



Connecticut Department of Public Health
Keeping Connecticut Healthy



Statewide Healthcare and Public Health Hazard Vulnerability Analysis/Jurisdictional Risk Assessment



<https://www.ctpost.com/news/article/Live-updates-Ira-slated-to-bring-heavy-rain-to-16429307.php#photo-21419155>

Prepared by Yale New Haven Health
Center for Emergency Preparedness and Disaster Response

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I. Introduction

Purpose

For 2022, the Connecticut Department of Public Health (CT DPH) engaged the Yale New Haven Health Center for Emergency Preparedness and Disaster Response (YNHH-CEPDR) to compile and analyze the outcomes of a statewide public health/healthcare system Jurisdictional Risk Assessment (JRA) and Connecticut Health Care Coalition (CT HCC) Hazard Vulnerability Analysis (HVA). The goals of the HVA/JRA are to determine and rank natural and man-made threats and hazards most likely to adversely affect public health and healthcare capabilities in Connecticut. To answer this question, YNHH-CEPDR asked administrators from varied healthcare organizations including emergency medical services (EMS) agencies, and from fire departments, town offices of emergency management, and municipal and district-wide public health departments to submit responses to a questionnaire prepared in SurveyMonkey™. Respondents were directed to focus on statewide (rather than facility-based) risk, impact, and planning priorities.

YNHH-CEPDR used the 2013 hazard risk assessment created by the New York City Department of Health and Mental Hygiene (NYC DOHMH) Office of Emergency Preparedness and Response¹ to guide the development of the HVA/JRA questionnaire. The questionnaire employed the ten disaster scenarios listed below to prompt respondents to rank hazards/risks, their planning priority, and assess potential impacts following their occurrence.

1. Aerosolized Anthrax
2. Chlorine Release
3. Cyber Attack
4. Food Contamination
5. Improvised Explosive Device
6. Major Hurricane and Coastal Storm
7. Major Winter Snowstorm
8. Nerve Agent Attack
9. Severe Pandemic Influenza
10. Workplace Violence-Mass Shooting

For the purposes of the HVA/JRA, survey participants were asked to review and edit, as they deemed necessary, the results (ranking, impacts and planning priority) of last year's survey conducted using similar online questionnaire with the same scenarios. However, for 2022, survey responders were queried about climate change and its impact on vulnerable populations, and the perceived risks of working remotely. The survey administered to participants is available in **Appendix A**.

YNHH-CEPDR also collected, analyzed, and incorporated data and other findings from several additional sources (e.g., Connecticut Institute for Resilience and Climate Adaptation, and Connecticut DataHaven) to develop a more complete assessment of

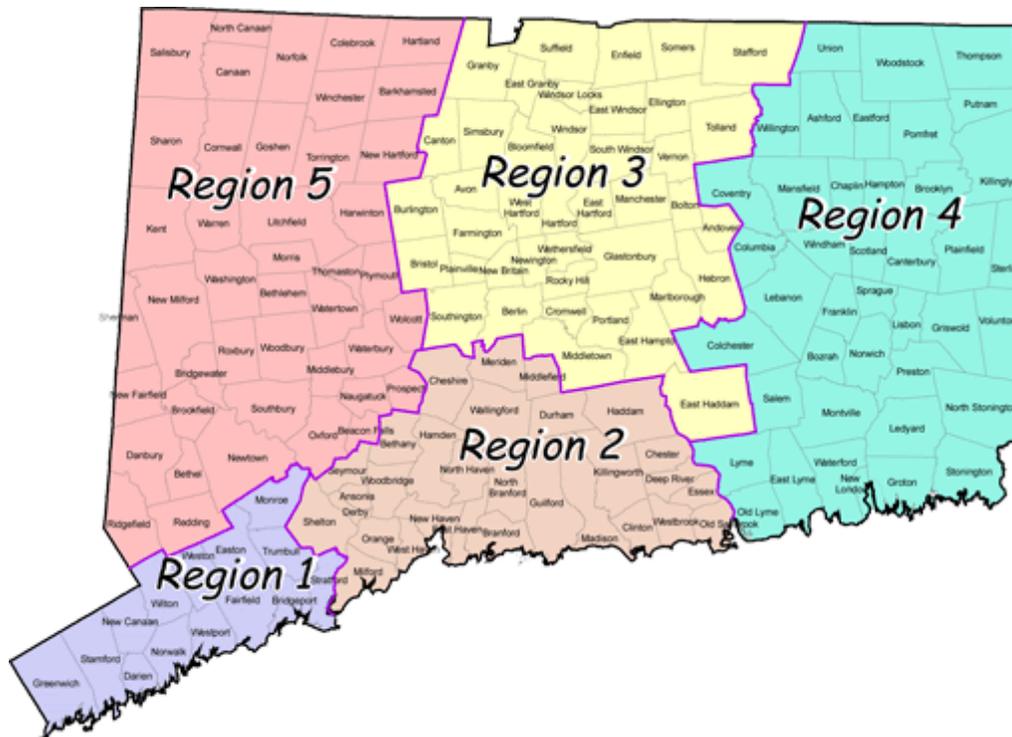
¹ This document is titled: "New York City Department of Health and Mental Hygiene Public Health Hazard Risk Assessment" prepared by Office of Emergency Preparedness and Response. March 2013. Although no longer available online, the NYC DOHMH assessment is available in scanned copy by request.

threats and hazards and their implications to Connecticut residents including vulnerable populations.

Scope

In 2019, Connecticut transitioned from five healthcare coalitions to a single statewide health care coalition, the Connecticut Health Care Coalition (CT HCC). It is comprised of members who hold key roles in emergency management, public health, healthcare delivery, and emergency medical services, and help ensure the health and safety of the residents within the state. The organizations represented in the CT HCC currently include acute care hospitals, public health departments, emergency medical services, and emergency management from across the state. Among its members, the coalition includes representation from each of the five ESF-8 planning regions, which are organized by the geographical boundaries of the five DEMHS regions and follow the same planning regions identified through the DEMHS REPT ESF-8 approach. Map 1 illustrates the regional boundaries and designation for each Connecticut town. The jurisdictional boundary of the CT HCC encompasses the 169 towns and cities within Connecticut.

Map 1 – Five DEMHS Regions and Jurisdictional Boundary of the CT HCC



The CT HCC is supported by CT DPH using funds provided by the Office of the Assistant Secretary for Preparedness and Response (ASPR) in the U.S. Department of Health and Human Services, through the Hospital Preparedness Program Cooperative Agreement, which is administered by the Connecticut Department of Public Health.

Methodology

The 2022 online survey asked participants to review the 2021 ranking of the likelihood of occurrence, the anticipated impact on humans, health care services, mental health and the environment, and the planning implications of the ten disaster scenarios and re-rank the scenarios where indicated. Participants were also instructed to respond to the survey questions from the perspectives of the sector or group they represent on the CT HCC (i.e., hospitals, community centers, emergency management, emergency medical services, public health or regional Emergency Support Function 8 (ESF8) group). YNHH-CEPDR used SurveyMonkey™ to develop the questionnaire and the survey was delivered via hyperlink to participants, via email.

Using Excel, YNHH-CEPDR aggregated and averaged the responses (submitted as a “rank” of 1 to 10) for each scenario and question. YNHH-CEPDR used the results to develop new rankings and then imported the ranking data into Tableau software for further analysis.

HVA/JRA Participants

One hundred thirty-five agencies and 138 respondents² completed the survey. The following table lists the breakdown of these 135 agencies by sector. The full agency list is available in Appendix B.

Table 1: Sector Breakdown of 2022 HVA/JRA Survey Respondents

Sector/Group	Number of Unique Agency Responses
Emergency Management Agency	7
Emergency Medical Services	41
Federally Qualified Health Center/Community Health Center	11
Hospital	8
Other Healthcare Provider	11
Public Health	48
Regional ESF 8	9
Total	135

² Three agencies submitted two unique responses to the survey.

Planning Assumptions and Limitations

- Although there is overlap, the HVA/JRA process is distinct from the HVA/JRA processes undertaken by individual agencies and the Threat and Hazard Identification and Risk Assessment (THIRA) process completed by CT.
- The individuals completing the survey have varying levels of emergency management, health security, and public health preparedness experience and training.
- The data herein is based only on the submitted responses from particular CT HCC member organizations.
- Although the HVA/JRA incorporates a wide range of hazards, some of which are the purview of emergency management, hospitals, and/or public health agencies, the primary focus of this HVA/JRA is to identify the threats, hazards, risks, and vulnerabilities that can impact the delivery of healthcare services to the regional communities they serve.

II. Survey Findings

Disaster Scenario Ranking

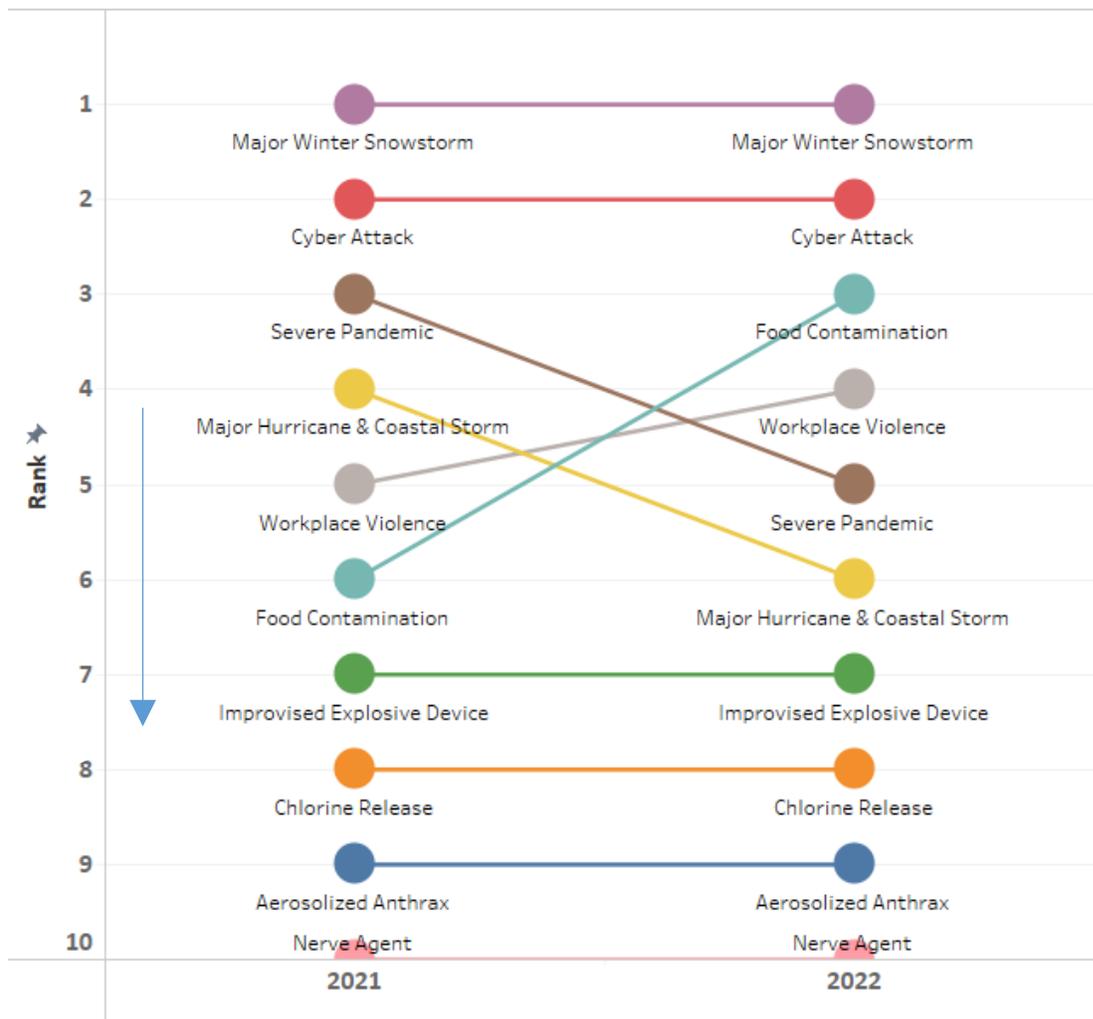
Charts 1 through 5 illustrate how respondents' assessments regarding the likelihood of occurrence and impact of ten distinct disaster scenarios have changed in 2022, relative to their assessments of the same scenarios, as determined by the HVA/JRA survey conducted in 2021. As seen in Chart 1, respondents still rank major winter snowstorm and cyber-attack, 1 and 2, respectively, as the most likely disasters to occur in Connecticut. The likelihood of severe pandemic fell from 3 to 5, while food contamination moved up from 6 to 3, and workplace violence moved up from 5 to 4.

