Testimony before the Senate Committee on Aging

Hearing Titled:

Inclusive Disaster Management: Improving Preparedness, Response, and Recovery

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Chair Casey, Ranking Member Scott, and distinguished members of the Committee, it is an honor to testify before you today regarding inclusive disaster management. I am grateful for the opportunity to address this Committee and appreciate your continued support of this critical issue that affects older adults and people with disabilities. Thank for the opportunity to participate in today's hearing.

The way we currently mitigate, prepare for, respond to, and recover from disasters is not inclusive—or equitable. In this testimony, I will describe: 1) that older adults and people with disabilities remain disproportionately affected by disasters, 2) that disruptions in access to healthcare and necessary supports are a critical need to be addressed in inclusive disaster management, 3) that strategies to promote aging in place throughout the phases of a disaster are needed to support older adults, and 4) that a whole community approach is essential to address inclusive disaster needs.

In my day-to-day life, I am an assistant professor at the University of Michigan, where I conduct research on disasters and health, and particularly on how to promote healthy aging in the face of an increasing number of disasters. The goal of the research I do is to understand how communities and the healthcare systems within them can better support their aging residents through the phases of a disaster. My hope is that our team's work will help support older adults to live their healthiest lives as our nation faces an increasing number of disasters.

I am also a nurse practitioner by training, and I regularly deploy to disasters across the United States as part of a federal disaster response team. I spent a month in Puerto Rico after Hurricane Maria providing healthcare in local gymnasiums and in temporary tents. I supported infection control practices in emergency shelters during the Paradise, California wildfires in 2018. And over the course of the COVID-19 pandemic, I have spent months in a response mode; from receiving patients at the Princess Cruise ship quarantines in March of 2020, to teaching nursing home staff about safe personal protective equipment (PPE) use and conducting voluntary assessments of skilled nursing facilities, to opening the first Federal Emergency Management Agency (FEMA)

mass vaccination center in February of 2021. I witness firsthand the things that I study – the challenges of healthy aging in a disrupted environment, and the consequences of these events on individuals and communities.

In my disaster response role, I receive the highest level of training in order to be prepared to address immediate and pressing medical emergencies, and you might think I use this training in these deployments. But actually, the vast majority of the care I provide in the days and weeks after a disaster is for individuals who cannot get their basic health needs met in the aftermath of a disaster. In my experience providing health care in Puerto Rico after Hurricane Maria the majority of the patients I treated were there for basic primary care and management of chronic health conditions—diabetes, high blood pressure, and kidney disease for example, conditions that require, and benefit, from regular and sustained access to healthcare.

Older adults, and people living with disabilities are disproportionately affected by disasters. Disasters are not natural. Hazards such as hurricanes, wildfires, and tornadoes are weather events that occur as natural processes—and we already know that as the impacts of climate change advance, we will see these events become more frequent and more extreme. However, the impact these events have on communities is largely humanmade and influenced by social, economic, geographic, and political processes. Characterizing disasters as natural implies we can't do anything about them, but the truth is we can. Time and again, we see that disasters most often disproportionally affect those populations who are already impacted by policy choices and discourses of inferiority in our society—such as older adults and people with disabilities.

Older age itself does not make an individual more vulnerable to disasters. Social isolation, frailty, chronic and comorbid diseases, and cognitive impairments such as dementia—all issues common among older adults—do, however. These become more challenging to address after a disaster. Besides that, 85% of US older adults have one or more chronic diseases requiring regular health care. When a community is affected

by a disaster, the services that community offers are affected too. Older adults who depend on functioning communities to stay healthy are also affected.

Further, there is no centralized system for collecting, reporting, and sharing data on these kinds of gaps after a disaster. This means we are unlikely to make systematic changes in how we address care for these individuals before the next event occurs. For now, we are using information and data gathered from indirect sources to try to draw conclusions about the impacts of disasters. A recent report, in which I am a co-author, from the National Academies of Science, Engineering and Medicine focuses on improving data collection and research methods to more accurately understand the health—and mortality— consequences associated with large-scale disasters. Titled "A Framework for Assessing Mortality and Morbidity After Large-Scale Disasters," this report provides recommendations centered on advancing approaches and systems for estimating mortality and morbidity associated with disasters.

My work centers on understanding how disasters affect the health of older adults. We use existing large sources of data, such as Medicare claims records, to try to connect the dots between healthcare use and older adults after disasters. Our research team is interested in knowing what are the drivers for hospitalizations after disasters, specifically What is putting older adults into the hospital or long-term care after disasters? This has helped us think about what the impacts of disaster on older adults are outside of the initial shock of the disaster and to consider what are the enduring health consequences older adults may face. In one study we recently published, using eight of the largest hurricanes in recent years (determined by assessment of financial impact), we examined hospitalization data from the Centers for Medicare and Medicaid Services in areas affected by one or more of these major storms. We found that hospitalizations for adults 65 and older increased between 10 and 23% across each of these eight storms in the month after the hurricane than when compared to the rest of the year. As an additional analysis, we excluded the first three days after the disaster, hypothesizing that those three days would account for admissions that were acutely storm related, such as trauma and injuries. When excluding those three days, we still found that

admissions remained substantially higher, accounting for substantial numbers of additional admissions. It is important to consider the larger impact of this on older adults and healthcare organizations. Considering that there were over 60 major disaster declarations in the United States in 2019 alone, intervening to address the underlying reasons for healthcare use after disasters is critical.

