public health emergency; and the proper disaster codes are placed on the form.⁴⁹⁰

Patient Protection and Affordable Care Act (ACA)

The ACA, which was signed into law in 2010, requires hospitals and primary care physicians to shift their focus to better health outcomes and lower costs enhancing the distribution and accessibility of their professional practices. Among the provisions in ACA is the creation of essential health benefits required as part of private insurance coverage. ACA Sections 1302(b)(4)(B) and (C) define essential health benefits and indicate that providers shall “not make coverage decisions or design benefits in ways that discriminate against matching dollars with no waiting list or caps.” In *National Federation of Independent Business (NFIB) v. Sebelius*, the Supreme Court decided that states were not mandated to expand Medicaid coverage.

Rehabilitation Act of 1973 (Rehab Act)

(Section 501) Section 501 of the Rehabilitation Act prohibits federal executive branch agencies, including the U.S. Postal Service and the Postal Rate Commission, from discriminating against qualified people with disabilities. It requires executive branch agencies to take affirmative action in the hiring, placing, and advancing of people with disabilities.⁴⁹¹

(Section 503) Section 503 of the Rehab Act prohibits federal contractors and subcontractors from discriminating in employment against people with disabilities and requires employers take affirmative action to recruit, hire, promote, and retain these people.⁴⁹²

(Section 504): Section 504 prohibits discrimination on the basis of disability by any program or activity receiving federal financial assistance. It requires compliance with specific standards for design and construction of new facilities and ensures the accessibility of programs as a whole.⁴⁹³ Section 504 has also been used to apply to require accommodations and access to public education for people with disabilities who may not require special education and related services under IDEA.

(Section 508): Section 508 requires federal agencies to develop, procure, maintain or use Information and Communications Technology (ICT) that is accessible to people with disabilities. ICT is any equipment used to create, convert, duplicate, or access information and data, including, without limitation to: telephones, mobile devices, televisions, DVD players, video productions, web content, electronic documents, online trainings, webinars, teleconferences, software, hardware, lab equipment,

and computers. Most states have their own version of section 508 (see <https://www.section508.gov/manage/laws-and-policies/state/>).

Stafford Act of 1988

Executive Order 13347 sets forth the role of the Federal Government in effectively addressing the issue of Individuals with Disabilities in Emergency Preparedness.⁴⁹⁴ Sec. 308. Nondiscrimination in Disaster Assistance (42 U.S.C. 5151) (a) Regulations for Equitable and Impartial Relief Operations states the President shall issue, and may alter and amend, such regulations as may be necessary for the guidance of personnel carrying out federal assistance functions at the site of a major disaster or emergency. Such regulations shall include provisions for insuring that the distribution of supplies, the processing of applications, and other relief and assistance activities shall be accomplished in an equitable and impartial manner, without discrimination on the grounds of race, color, religion, nationality, sex, age, disability, English proficiency, or economic status.⁴⁹⁵

Supplemental Security Income (SSI)

SSI is a federal supplemental income program funded by general tax revenues (not Social Security taxes). SSI includes a number of work incentives designed to help beneficiaries go to work by minimizing the risk of losing their SSI or Medicaid benefits. Under some of these incentives, SSA will exclude some income or resources when calculating the benefit amount (such as the earned income exclusion, the student earned income exclusion, impairment-related work expenses, and the Plan for Achieving Self Support). Other incentives provide continued Medicaid coverage even when the beneficiary is not receiving cash benefits (such as the Medicaid Buy-In and section 1619(b) of the Social Security Act).

Social Security Disability Insurance (SSDI)

SSDI is funded by payroll tax contributions from workers and employers. In order to qualify for benefits, applicants must reach insured status for Social Security by working enough during the years before filing to have contributed a specific amount to the Social Security system through FICA taxes. The level of benefits is based on earnings prior to the onset of the disability; SSDI does not consider assets or other household income. SSDI benefits are subject to a five-month waiting period, which means that SSDI applicants must wait five months after the onset of their disability to receive cash benefits. Most SSDI beneficiaries are eligible for Medicare after a two-year waiting period. Like SSI, disability is defined as the inability to engage in "substantial gainful activity" because of "one or more severe physical or mental impairments that are expected to last at least a year or result in death."

Telecommunications Act of 1996

A comprehensive law overhauling regulation of the telecommunications industry, revolutionized access to telecommunications for people with disabilities through Section 255 of the Act, which requires telecommunications products and services to be accessible to people with disabilities, to the extent

readily achievable. Covered products included wired and wireless telecommunication devices, pagers, and fax machines, other products that have telecommunications capabilities, and equipment that carriers use to provide services. Manufacturers must ensure that products are “designed, developed, and fabricated to be accessible to and usable by individuals with disabilities” when it is readily achievable to do so. The U.S. Access Board was given the job of developing guidelines that describe what makes telecommunications products accessible, and the FCC is responsible for rules and policies to enforce the law.⁴⁹⁶

Twenty-First Century Communications and Video Accessibility Act of 2010

Requires advanced communications services and products to be accessible by people with disabilities.

Workforce Innovation and Opportunity Act (WIOA)

WIOA, signed into law in 2014, is designed to “help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy.” The Act reauthorizes and amends the Workforce Investment Act (1998) and amends the Adult Education and Family Literacy Act, the Wagner-Peyser Act, and the Rehab Act.

WIOA programs operate through a network of local centers in each state called AJC, which provide youth job training, education, and employment services at a single location. AJCs provide skills assessments, information on employment, information on training opportunities, job search and placement assistance, up-to-date information on job vacancies, and transition services to job seekers regardless of their disability status.

Work Incentives Planning and Assistance (WIPA)

The primary objective of the WIPA initiative is to assist SSA beneficiaries with transitioning from dependence on public benefits to paid employment and greater economic self-sufficiency. WIPA projects hire and train Community Work Incentives Coordinators (CWICs) to provide in-depth counseling to SSI and SSDI beneficiaries about benefits and the effect of work on those benefits. All WIPA services are free. In addition, the CWICs conduct outreach efforts to SSI and SSDI beneficiaries (and their families) who are potentially eligible to participate in federal or state work incentives programs and work in cooperation with federal, state, and private agencies and nonprofit organizations that serve SSI and SSDI beneficiaries with disabilities.

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