Chart 1: Disaster Ranking Based on Aggregate Survey Responses to the Question: What is the likelihood of this disaster? (n=116)

Likelihood of Disaster 2021 to 2022

1 = Most Likely

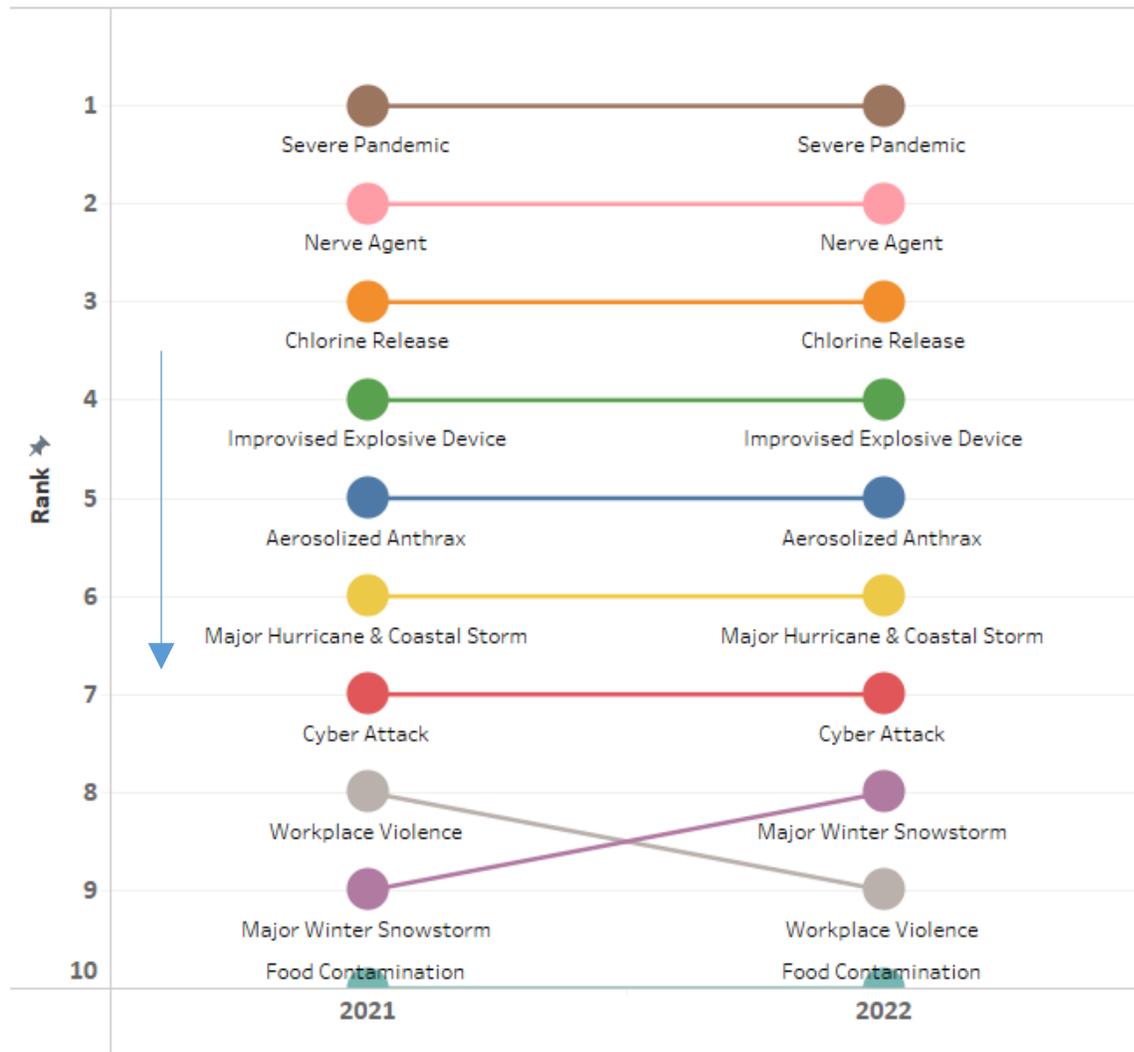
10 = Least Likely



As reflected in Chart 2, aggregate rankings of healthcare impacts of the ten disaster scenarios remained nearly identical in 2022, relative to 2021. Major winter snowstorm interchanged ranks with workplace violence, from rank 9 in 2021 to rank 8 in 2022.

Chart 2: Disaster Ranking Based on Aggregate Survey Responses to the Question: What is the anticipated Healthcare Impact (e.g., outpatient services, ED beds, hospital inpatient beds, ancillary services such as laboratories, trauma injuries) of this disaster? (n=114)

Impact to Healthcare 2021 to 2022
 1 = Most Likely
 10 = Least Likely



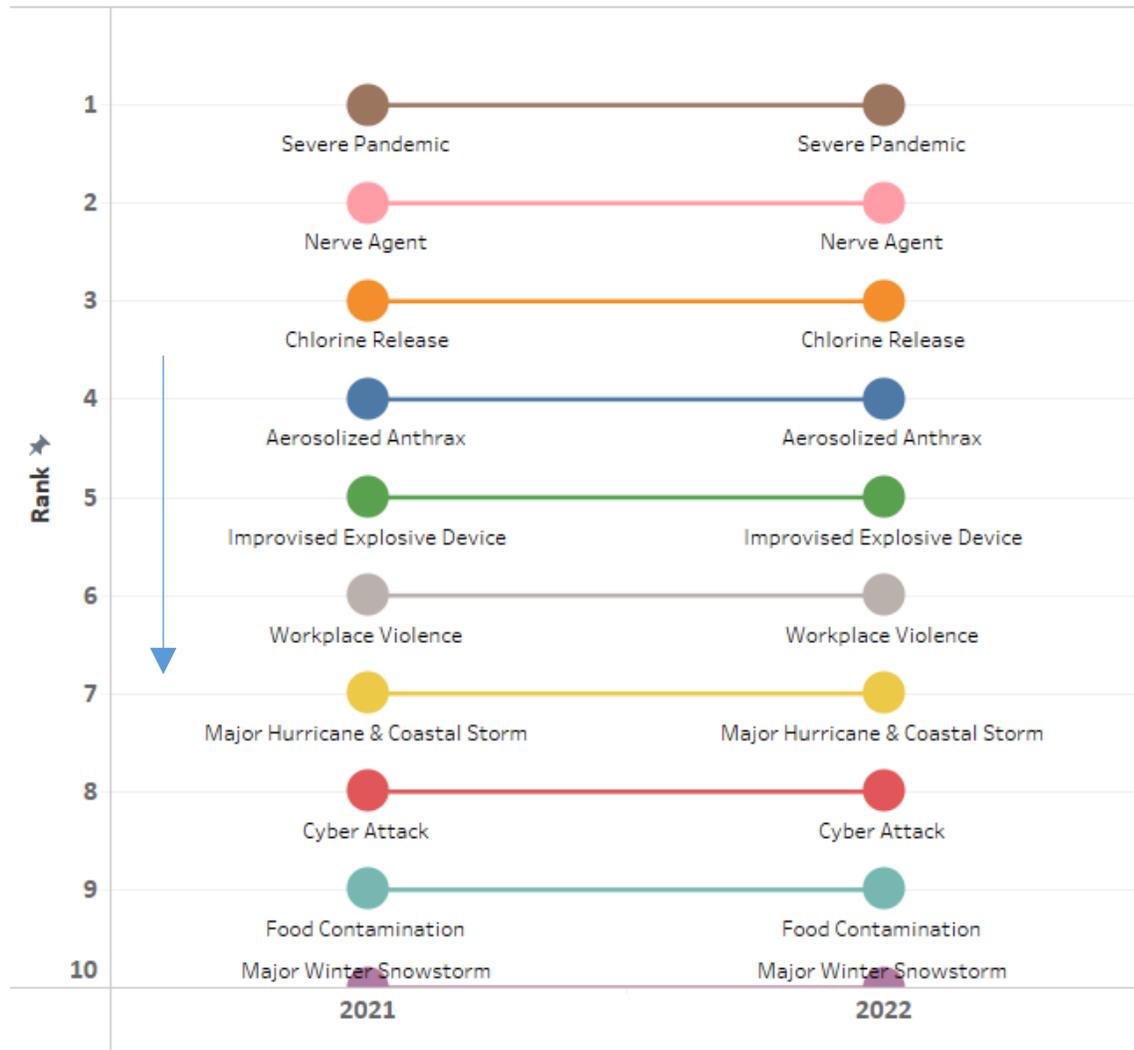
As shown in Chart 3, rankings of the 10 disaster scenarios for likely human impact did not change, as compared to 2021.

Chart 3: Disaster Ranking Based on Aggregate Survey Responses to the Question: What is the anticipated Human Impact (e.g., mortality, EMS transport, ED visits, primary care visits) of this disaster? (n=110)

Impact to Humans 2021 to 2022

1 = Most Likely

10 = Least Likely



As shown in Chart 4, disaster scenario rankings for their potential impact on mental health did not change relative to rankings assigned to them in 2021.