Disruptions in access to healthcare and necessary supports are a critical need to be addressed in inclusive disaster management. When communities are disrupted, so are supports for those that live there and normal patterns of functioning. The loss of basic infrastructure such as loss of power or transportation may cause serious care interruptions, especially access to health care, which can have long-lasting health impacts.

We studied how this disruption affects long-term health through the lens of cancer care. Our question here was, how does living through a disaster affect long-term survival when living with a serious health condition? New Orleans, affected by Hurricane Katrina was the setting, and we used data from the National Cancer Institute's SEER cancer registry, which is arguably the best possible source of cancer data available. Individuals in the study with a cancer diagnosis who lived in New Orleans during Hurricane Katrina were matched to individuals who were diagnosed with cancer in the same time frame in other non-affected areas, and who had similar household characteristics. We found a 15% higher mortality among the Katrina-exposed group, suggesting that the disruption in community functioning caused by the hurricane was a contributor to dying earlier. These results make sense empirically, since we already know that missing needed chemotherapy can be extremely detrimental to health and well-being. What we don't know, is how the findings from this study would translate on a larger scale, as in when looking at a number of different types of disasters, or when looking at a number of chronic health conditions outside of cancer.

In 2017, the Centers for Medicare and Medicaid Services (CMS) enacted the Emergency Preparedness (EP) Rule which established requirements specific to

planning, preparing and training for emergency situations. Compliance with the EP rule is required by CMS in order to participate in Medicare and Medicaid programs. The EP rule was designed to promote preparedness at the healthcare organization level, leaving flexibility in determining the amount and depth of training, drilling, and demonstration of competencies to the organization to determine. This design was intentional, giving a fair bit of leeway in how healthcare organizations can comply with the rule.

Thinking about supporting individuals with dementia care on an organizational level can provide an example of the utility of the EP rule. For people with dementia, the disruption in normal patterns of daily living caused by a disaster can be highly disorienting and lead to acute changes in health and well-being. Changes in caregiving or a change in a familiar living environment may occur due to evacuation or a power outage for example. Consistent medication administration may be altered, and daily routines may be disrupted. These and other effects are inherently stressful and may contribute to increased frequency of behavioral disturbances, which already occur commonly in persons living with dementia. Such behavioral symptoms may be the trigger for long-term nursing facility placement or result in the use of antipsychotic medications which are associated with poor outcomes among persons with dementia. The EP rule was enacted to prevent these kinds of catastrophic consequences to vulnerable seniors, however, planning is needed that is specific to these individual needs in order to avoid adverse outcomes. Providing support in terms of tailoring interventions and programs aimed at improving readiness for different types of healthcare organizations—and patient needs— is an important consideration.

Strategies to promote aging in place throughout the phases of a disaster are needed to support older adults. A goal of inclusive disaster management is to promote aging in place throughout the phases of a disaster, with the goal of supporting older adults to stay in their preferred living environment. Disasters disrupt normal functioning. After any disaster, people just want to go home and continue living their lives, but in order to do so, they must have the services they need in place. In our study

of home health agencies affected by Hurricane Harvey in Texas, 76% reported a disruption in services, despite that 99% of agencies reporting that they had required emergency preparedness plans in place. Nearly half of these disruptions lasted one week or longer. We've also studied older adults' preparedness in a national poll of over 2000 respondents, where participants reported feeling confident they were ready to address a disaster, but also reported low levels of preparedness actions—the actual steps to be ready for a disaster like having an evacuation plan or putting together an emergency preparedness kit. Critically, among older adults who rely on electrically-dependent medical devices, such as non-battery-operated devices, only 1 in 4 had an alternative power source.

Our team has also learned from home-based care (including home health) providers who have worked through recent disasters; Hurricanes Harvey, and Irma, and the COVID-19 pandemic. Home-based care providers are in the homes of their patients' day in and day out, often with established and trusted relationships built over time and that occur with the familiarity of the home setting. Some of our findings are that home-based care represents an excellent insertion point to support readiness, and to provide older adults with the tools they need to protect their health during an emergency. But we also found that home-based care is frequently not included as part of the health care response—where the focus is on hospitals and nursing homes, and home-based care organizations reported feeling left on their own to care for patients after disasters—where in turn those patients would be left on their own if home-based care was not there.

Priority recommendations to address and improve inclusive disaster management are:
1) **Center older adults and people with disabilities as key stakeholders**. Older adults and people with disabilities must be the central focus and central actors in inclusive disaster management.

2) **Ensure systems are in place for continuity of care and aging in place throughout the phases of a disaster**. That starts with strengthening relationships in

the whole community—between emergency managers, healthcare coalitions, aging organizations, home based care providers, to name a few, and most importantly older adults and people with disabilities. Considering the Emergency Preparedness rule as a base, healthcare organizations can build tailored preparedness and response plans that are specific to the needs of older adults and people with disabilities.

3) **Improve and address strategies for evidence-based disaster mitigation, preparedness, response and recovery**. Uniform systems for data collection, recording, and reporting disaster-related data are needed in order to advance inclusive disaster management. To do this, existing data systems and tools must see sustained investments for improvement, starting at the local, state, tribal and territorial level.

Thank you for the opportunity to present to the committee. I am ready and willing to assist in any way.