Chart 4: Disaster Ranking Based on Aggregate Survey Responses to the Question: What is the anticipated Mental Health Impact (PTSD, depression, anxiety, alcohol abuse, substance abuse, domestic violence, loss of social functions) of this disaster? (n=106)

Impact to Mental Health 2021 to 2022
1 = Most Likely
10 = Least Likely

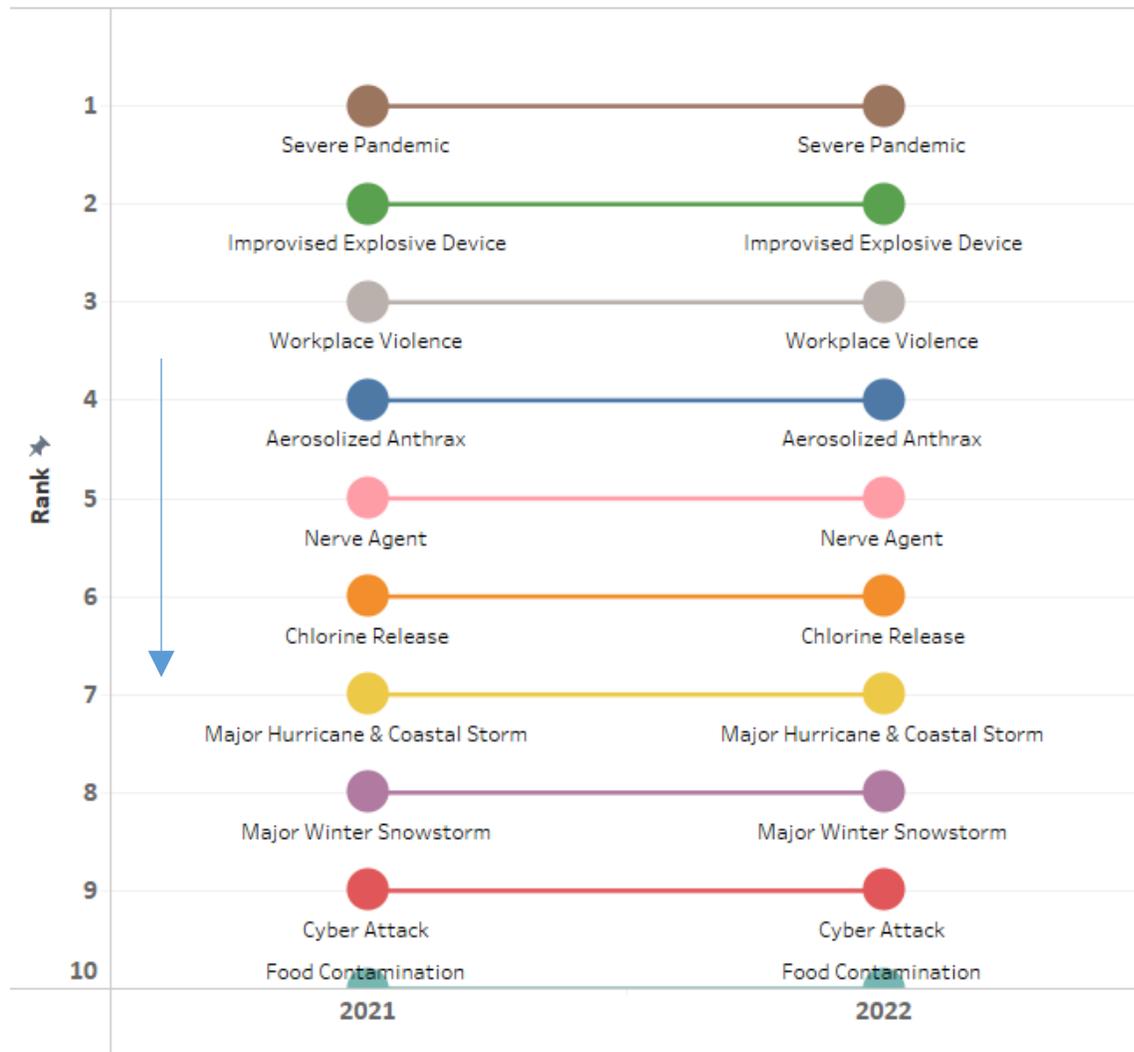


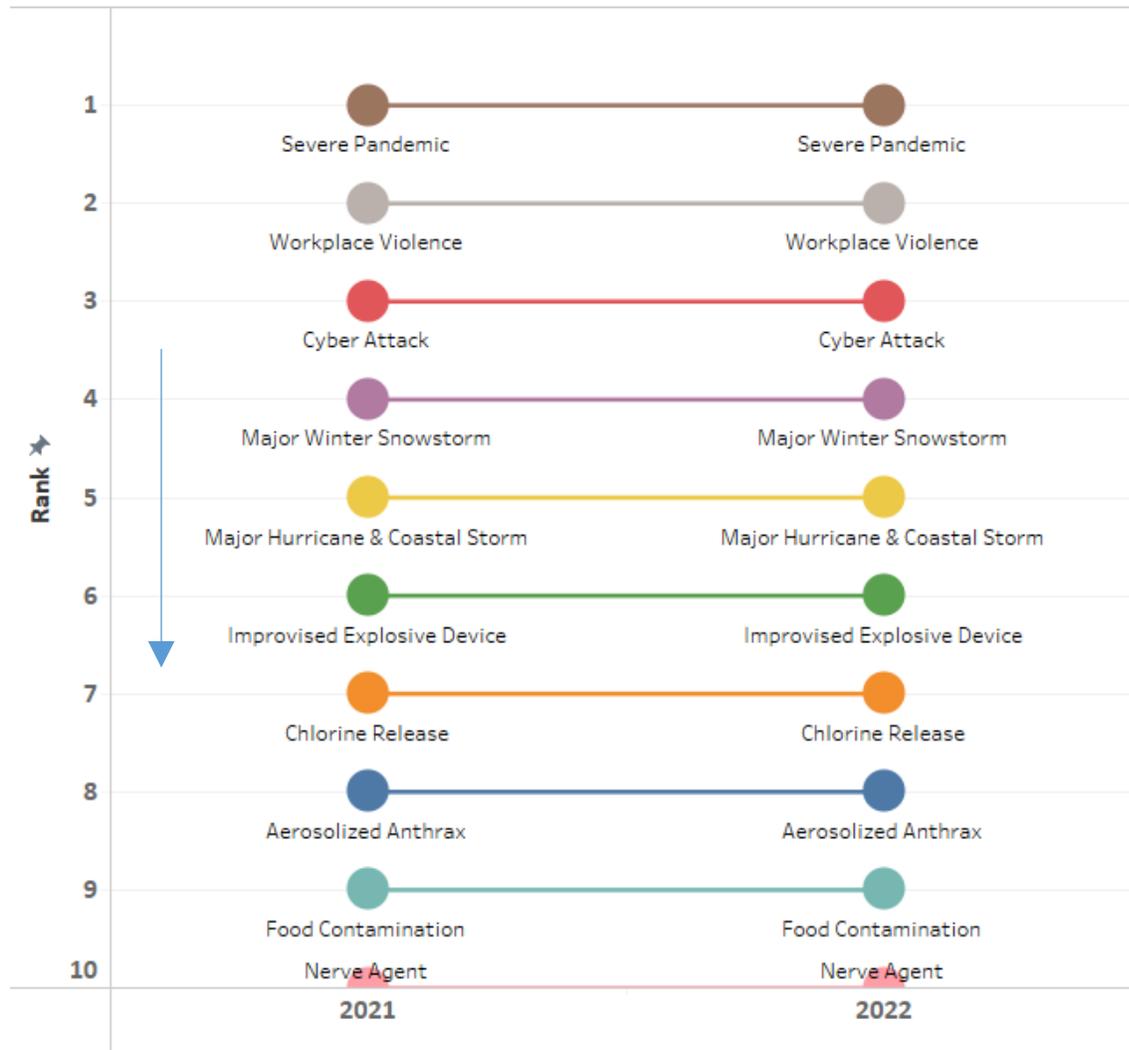
Chart 5 illustrates that in 2022, survey respondents maintained the 2021 rankings when asked to prioritize planning for the 10 disaster scenarios.

Chart 5: Disaster Ranking Based on Aggregate Survey Responses to the Question: What is the importance of planning in reducing the risk of this disaster? (n=111)

Importance of Planning 2021 to 2022

1 = Most Likely

10 = Least Likely



Winter Storm Preparedness for Vulnerable Populations

In addition to the standard set of hazards-specific questions discussed and illustrated above, we asked respondents two additional questions about winter storms as they relate to Connecticut’s vulnerable populations. The first question reads as follows:

Disasters disproportionately affect vulnerable populations. Please rank the following population categories from most to least vulnerable under the circumstances of a MAJOR WINTER STORM. Rank the most vulnerable category with the number #1 and the least vulnerable category with the #8.

The results are below. In aggregate, respondents ranked elderly residents most vulnerable to a major winter storm.

1. Elderly (**most vulnerable**)
2. People with chronic sensory, mobility or cognitive impairments
3. Children
4. People with chronic illness
5. Impoverished (Urban)
6. Impoverished (Rural)
7. Impoverished (Coastal area/floodplain)
8. People with language barriers (**least vulnerable**)

The second question reads as follows:

Although we recognize some residents are more vulnerable than others to a severe winter storm, we also know towns/regions and the state have long engaged in emergency planning for those at risk. Please identify the current capacity of your sector (e.g., hospital, FQHC, public health) to serve the physical and behavioral health needs of the following vulnerable populations during and after a MAJOR WINTER STORM.

As depicted in Table 2, 50% or more of the respondents feel their sector is very or moderately well prepared to serve vulnerable populations. In aggregate, respondents feel most prepared to serve children and older adults. However, comparatively few perceive their sector to be well prepared to meet the needs of impoverished residents and those with chronic sensory, mobility or cognitive impairments. Further, a significant number of respondents replied “neutral” to all of these questions, suggesting at least a significant minority are not confident they are prepared.

Table 2: Perceived Preparedness to Serve Vulnerable populations

Vulnerability	Very prepared	Moderately prepared	Neutral	Moderately unprepared	Very unprepared
1. Children	42	55	32	6	3
2. Elderly	48	55	21	9	4
3. People with chronic sensory, mobility or cognitive impairments	22	51	39	21	5
4. People with chronic illness	33	47	36	18	4
5. Impoverished (Urban)	26	45	48	13	5
6. Impoverished (Rural)	19	45	49	15	8
7. Impoverished (Coastal area/floodplain)	23	44	52	11	7
8. People with language barriers	19	55	35	19	9

Concern with Climate Change

Respondents were asked the following question about climate change.

Scientific discourse has reached a consensus that risks in the context of climate change result from the dynamic interaction of hazard, exposure and vulnerability of human and ecological systems. Using the following 5-point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern for your sector with the following threats of climate change.

The responses, aggregated in Table 3, clearly indicate survey participants are concerned with all listed threats. Extreme heat, flooding and high winds received the most “extreme concern” or “moderate concern” responses. Respondents are least concerned with sea level rise.

Table 3: Level of Concern with Threats of Climate Change

Climate Change Threat	Level of Concern				
	Extremely concerned	Moderately concerned	Slightly concerned	Somewhat concerned	Not at all concerned
Drought	31	49	22	31	5
Extreme Heat	48	50	14	22	4
Flooding	42	49	14	28	4
High Winds	44	54	11	28	1
Hurricane Storm Surge	32	42	20	32	12
Sea Level Rise	24	26	35	29	24
Grand Total	221	270	116	170	50

Perceived Risks of Remote Work

Survey participants were asked to evaluate their concern with the potential impacts of remote work via the following question:

A Gartner survey of company leaders found that 80 percent of employers plan to allow employees to work remotely at least part-time after the pandemic, and 47 percent will allow employees to work from home full time. These work-from-home positions carry their own risks as they could cause your systems to become more vulnerable to cyberattacks. Another potential risk is the loss of productivity due to power outages at home or possibly the Internet being down. Using the following 5-point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern with the following threats of remote work.

Respondents expressed considerable concern with a cyber security breach. Survey answers also indicate substantial concern with communications failure and tired/distressed employees.

Table 4: Level of Concern with Threats of Remote Work

Threats of Remote Work	Level of Concern				
	Extremely concerned	Moderately concerned	Somewhat concerned	Slightly concerned	Not at all concerned
Communications failure - power outage	40	49	30	13	5
Cyber security breach	61	45	23	3	5
Loss of productivity - distracted employees (during a disaster response operation)	22	40	35	27	13
Loss of productivity - power outage	23	50	36	22	6
Tired, stressed and/or isolated employees (during a disaster response operation)	36	44	32	14	11
Grand Total	182	228	156	79	40

Concern with the Capacity of Connecticut’s Behavioral Health Care System

Survey respondents were asked to consider Connecticut’s capacity to meet the behavioral health needs of its residents during a disaster:

The isolation, lockdowns, quarantines and the ruptures of connections to community ushered in by the COVID response are causing mental health pressures throughout the country. These stressors are impacting Connecticut’s public health/healthcare system staff both directly and indirectly. The occurrence of another natural or man-made disaster coinciding with COVID19 would further exacerbate the behavioral health wellbeing of the public health and healthcare workforces, and their abilities to respond to the needs of the communities they serve. Patients and the public at large will be similarly affected. Using the following 5-point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern with the current capacity of Connecticut’s public health/healthcare system to meet the needs of their staff and their patients/residents during an emergency (in addition to COVID).

As seen in Table 5, a significant majority of participants are very or moderately concerned with their sectors’ capacity to meet the behavioral health needs of their staff, patients and the general population. De-identified respondents’ comments regarding Connecticut’s capacity to mitigate behavioral health impacts resulting from a disaster are provided in **Appendix C**.

Table 5: Level of Concern with Capacity to Meet Behavioral Health Needs

Target Population	Level of Concern				
	Extremely concerned	Moderately concerned	Somewhat concerned	Slightly concerned	Not at all concerned
CT Public Health/Healthcare System Staff	53	48	25	10	2
Patients/General Population	46	55	31	5	1
Grand Total	99	103	56	15	3

III. Trust in Institutions among Connecticut Residents

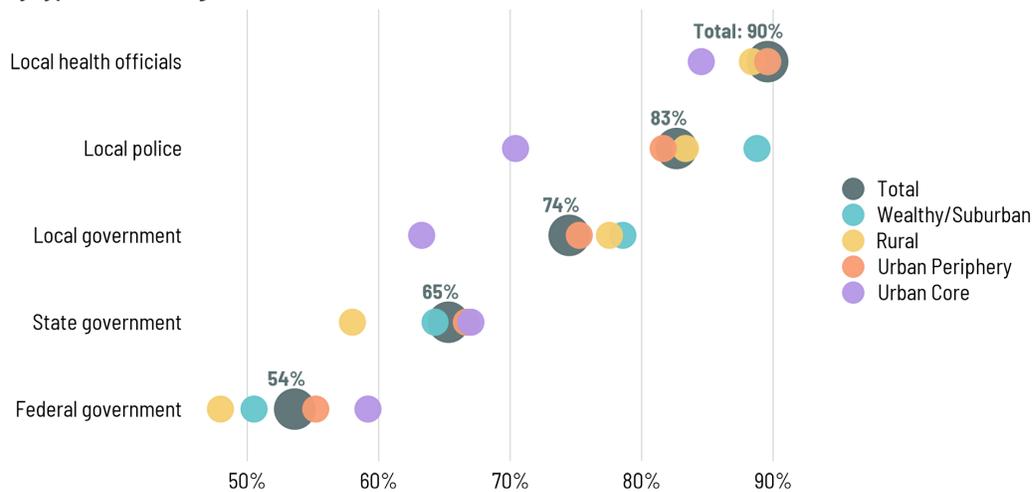
Between June and December 2021, DataHaven and the Siena College Research Institute conducted 9,139 interviews of randomly selected residents in every Connecticut town for its Community Wellbeing Survey. The survey captures trends in well-being and quality of life at the zip code level, as well as by age, race/ethnicity, disability, political party affiliation, and other factors that have influenced life in the state (<https://www.ctdatahaven.org/reports/datahaven-community-wellbeing-survey#2021survey>).

Chart 6, created by DataHaven and retrieved from their website, illustrates local health officials are well-trusted in Connecticut.

Chart 6: CT Data Haven Community Well-being Survey: Press Release, October 6, 2021³

Throughout the State, Trust is High for Local Health Officials, Split for Police, and Low for Federal Government

Share of Connecticut adults reporting a great or fair amount of trust in various institutions by type of town, Aug. 2021



The Five Connecticut is a system used to classify individual towns into one of five categories (Wealthy, Suburban, Rural, Urban Periphery, and Urban Core) based on the median household income, population density, and poverty rate of each town.

DataHaven

Noteworthy in the context of the HVA/JRA is that public trust in institutions has been shown to be an important determinant for health emergency preparedness, and is favorable to emergency response, in general.

³ <https://www.ctdatahaven.org/reports/datahaven-community-wellbeing-survey#2021survey>

IV. Studies of Climate Change and Risk in Connecticut (University of Connecticut and Yale University)

The University of Connecticut Institute for Resilience and Climate Adaption (CIRCA), in coordination with state agencies, regional councils of government (COGs) and municipalities, is currently engaged in a multi-year Resilient Connecticut Project, which includes a regional climate vulnerability assessment for Fairfield and New Haven Counties and regional resilience opportunity areas. In February 2022, CIRCA announced the receipt of state funds to expand Resilient Connecticut from southwest Connecticut to the entire State⁴. This new Resilient Connecticut 2.0 will include three main components in 2022-23 as follows:

1. Statewide Expansion of the Climate Change Vulnerability Index (CCVI) (Spring 2022)
2. Focused Planning and Municipal Engagement (Spring/Summer 2022)
3. Resilience Project Development (Fall 2022 to Spring 2023)

To accomplish the objectives of the second component, CIRCA reports they will:

meet with the municipalities of the Capitol Region Council of Governments, Southeastern Connecticut Council of Governments, and Lower Connecticut River Valley Council of Governments to delineate “zones of shared risk” for flood and isolation risks, screen actions from adopted hazard mitigation plans, and generate ideas for climate adaptation and resilience projects that address extreme heat, flooding, and flood-related hazards. ([Resilient Connecticut Expands Statewide | Resilient Connecticut \(uconn.edu\)](#))

In the past 12 months, the Yale Center on Climate Change and Health (YCCCCH) released two new reports:

- *Extreme Events and Health in Connecticut* (released October 2021)
- *Community-Centered Climate Resilience in Connecticut: Summary for Communities and Policy Makers* (released December 2021)

Extreme Events and Health in Connecticut details the potential impact on health during and after the following types of natural disasters: weather disasters, heavy rainfall, drought, sea level rise and coastal high tide flooding. The report authors recommend households prepare to live without running water, electricity and/or gas, and telephones for three to seven days following a disaster and to cache an adequate supply of non-perishable food. They further point out people experiencing food insecurity may be unable to accomplish some of these water and food storage goals. They also note homes that use electricity for heating or cooling can become

⁴ [Resilient Connecticut Expands Statewide | Resilient Connecticut \(uconn.edu\)](#)

dangerously hot or cold during a power outage, especially in homes that are not properly insulated⁵.

The second report (Community-Centered Climate Resilience in Connecticut) “summarizes the findings from a semester-long study in Spring 2021, during which researchers engaged with communities most affected by climate change...”⁶ Researchers conducted eight focus groups with a total of 30 participants from the Hartford, Bridgeport, Willimantic, and New Haven areas. During the group discussions, researchers investigated: 1) participant’s experiences in public participation processes, 2) major climate impacts facing their communities and 3) participants’ ideas for how to allocate state funding for increased climate resilience. The table below summarizes the findings pertaining to objective 2: major climate impacts (retrieved from: https://ysph.yale.edu/yale-center-on-climate-change-and-health/policy-and-public-health-practice/community_centered_climate_resilience_in_ct_424021_48542_v1.pdf)

⁵ https://ysph.yale.edu/yale-center-on-climate-change-and-health/policy-and-public-health-practice/yccch_extreme_events_issue_brief_421620_48542_v1.pdf, page 4

⁶ https://ysph.yale.edu/yale-center-on-climate-change-and-health/policy-and-public-health-practice/community_centered_climate_resilience_in_ct_424021_48542_v1.pdf

**Picture 1: Screenshot of
Table 2. Summary of Community-Centered Climate Resilience in Connecticut⁷**

TABLE 2. Summary of Community Identified, High Priority Impacts of Extreme Weather Events	
Energy Security	All focus groups, particularly participants from EJ communities, highlighted power outages as an issue, with trickle-down impacts including: human health (refrigeration for medication; life-sustaining electronic medical devices; heating and air-conditioning for vulnerable community members; lack of access to green spaces for relief from extreme heat), food security (spoiled food due to lack of refrigeration), and communication (inability to charge devices to call loved ones or access crucial information about emergency response resources).
Food Security	Participants emphasized food insecurity (i.e., lack of access to healthy and affordable food options) and identified concerns about convenience, transportation, affordability, availability, and quality of food both in everyday life and in the aftermath of extreme weather events. Losing food from lack of refrigeration due to power outages was a particular concern. Participants described having to choose between paying bills and purchasing food, having to either purchase more expensive take-out or pay increased delivery fees, and having to travel farther when gas prices were higher due to living in areas with decreased access to healthy and affordable food.
Transportation	Participants noted that access to transportation and affordable fuel during extreme weather events is critical for staying warm, acquiring food, charging devices, and more. Additionally, they noted that the delayed response time of snowplows in their areas created dangerous driving conditions for those who still need to work, despite weather conditions.
Clean Water	Participants, particularly those from EJ communities, noticed a decrease in water quality during and after extreme weather events but were unaware of the root cause (i.e., poor infrastructure; combined sewer overflow events).
Clean Air	While participants showed a greater concern for other issues, they raised some concerns about poor air quality and increasing rates of asthma in their communities, particularly in the context of extreme heat events.

⁷ Ibid.

Connecticut’s Disasters and Hazardous Events

In the past 65 years, Connecticut has experienced 23 major natural, federally designated disasters and 12 emergency declarations⁸. The FEMA website⁹ generated the data presented in Table 6.

Table 6: Connecticut’s Federally Designated Disasters and Emergency Declarations (1954-2021)

Hurricane Carol – 1954	Severe Storm – 2005
Hurricanes Connie and Diane – 1955	Snowstorm – 2006
Blizzard – 1978	Severe Storm – 2007
Tornado – 1979	Severe Storm – 2010
Severe Storm – 1982	Snowstorm – 2011
Severe Storm – 1984	Tropical Storm Irene – 2011
Hurricane Gloria – 1985	Severe Storm – 2011
Severe Storm/Tornado – 1989	Hurricane Sandy – 2012
Hurricane Bob – 1991	Winter Storm – 2013
Coastal Flooding/Winter Storm – 1992	Winter Storm/Snowstorm – 2015
Blizzard – 1993	Severe Storm, Tornado and Winds – 2018
Blizzard – 1996	Severe Storm and Flooding – 2018
Tropical Storm Floyd – 1999	Covid-19 Pandemic – 2020
Snowstorm – 2003	Tropical Storm Isaias – 2020
Snowstorm – 2004	Hurricane Ida – 2021
Snowstorm – 2005	Hurricane Henri – 2021
Hurricane Katrina – 2005	

More declared disasters/emergencies (20) have occurred in the last 21 years (2000 - 2021) than have occurred in the previous 45 years (1954 – 1999). Correspondingly, in comparison to the earlier period of years, between 2000 and 2021, the frequency of declared weather-related incidents has increased approximately 2.5-fold. This reality is reflected in 2021 HVA/JRA results in which a major winter snowstorm is recognized as the disaster most likely to occur in Connecticut.

⁸ Some events received both a major disaster and emergency declaration designation.

⁹ https://www.fema.gov/disasters?field_dv2_state_territory_tribal_value_selective=CT

V. Social Vulnerability in Connecticut

Factors reflective of social vulnerability can be used to identify communities that are more susceptible to the damaging effects of a hazard. Variables such as poverty, health, education and disability status impact an individual’s ability to adapt, resist hazard consequences and recover from emergencies.¹⁰ Disadvantaged social groups, including individuals with disabilities, populations of color, people living below poverty level, children and older adult, are likely to suffer disproportionately from disasters because they are very often less resilient.¹¹ The following tables reflect US Census American Community Survey data from 2020, the most current data available.

Disability

By far, Fairfield, Hartford and New Haven have the highest total numbers of individuals with disabilities (see **Table 6**). The races/ethnicities with the highest numbers of individuals with disabilities include White alone, Hispanic and Black or African Americans. Ambulatory, cognitive and independent living difficulties are the largest disability populations (see **Table 7**).

Table 6: Total Disability Population by Disability Type and County (ACS 2020) (reflects duplications of individuals who have co-disabilities)

Disability Type	County							
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
Ambulatory difficulty	44,341	51,554	11,491	8,107	47,550	14,298	6,573	7,996
Cognitive difficulty	35,129	41,555	9,296	6,716	39,020	11,908	5,757	6,191
Hearing difficulty	23,168	27,761	5,763	4,073	24,929	7,552	3,610	3,923
Independent living difficulty	33,478	38,572	8,829	6,105	36,474	10,845	5,146	5,515
Self-care difficulty	18,676	23,274	4,347	3,510	20,535	6,008	2,921	3,101
Vision difficulty	17,215	20,364	3,758	2,992	17,298	5,398	2,713	2,536
Grand Total	172,007	203,080	43,484	31,503	185,806	56,009	26,720	29,262

¹⁰ Morrow BH. (1999). Identifying and Mapping Community Vulnerability. *Disasters* 23(1): 1-18.

¹¹ Bergstrand et al. (2015). Assessing the Relationship Between Social Vulnerability and Community Resilience to Hazards. *Social Indicators Research* 122(2): 391–409 (doi:10.1007/s11205-014-0698-3)

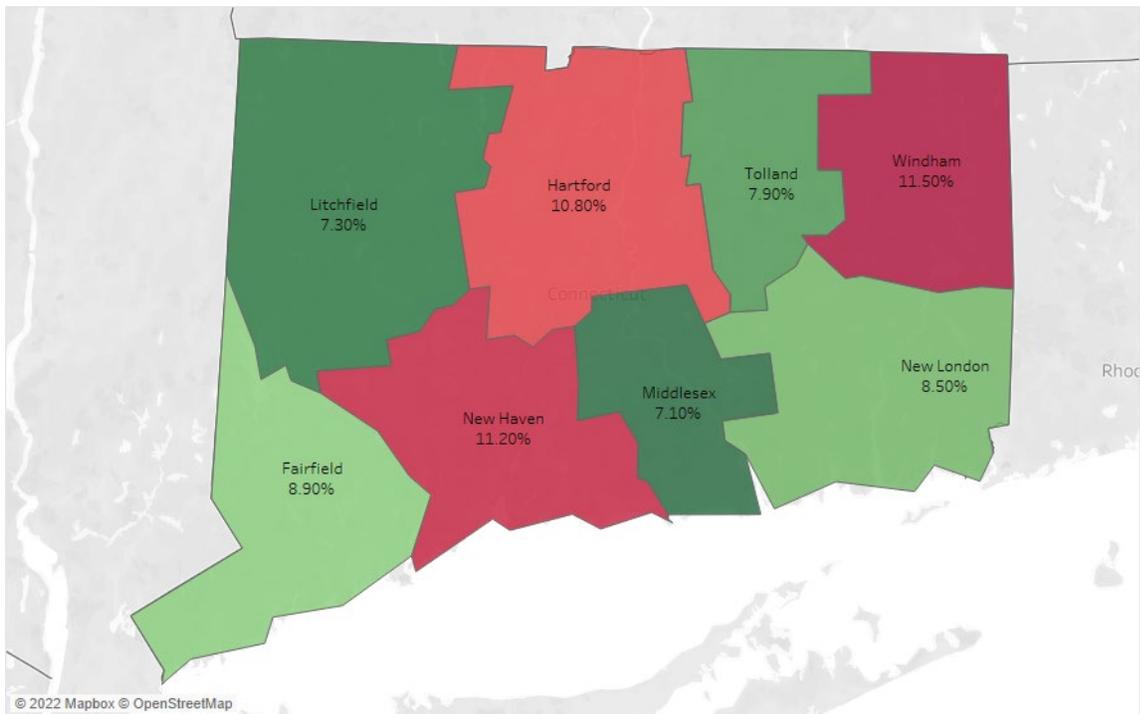
Table 7: Total Disability (all types) by Race/Ethnicity and County (ACS 2020, Hispanic or Latino category may reflect duplicated counts from other race categories)

Race	County								Grand Total
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	
American Indian and Alaska Native alone	420	574	129	42	204	290	28	98	1,785
Asian alone	3,125	2,510	162	466	1,452	733	387	86	8,921
Black or African American alone	12,442	14,971	333	1,238	12,700	1,803	459	356	44,302
Hispanic or Latino (of any race)	18,795	21,320	1,203	858	15,065	2,654	1,055	1,357	62,307
Native Hawaiian and Other Pacific Island..	89	58	0	9	0	0	0	0	156
Some other race alone	5,482	7,255	323	152	4,716	912	652	220	19,712
Two or more races	4,780	5,471	643	418	4,029	1,275	511	513	17,640
White alone, not Hispanic or Latino	55,896	66,485	20,393	14,786	67,044	25,333	12,363	14,075	276,375

Poverty

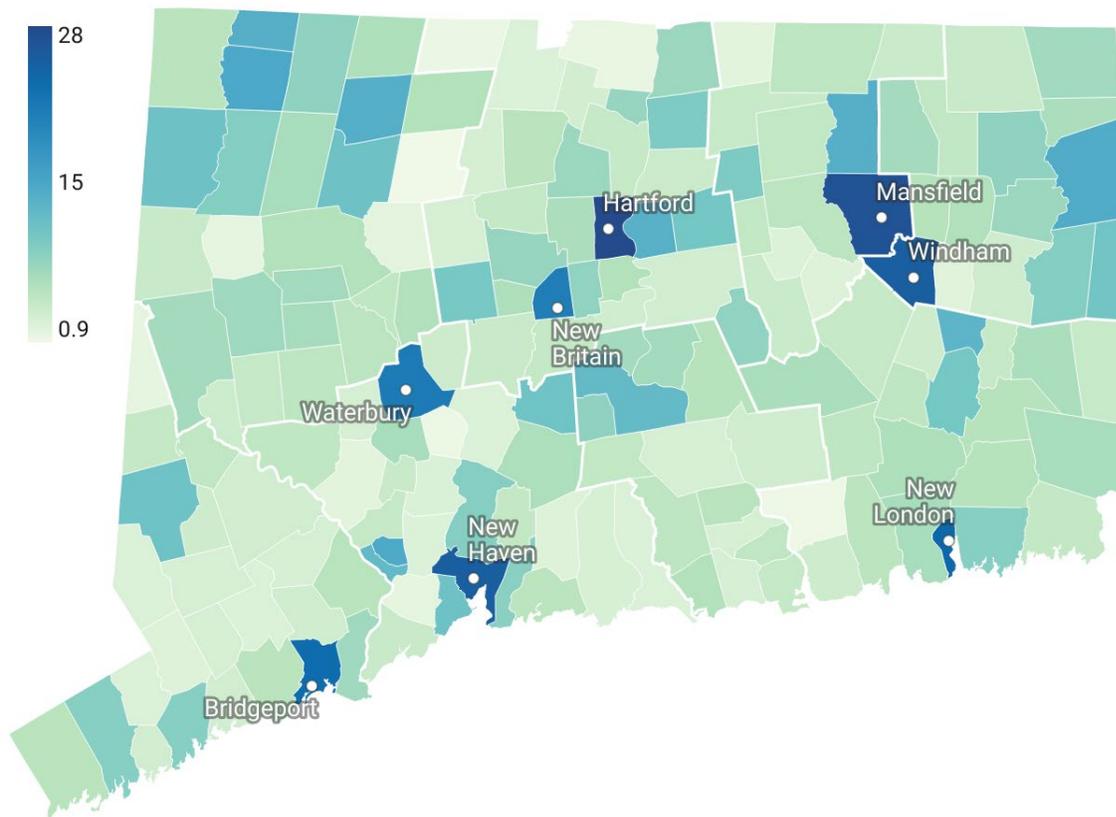
According to the most recently available census estimates (2020 American Community Survey), 339,160 people live below poverty level in CT. The three counties with the highest percentages of individuals living below poverty level include New Haven, Windham and Hartford (see **Map 2**). By far, Fairfield, Hartford and New Haven have the highest numbers of individuals living below poverty level.

Map 2: Percent of Total Population Below Poverty by County (ACS 2020)



Eight towns were estimated to have fewer than 80% of their residents living above the poverty line: Hartford (72%), Mansfield (73%), New Haven (75%), Windham (75%), New London (76%), Bridgeport (77%), Waterbury (79%), and New Britain (79%). This means that at least 1 out of every 5 residents of these towns is estimated to be experiencing poverty. **Map 3** shows 2020 poverty rates, with the towns with the highest rates highlighted.

Map 3: Percent of residents living at or below the poverty level in 2016-2020 (2020 American Community Survey poverty data mapped at the town level by CTDataHaven: <https://www.ctdata.org/blog/acs2020>)



Map: CTData Collaborative • Source: U.S. Census Bureau • Created with Datawrapper

The greatest numbers of individuals living below poverty level are between the ages of 35 and 64 (see **Table 8**)

Table 8: Total Population Below Poverty Level by Age and County (ACS 2020)

Measure	County								Grand Total
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	
Under 5 years	6,043	7,097	711	589	8,078	1,580	341	707	25,147
5 to 17 years	18,234	20,116	2,073	1,789	19,029	4,744	867	2,667	69,520
18 to 34 years	20,900	21,860	3,059	2,775	24,871	5,462	5,592	3,123	87,643
35 to 64 years	27,448	32,306	5,363	4,037	29,866	7,343	2,926	4,919	114,209
65 years and over	10,093	13,086	1,831	1,944	10,722	2,481	1,020	1,464	42,642
Grand Total	82,718	94,466	13,037	11,134	92,567	21,610	10,746	12,881	339,160

As **Table 9** indicates, more Latinos than any other ethnicity live below poverty level in Fairfield (n=34,973) and Hartford (n=39,780). 35% (n=22,392) of all African Americans living below poverty level in Connecticut reside in New Haven.

Table 9: Total Population Below Poverty Level by Race and County (ACS 2020)

	County								Grand Total
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	
American Indian and Alaska Native	399	392	59	250	336	94	26	86	
Asian	4,182	3,655	370	412	3,217	708	1,024	349	
Black or African American	16,279	19,168	517	1,369	22,392	2,980	736	618	
Hispanic or Latino origin (of any race)	34,973	39,780	2,021	1,856	31,951	4,917	1,301	3,622	
Native Hawaiian and Other Pacific Islander	78	10	0	10	22	5	0	16	
Some other race alone	0	14,701	463	444	10,801	2,424	852	894	
Two or more races	4,811	7,277	398	514	5,420	1,878	337	556	
White alone, not Hispanic or Latino	26,227	30,536	9,894	7,167	33,909	11,897	7,279	8,118	
Grand Total	86,950	115,520	13,723	12,022	108,049	24,904	11,556	14,260	

Chart 7 and **Table 10** give the *statewide* racial distribution of all individuals below poverty level in CT. In addition to absolute numbers, **Table 10** provides the percent of each race/ethnicity living below poverty, and therefore illustrates 21% (n=120,421) of all Hispanics or Latinos in Connecticut live below poverty level. (ACSST5Y2020: S1701)

Chart 7: Total Connecticut Population Below Poverty Level by Race (ACS 2020)

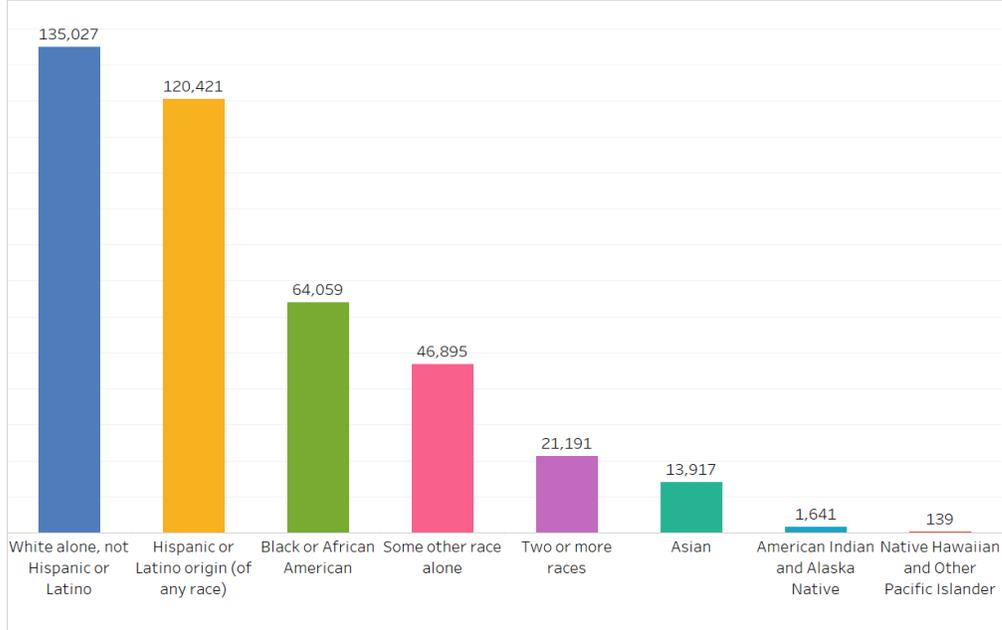


Table 10: Total Connecticut Population and Total Population Below Poverty by Race (ACS 2020)

Race and Hispanic or Latino Origin	Total Population	Below Poverty Level	Percent of Total Ethnicity in Poverty
American Indian and Alaska Native alone	8,710	1,641	19%
Asian alone	158,623	13,917	9%
Black or African American alone	365,535	64,059	18%
Hispanic or Latino origin (of any race)	572,955	120,421	21%
Native Hawaiian and Other Pacific Islander alone	1,101	139	13%
Some other race alone	185,831	46,895	25%
Two or more races	168,372	21,191	13%
White alone	2,578,763	191,314	7%
White alone, not Hispanic or Latino	2,292,010	135,027	6%

Older Adults

By a significant margin, Fairfield, Hartford and New Haven counties are home to the greatest total number of older adults. For all counties, the 65 to 74 year old age cohort is larger than the two older cohorts combined (see **Table 11**).

Table 11: Total Older Adult Population by Age Cohort and County
Survey/Program: American Community Survey, Table ID: DP05, Product: 2020: ACS 5-Year Estimates Detailed Tables

Age Cohort	County							
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
65 to 74 years	82,565	84,561	22,444	18,992	83,534	28,082	13,842	11,387
75 to 84 years	44,397	43,386	9,753	9,494	41,948	14,289	7,272	5,370
85 years and over	23,185	24,865	6,383	4,641	23,375	6,378	2,760	2,563
Grand Total	150,147	152,812	38,580	33,127	148,857	48,749	23,874	19,320

Over forty-two thousand (42,638) older adults in CT live below the poverty level and 168,659 older adults live alone (see **Table 12** and **Table 13**). As seen previously in other measures, Fairfield, Hartford and New Haven are home to the majority of residents who fall into these categories.

Table 12 - Population 65+ Below Poverty by County Survey/Program: American Community Survey, Table ID: S1701, Product: 2020: ACS 5-Year

Measure	County								Grand Total
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	
65 years and over	10,093	13,083	1,831	1,944	10,722	2,481	1,020	1,464	42,638

Table 13: Householders 65+ Living Alone, Table ID: B1101, Product 2020: ACS 5-Year

Measure	County								Grand Total
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	
65 years and over	38,307	44,868	10,687	8,582	42,003	13,595	5,660	4,957	168,659

At 35%, Windham County has the highest percentage of older adults with a disability, while Hartford is home to the most (n=46,204) older adults with any disability (**Table 14**).

Table 14: Householders 65+, Table ID: C18108, Product 2020: ACS 5-Year

Measure	County							
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
With one type of disability	18,112	21,428	4,951	4,519	20,738	7,130	3,348	3,241
With two or more types of disability	21,953	24,776	5,694	3,928	23,809	6,789	3,046	3,289
Total population 65 years and older with any disability	40,065	46,204	10,645	8,447	44,547	13,919	6,394	6,530
Percent of older adults with any disability	27%	31%	28%	27%	31%	30%	28%	35%

VI. Recommendations

General

Based on the priority ranking of hazards and associated risks identified by HVA/JRA participants (see **Table 2**), the CT HCC should consider the following general recommendations:

- Develop or ensure that specific mitigation and incident-specific response plans/annexes are incorporated to the organizations' emergency response plans detailing how organizations will respond to each of: (1) severe pandemic, (2) mass shooter, (3) winter storm, (4) cyber-attack and (5) food contamination
- Develop and/or deliver trainings on, and conduct exercises focused on testing responses to each of: (1) severe pandemic, (2) mass shooter, (3) winter storm, (4) cyber-attack and (5) food contamination
- Implement a process for widely sharing the results of the HVA/JRA with *all* organizations' staff and not just with the emergency operations center staff/incident command staff, including CEOs and other senior administrative leaders

Recommendations for EM Planning in CT Specific to Geographical Vulnerabilities, Social Vulnerabilities, Remote Work and Behavioral Health Capacity

Geography

Densely populated (with people and infrastructure) coastline communities are vulnerable to storms, wind and flooding. All communities in CT are exposed to hazards events.

- The CT HCC should work with REPT emergency management planners or ESF-8 planning groups on land-use planning, hazard mitigation planning, emergency response, evacuation and recovery planning should anticipate congestion and limited escape routes.
- The CT HCC should work with REPT emergency management planners who develop geographically-specific and financially-aware mass-transit and alternate transportation plans.

Socioeconomic Status

- The CT HCC Emergency Response Plans (RRP) must incorporate strategies which facilitate access to healthcare and medical services, public transportation, communication and infrastructure such as water and sanitation.
- Community-wide disaster recovery plans should assume low income populations will need financial support to regain losses and avoid further/increased poverty after a disaster.
- When low income residents do not receive needed assistance and/or response efforts are poorly handled, they are at increased risk for feelings of anger, betrayal, hopelessness and isolation leading to or exacerbating behavioral health concerns.
- Low-income populations often struggle with access to behavioral health services. In the recovery phase of a disaster, at a statewide level, it is essential for the CT HCC plan, and at a regional level, ESF-8 plans, to integrate behavioral services and other community services that increase access to care. Services should include Federally Qualified Health Centers (FQHC), which are excellent resources for long-term mental health support after a disaster. They all provide some outpatient mental health services and cannot turn away clients due to inability to pay. They are critical community resources and service providers due to their locations in the community, particularly in low SES communities.

Population Density (includes coastal communities and urban cores)

Regional community-wide evacuation plans should assume many of CT's residents reside in high population density cities and towns and are likely to rely on public transportation to evacuate.

- This risk to public transportation systems can impact staffing for many of CT's acute care hospitals, as large numbers of staff use public transportation for travel to and from work.
- The CT HCC and ESF-8 planning groups should continue to include community-based organizations and caregivers for individuals with a disability when conducting statewide and regional preparedness planning.
- CT HCC planning should consider continuity of operations/services (utilities, medical services, medical care) and use the ASPR Healthcare Coalition Recovery Plan Template (or similar) to guide plan development.
- The CT HCC should work with its REPT emergency management planning partners to ensure that planning at the regional level considers disabled populations (physical, mental, sensory and self-care).

- The CT HCC should work with its REPT emergency management planning partners to ensure communities work with local public transit systems to develop, test and refine preparedness, mitigation, response and recovery plans. Consider that reconstruction time of transportation infrastructure tends to be relatively slow.
- If possible, the CT HCC and regional planning groups need to consider how to increase resilience by identifying transportation alternatives such as new routes, terminals or suppliers.

Food Contamination

Illness associated with the inadvertent or intentional (agroterrorism) contamination of food by microbial pathogens, biotoxins and chemical contaminants in food represent a serious threat to the health of people in Connecticut.

- The CT HCC should work with its REPT emergency management planning partners to strengthen collaboration with CT DPH Food Protection Program and the FoodCORE Center to ensure essential information is disseminated to its partners during a foodborne illness.
- The CT HCC should work with its REPT emergency management planning partners to identify and encourage training of local health departments and the food suppliers on food defense issues

Workplace Violence

Workplace violence is any act or threat of physical violence, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site. While no work sector is immune, the Occupational Health and Safety Administration (OSHA) has found that healthcare professionals, public service workers, customer service agents, law enforcement personnel, and those who work alone or in small groups are among occupations with the highest incidence rates of workplace violence.¹²

- The CT HCC should work with its REPT emergency management planning partners to identify and disseminate training opportunities on workplace violence prevention
- The CT HCC should work with its REPT emergency management planning partners to assist work sectors to develop and conduct workplace violence risk and threat assessments

¹² US Department of Labor; OSHA. Workplace violence. Available at: <https://www.osha.gov/workplace-violence>.

Disaster Preparedness for People with Disabilities and other Special needs

- The CT HCC should work with its REPT emergency management planning partners to further enhance established relationships and partnerships between public health agencies, services for the aging, emergency responders, and other entities before disaster strikes to improve coordination, communication, and response in emergency situations
- The CT HCC should work with its REPT emergency management planning partners and the Connecticut Department of Aging and Disability Services to provide appropriate public information on emergency preparedness in appropriate formats to people with disabilities and encourage them to create preparedness kits/go bags containing supplies tailored to their unique circumstances

Older Adult Population

Older adult subpopulations will experience the impact of disasters differently than others in a community. They are more likely to be socially isolated and suffer from comorbidities, waning vision and hearing, and physical and cognitive disabilities that impede their ability to prepare for, respond to and recover from a disaster. It is also worth noting that, although healthy and ambulatory elderly may be emotionally resilient in the aftermath of a disaster, infirm elderly may be at higher risk for behavioral health issues.

- The CT HCC should work with its REPT emergency management planning partners to encourage the elderly living independently to participate in community-wide disaster preparedness.
- The CT HCC and its REPT emergency management planning partners should work with community-based/faith-based organizations to help identify elderly living alone.
- The CT HCC and its REPT emergency management planning partners must assume many elderly will also fall under disabled and no-vehicle categories.
- The CT HCC and its REPT emergency management planning partners must also assume many elderly depend upon services such as meals-on-wheels for their daily needs.
- The CT HCC and its REPT emergency management planning partners should engage local/regional social service agencies to promote pre-disaster programs that identify training/planning opportunities for the elderly.

Climate Preparedness

Extreme weather affects everyone, but the most impacted people are those with the fewest resources to survive and recover from a disaster event. Climate change impacts public health infrastructure including hospitals, health departments, emergency medical services, private practices and shelters, due to direct impacts from extreme weather events and increased use of resources to treat and shelter victims. Decreased air quality may increase the incidence of, and exacerbate existing respiratory conditions. Increased extreme heat events may increase heat-induced ailments, especially in those without air conditioning.

- The CT HCC should work with its REPT emergency management planning partners to facilitate the dissemination of extreme weather warnings, originating from CT DEMHS, across the public health infrastructure
- The CT HCC should work with its REPT emergency management planning partners to facilitate the dissemination of best practices for cooling centers, as well as information relating to the location of cooling centers to stakeholders.
- The CT HCC should work with its REPT emergency management planning partners to assist encourage partners comprising the public health infrastructure to update emergency preparedness plans for extreme weather events
- The CT HCC should work with its REPT emergency management planning partners to facilitate the dissemination of educational materials concerning extreme weather events, their consequences and means to mitigate against them, to the general public

Behavioral Health Needs During/After a Disaster

Following a disaster, it is common for individuals, families, communities as well as first responders and receivers, to experience distress and anxiety related to safety, health, well-being and recovery. Behavioral health is an integral part of the public health infrastructure and should be considered a fundamental element of disaster preparedness, response, and recovery.

- The CT HCC should work with its REPT emergency management planning partners, the Connecticut Department of Mental Health and Addiction Services (CT DMHAS) and the Connecticut Disaster Behavioral Health Response Network (CT DBHRN) to assess disaster behavioral health capacity
- The CT HCC should work with its REPT emergency management planning partners, CT DMHAS and CT DBHRN to advocate for disaster behavioral health planning, services, and training across the public health infrastructure

- The CT HCC should work with its REPT emergency management planning partners, CT DMHAS and CT DBHRN to develop best practices for delivering behavioral health training to those impacted by disasters
- The CT HCC should work with its REPT emergency management planning partners, CT DMHAS and CT DBHRN to raise awareness of, and promote existing local, state and national behavioral health resources
- The CT HCC should work with its REPT emergency management planning partners, CT DMHAS and CT DBHRN to define/redefine, or raise awareness of the process by which providers can request the deployment of behavioral health resources

Cyber Security Risks

- The CT HCC should work with its REPT emergency management planning partners and stakeholders to advocate that providers of Connecticut’s public health infrastructure implement current standards, guidelines and best practices to manage and reduce cybersecurity risks
- The CT HCC should work with its REPT emergency management planning partners and stakeholders to encourage providers of Connecticut’s public health infrastructure to develop and deliver organization-specific information to employees, or use training resources available from credible agencies (e.g., Cybersecurity & Infrastructure Security Agency (CISA), National Institute of Standards and Technology (NIST), Center for Internet Security, and Connecticut Department of Emergency Services and Public Protection)
- The CT HCC should work with its REPT emergency management planning partners to disseminate cyber attack alerts released by state and national agencies
- The CT HCC should work with its REPT emergency management planning partners to disseminate available cyber attack response plan templates to guide providers in developing an agency-specific cyber attack response plan
- The CT HCC should work with its REPT emergency management planning partners to advocate that providers develop, and routinely test their Continuity of Operation Plan (COOP) in the context of a simulated cyberattack incident

Appendix A: Connecticut 2022 Healthcare Coalition Hazard Vulnerability Analysis/Jurisdictional Risk Assessment

2022 Connecticut Statewide Healthcare Coalition Hazard Vulnerability Assessment/Jurisdictional Risk Assessment

The CT Statewide Healthcare Coalition (HCC) completes an annual hazard vulnerability assessment (HVA)/jurisdictional risk assessment (JRA) to inform planning priorities related to healthcare emergency preparedness and response. The assessment's results are also referenced by the State of Connecticut Department of Public Health (DPH) and Health and Human Services Assistant Secretary for Preparedness and Response (ASPR) to inform related preparedness and response activities.

In addition to the HVA/JRA the CT HCC is required to conduct annually, ASPR also requires Hospital Preparedness Program (HPP) recipients and Public Health Emergency Preparedness (PHEP) recipients to work together and participate in or complete a JRA at least once every 5 years. In an effort to meet this joint activity, Connecticut Department of Public Health has developed this survey and seeks to gauge HPP and PHEP members' assessments of the potential risks to the health, safety and property of the people across Connecticut. When considering your responses to the survey questions, please do so from perspective of the sector you represent in your professional occupation, i.e. emergency medical services, public health, healthcare, emergency management.

The results of the survey responses will be aggregated and shared with HPP and PHEP members and stakeholders.

1. Contact information

Name

Agency

2. Please select the sector your responses represent (REMINDER: your responses are based on your sector NOT your organization)

- | | |
|---|---|
| <input type="radio"/> Hospital | <input type="radio"/> Emergency Medical Services |
| <input type="radio"/> Federally Qualified Health Center/Community Health Center | <input type="radio"/> Emergency Management Agency |
| <input type="radio"/> Other Healthcare Provider | <input type="radio"/> Regional Emergency Support Function 8 |
| <input type="radio"/> Public Health | |

2022 Connecticut Statewide Healthcare Coalition Hazard Vulnerability Assessment/Jurisdictional Risk Assessment

3. The following list of hazards is presented in order from most likely to occur (Major Winter Storm) to least likely to occur (Nerve Agent) as ranked by the CT Healthcare Coalition in January/February 2021.

If you agree with the current ranking, click on the drop-down menu to the left of each hazard to select the number corresponding to its current ranking. For example, pick #3 in the drop-down menu for "Severe Pandemic".

If you disagree with the current ranking of a hazard(s), prioritize the hazard accordingly by selecting a higher or lower number in the drop-down menu to indicate a higher or lower ranking, respectively. For example, if you believe Connecticut is most likely to experience a Cyber Attack over other listed hazards, select #1 next to Cyber Attack.

-   1. Major Winter Snowstorm (most likely to occur)
-   2. Cyber Attack
-   3. Severe Pandemic
-   4. Major Hurricane & Coastal Storm
-   5. Workplace Violence - Mass Shooting
-   6. Food Contamination
-   7. Improvised Explosive Device
-   8. Chlorine Release
-   9. Aerosolized Anthrax
-   10. Nerve Agent (least likely to occur)

4. The following list of hazards is presented in order from the most catastrophic impact on healthcare (Severe Pandemic) to the least catastrophic impact on healthcare (Food Contamination) as ranked by the CT Healthcare Coalition in January/February 2021.

This question asks you to consider the potential negative impact of the hazard on the capabilities related to the healthcare and support continuum of care (e.g., hospitals, EMS, first responders, public health, primary care, long term care, specialty clinics, pharmacies, blood banks, DME suppliers). For example, consider the hazard's effects that could contribute to medical surge, or the potential reduction, or loss of essential capabilities within the continuum of care. Consider the hazard's effect on preventing employees from reporting to work; effect on essential healthcare and support functions; interruption or loss of essential services, loss or delay in obtaining critical supplies and resources; facilities damaged, temporarily relocated and/or unusable.

Rank the following hazards.

-  1. Severe Pandemic (most catastrophic impact on healthcare)
-  2. Nerve Agent
-  3. Chlorine Release
-  4. Improvised Explosive Device
-  5. Aerosolized Anthrax
-  6. Major Hurricane/Coastal Storm
-  7. Cyber Attack (least catastrophic impact on healthcare)
-  8. Workplace Violence
-  9. Major Winter Snowstorm
-  10. Food Contamination (least impact on healthcare)

5. The following list of hazards is presented in order from most catastrophic impact on humans (Severe Pandemic) to least catastrophic impact on humans (Major Winter Snowstorm) as ranked by the CT Healthcare Coalition in January/February 2020.

This question asks you to consider the potential of each hazard to have a negative effect on the health of the general and/or vulnerable populations within the region. Specifically consider if this hazard would cause an increase in the number of ill, hospitalized and/or deceased individuals.

Rank the following hazards.

-  1. Severe Pandemic (most catastrophic impact on humans)
-  2. Nerve Agent
-  3. Chlorine Release
-  4. Aerosolized Anthrax
-  5. Improvised Explosive Device
-  6. Workplace Violence - Mass Shooting
-  7. Major Hurricane/Coastal Storm
-  8. Cyber Attack
-  9. Food Contamination
-  10. Major Winter Snowstorm (least impact on humans)

6. The following list of hazards is presented in order from most catastrophic impact on individual mental health (Severe Pandemic) to least catastrophic impact on mental health (Food Contamination) as ranked by the CT Healthcare Coalition in January/February 2021.

This question asks you to consider the potential of each hazard to have a negative effect on the mental health of the general and/or vulnerable populations within the region. Specifically consider if this hazard would cause an increase in the number of individuals needing post-disaster psychological support for anxiety, depression, post-traumatic stress disorder and other mental health conditions.

Rank the following hazards.

-  1. Severe Pandemic
-  2. Improvised Explosive Device (most catastrophic impact on mental health)
-  3. Workplace Violence - Mass Shooting
-  4. Aerosolized Anthrax
-  5. Nerve Agent
-  6. Chlorine Release
-  7. Major Hurricane/Coastal Storm
-  8. Major Winter Snowstorm
-  9. Cyber Attack
-  10. Food Contamination (least impact on mental health)

7. The following list of hazards is presented in order from most important to plan for (Severe Pandemic) to least important to plan for (Nerve Agent) as ranked by the CT Healthcare Coalition in January/February 2021.

This question asks you to consider the plans, resources and other agency/organization-specific capabilities that would be required during an anticipated response to each hazard.

Rank the following hazards.

- 1. Severe Pandemic (most important to plan for)
- 2. Workplace Violence - Mass Shooting
- 3. Cyber Attack
- 4. Major Winter Snowstorm
- 5. Major Hurricane & Coastal Storm
- 6. Improvised Explosive Device
- 7. Chlorine Release
- 8. Aerosolized Anthrax
- 9. Food Contamination
- 10. Nerve Agent (least important to plan for)

8. Disasters disproportionately affect vulnerable populations. Please rank the following population categories from most to least vulnerable under the circumstances of a MAJOR WINTER STORM. Rank the most vulnerable category with the number #1 and the least vulnerable category with the #8.

We appreciate you may struggle to place one category as *more* vulnerable than another, but ask you to just do your best.

- 1. Children
- 2. Elderly
- 3. People with chronic sensory, mobility or cognitive impairments
- 4. People with chronic illness
- 5. Impoverished (Urban)
- 6. Impoverished (Rural)
- 7. Impoverished (Coastal area/floodplain)
- 8. People with language barriers

9. Although we recognize some residents are more vulnerable than others to a severe winter storm, we also know towns/regions and the state have long engaged in emergency planning for those at risk.

Please identify the current capacity of your sector (e.g., hospital, FQHC, public health) to serve the physical and behavioral health needs of the following vulnerable populations during and after a MAJOR WINTER STORM.

	Very prepared	Moderately prepared	Neutral	Moderately unprepared	Very unprepared
1. Children	<input type="radio"/>				
2. Elderly	<input type="radio"/>				
3. People with chronic sensory, mobility or cognitive impairments	<input type="radio"/>				
4. People with chronic illness	<input type="radio"/>				
5. Impoverished (Urban)	<input type="radio"/>				
6. Impoverished (Rural)	<input type="radio"/>				
7. Impoverished (Coastal area/floodplain)	<input type="radio"/>				
8. People with language barriers	<input type="radio"/>				

10. Scientific discourse has reached a consensus that risks in the context of climate change result from the dynamic interaction of hazard, exposure and vulnerability of human and ecological systems.

Using the following 5 point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern for your sector with the following threats of climate change.

	Extremely concerned	Moderately concerned	Somewhat concerned	Slightly concerned	Not at all concerned
Extreme Heat	<input type="radio"/>				
Drought	<input type="radio"/>				
Flooding	<input type="radio"/>				
Hurricane Storm Surge	<input type="radio"/>				
High Winds	<input type="radio"/>				
Sea Level Rise	<input type="radio"/>				

11. A Gartner survey of company leaders found that 80 percent of employers plan to allow employees to work remotely at least part-time after the pandemic, and 47 percent will allow employees to work from home full time. These work-from-home positions carry their own risks as they could cause your systems to become more vulnerable to cyberattacks. Another potential risk is the loss of productivity due to power outages at home or possibly the Internet being down.

Using the following 5 point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern with the following threats of remote work.

	Extremely concerned	Moderately concerned	Somewhat concerned	Slightly concerned	Not at all concerned
Cyber security breach	<input type="radio"/>				
Communications failure - power outage	<input type="radio"/>				
Loss of productivity - power outage	<input type="radio"/>				
Loss of productivity - distracted employees (during a disaster response operation)	<input type="radio"/>				
Tired, stressed and/or isolated employees (during a disaster response operation)	<input type="radio"/>				

12. The isolation, lockdowns, quarantines and the ruptures of connections to community ushered in by the COVID response are causing mental health pressures throughout the country. These stressors are impacting Connecticut's public health/healthcare system staff both directly and indirectly. The occurrence of another natural or man-made disaster coinciding with COVID19 would further exacerbate the behavioral health wellbeing of the public health and healthcare workforces, and their abilities to respond to the needs of the communities they serve. Patients and the public at large will be similarly affected.

Using the following 5 point scale from (5) extremely concerned to (1) not at all concerned, please rate your concern with the current capacity of Connecticut's public health/healthcare system to meet the needs of their staff and their patients/residents during an emergency (in addition to COVID).

	Extremely concerned	Moderately concerned	Somewhat concerned	Slightly concerned	Not at all concerned
CT Public Health/Healthcare System Staff	<input type="radio"/>				
Patients/General Population	<input type="radio"/>				

Please provide additional details.

Appendix B: Agencies Represented by Survey Respondents

Ambulance Service of Manchester	Echo Hose Ambulance	Office of Emergency Medical Services - CT
American Ambulance Service, Inc.	Ellington Volunteer Ambulance Corps, Inc.	Plainville - Southington Regional Health District
Andover Volunteer Fire Department	Fair Haven Community Health Center, Inc	Pomfret Emergency Management
Aspetuck Health District	Fairfield Health Dept	Quinnipiack Valley Health District
Beacon Hose Co.1	Family Centers Health Care	Redding Health Dept
Bethany Volunteer Fire Department Ambulance Corps	Farmington Valley Health District	Region 1 ESF-8
Bethel Health Department	Farmington Valley Health District	Ridgefield Fire Department
Bethel Police Department	Gales Ferry Fire Co.	River Valley ASC
Bloomfield Volunteer Ambulance	Gaylord Hospital	Saint Mary's Hospital
Branford Fire Department	Geer Village Senior Community	South Windsor Health Department
Bristol - Burlington Health District	Glastonbury EMS	South Windsor Police Department
Bristol Hospital EMS	Greater Bridgeport Mental Health Center	Southbury Ambulance Association
Capitol Region Council of Governments	Greenwich Department of Health	Southwest Community Health Center
Careco Medical	Hartford Health and Human Services	Stamford Dept of Health
Central Connecticut Health District	Hartford HealthCare	Stamford EMS
Charter Oak Health Center	Hospital for Special Care, ESF8 Region 3 Chair	Stamford Health Department
Chatham Health District	Housatonic Valley Health District	Stratford Health Department
Cheshire Academy	InterCommunity	Stratford VNA
Chesprocott Health District	KB Ambulance Corps, Inc	Suffield Volunteer Ambulance Association
City of Bridgeport Health Department	LeadingAge Connecticut	The Community Health Center, Inc.
City of Danbury Department of Health and Human Services	Ledge Light Health District	Thompson Emergency Management
City of Groton Police Department	Manchester Health Department	Torrington Area Health District
Colchester Hayward Fire Department	Middletown Health Department	Town of Coventry
Community Fire Company	Mohegan Tribal Fire Department	Town of Cromwell Dept. of Health
Community Health & Wellness of Greater Torrington	Mohegan Tribe Health Department	Town of East Hartford Health Department
Community Health Services	Monroe Health Department	Town of Glastonbury
CT Division of Emergency Management & Homeland Security	Naugatuck Valley Health District	Town of Meriden
CT DPH of Emergency Medical Services	Naugatuck Valley Health District	Town of Newington
Connecticut Disaster Behavioral Health Response Network	New Britain Emergency Medical Services, Inc.	Town of Somers - Fire Department
Connecticut Emergency Medical Services for Children	New Britain Health Department	Trinity Health of New England at Home
Connecticut Institute for Communities	New Canaan Health Department	Trumbull Health Department
Connecticut River Area Health District	New Haven Health Department	Uncas Health District
Cornell-Scott Hill Health	New London Fire Department	United Community and Family Services Healthcare
Cromwell Fire Department	New Milford Hospital	Valerie Manor
Danbury Hospital	Newington EMS Volunteer Ambulance	Wallingford Health Department
Darien Health Department	Newington Police Department	Washington Ambulance Association
Day Kimball Hospital	North Canaan Vol. Ambulance	Waterbury Health Department
Deep River Ambulance Assn.	North Central CT EMS/CMED	Waterford Ambulance Service, Inc.
Department of Aging and Disability Services	North Central District Health Department	West Hartford-Bloomfield Health District
Disaster Behavioral Health	North Haven Fire Department	West Haven Fire Department
Durham Health Department	Northeast District Department of Health	West Haven Health Dept
East Lyme Ambulance Fund, Inc	Northeast District Dept. of Health	West Stafford Fire Department
East Shore District Health Department	Norwalk Health Department	Westbrook Health Department
Eastern Highlands Health District	Norwalk Hospital Emergency Medical Services	Windsor Health Department
Easton EMS	Nuvance Health - Sharon Hospital	Yale New Haven Health System

Appendix C: Views on the capacity of the state to mitigate behavioral health needs in the public health and health care sectors

Below are comments and suggestions offered by survey respondents' when asked (survey question 12; see **Appendix B**) to provide details about their concern with the current capacity of Connecticut's public health/healthcare system to meet the needs of their staff and their patients/residents during an emergency (in addition Covid-19).

- A loss of healthcare workforce would only exacerbate the situation.
- Burn out is a real thing. Literally thousands of employees are leaving the HC and PH sectors.
- Chronic underfunding of LHDs overall and under-resourcing of public health generally
- CTDPH should offer public health workforce EAP services
- I have received a great deal of feedback about the added stressors of mandatory training recently placed upon EMS. Although the intentions of adding mental health training, PTSD and suicide awareness, etc. are well-meaning, the mandated requirements are adding stress on the responders.
- In the event of major health concerns/impacts, staffing is a concern because the demand of the community needs often exceeds what we are able to offer under typical staffing.
- Most of us still operate at an emergency level with COVID still being active. Staff have the ability, flexibility and employer support to meet the needs of our patients.
- Not enough sustained funding to create depth of trained staff to meet emergency surge needs.
- People are resilient but at this time, burnout due to the lingering pandemic weighs heavy on people and adding another emergency, may affect how staff and the general population react.
- Public Health infrastructure is limited.
- Public health workforce is struggling to hire qualified staff that have a long-term commitment to municipal work.
- Staff burnout is real. Lack of qualified public health and healthcare workforce to fill the numerous vacant positions is a real problem.
- Staff capacity and funding are always a concern.
- Both the State DPH Commissioners and the Governor have categorically excluded local public health professionals from funding decisions, recognition for work accomplished--(which adds to stress) and continue to add on more work without providing funds. Giving ARPA funds to municipalities categorically excludes towns in districts (i.e., 48% of the CT population) from easy access to those funds to build PH infrastructure.
- The decreases in public health funding have resulted in a depletion of the workforce in the years leading up to the Pandemic. This has led to an increased strain on local public health departments and districts. During the pandemic we were and still are stretched to the limit. It has been difficult to meet all the needs in our community with the limited permanent staff we have.
- The pandemic has caused an unprecedented stressor in health care and the general population in general
- We don't have a full knowledge of programs and support provided to health care providers and general population.
- Workforce development is needed.
- Workforce shortages are putting a lot of stress on existing staff
- Zoom capacity and language barriers are problematic