



CFDMC Hazard Vulnerability Assessment (HVA)

January 2023

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Record of Changes and Distribution

Changes	Distribution
Original plan drafted April 2018	Distributed to CFDMC Members for comment in April 2018
Submitted to Board for approval on 6/16/18	Posted to Website on 6/29/18
Annual update approved by Board on 6/18/19 (changes based on member input, PHRAT emPOWER and SVI data)	Updated plan posted to website on 6/20/19
Annual update drafted May 2020 (changes based on member input, PHRAT emPOWER and SVI data)	Distributed to CFDMC Members for comment in May 2020 Approved by Board 6/16/20 Posted to website 6/30/20
Annual update based (changes based on member input, PHRAT emPOWER and SVI data)	Draft sent to members in May 2021 Approved by Board 6/15/21 Posted to website 6/16/21
Annual update	Draft sent to members 6/1/22 Approved by Board 6/21/22 Posted to website 6/30/22
Annual update (updated hazards/gaps based on new federal, state, regional, county, hospital and member data; updated format to address new contractual requirements); summarized and removed raw data from plan (available through Coalition if needed)	Draft sent to Board / Members for review & comment on 12/27/22 Posted to website 1/13/23

Executive Summary

Central Florida Disaster Medical Coalition’s mission is to develop and promote healthcare emergency preparedness and response capabilities in the East Central Florida Domestic Security Task Force Region 5 (RDSTF Region 5), including the following nine counties: Brevard, Indian River, Lake, Martin, Orange, Osceola, Seminole, St. Lucie, and Volusia Counties. The CFDMC will facilitate healthcare organizations and other partners in working together collaboratively to build, strengthen, and sustain a healthcare preparedness and response system within Central Florida and to assist Emergency Management and Emergency Support Function (ESF)-8 (Health and Medical) with the National Preparedness Goal identified five mission areas: Prevention, Protection, Mitigation, Response, and Recovery as related to healthcare disaster operations.

CFDMC conducts an annual update to the regional hazards and vulnerability assessment (HVA) and capability gaps through a review and update of the region’s characteristics, and collaboration with and data from federal, state, regional, county and member stakeholders. This includes a review of national and state data, and discussion with and input from regional, county, facility and member stakeholders.

Based on this year’s data and analysis, the most significant regional hazards and threats for 2023 are:

Hazard	Identified as High Risk in Federal and/or State Data	Identified as High Risk in Regional Data	Identified as High Risk in County Data	Identified as High Risk in Hospital Data	Identified as High Risk in Member Data
Hurricane	X	X	X	X	X
Tornados	X		X	X	X
Flooding	X		X		X
Pandemic	X	X		X	X
Cyber Attack/IT Outages	X	X	X	X	X
Active Shooter		X		X	X
Climate Change/Extreme Temperatures	X		X	X	X

The most significant regional gaps for 2023 were identified in the 2022 Stakeholder Preparedness Review (SPR) process and in the 2022 Capabilities Assessment. They are:

- Planning for Chemical Surge, Climate Change, Patient Tracking, Family Reunification
- Sustainability, engaging community leaders
- Evacuation equipment
- Exercising medical surge, decontamination, family assistance/reunification, radiological surge, and crisis standards of care
- Turnover and chronic healthcare staffing shortages
- Cross-facility coordination (facility to facility agreements, interfacility training)

The process, data and tools used in this annual update are included in the following pages. This document serves to guide the annual update of the Coalition’s Preparedness plan and annexes.

Process to Update HVA:

CFDMC coordinated with regional, county emergency management, county health department, hospital and member stakeholders in conducting this HVA to ensure coordination and integration with federal, state, regional and county efforts. At a national level, we reviewed the DHS 2022 Hazards and Threat Assessment, and the FEMA National Risk Index data. At the state level, we reviewed the 2018 (most current) State Hazard Mitigation Plan. At the regional level, we participated in the RDSTF Region 5 Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR) process. At the county level, we discussed the HVA update with county emergency managers and EM health planners and asked for county HVAs. We also discussed with the county health department planners and asked for the most recent Public Health Risk Assessment Tool (PHRAT). At the facility level, we discussed with the region's hospitals and asked for hospital HVAs or assessments. At the member level, we sent out a survey to solicit member input, and shared the draft HVA with all members for review and comment.

The chart below shows the tools, data, meetings, and members participating in the annual HVA update process:

Level	Tools	Data	Members Participating	Meetings
Federal	Intelligence Analysis	Department of Homeland Security Hazard and Threat Assessment-2022	N/A	N/A
Federal	County scores related to risks, economic loss, social vulnerability index and community resilience	FEMA National Risk Index	N/A	N/A
State	2018 Hazard Summary Matrices	Threats and Risk Ratings	N/A	N/A
Regional	THIRA/SPR Steps 1, 2 and 3		Members of the Region 5 UASI (including the CFDMC Executive Director and representatives from law enforcement, emergency management, hospitals, EMS, and other community stakeholders)	Kick-off meeting was held on October 20, 2022 Meeting to complete Step 1 on 11/1/22 Meeting to complete Steps 2 and 3 on 12/19/22

			The CFDMC Executive Director and Board Chair completed Steps 1, 2 and 3	
County	Multiple tools used, including Live Process, Kaiser Permanente, Community Hazard Vulnerability Assessment (CHVA), and internal facility assessment tools	County HVAs	Region 5 County Emergency Management Directors and Emergency Management (EM) Health Planners	Region 5 EM Health Planner call on 11/17/22 Follow-up email on 11/18/22 Meeting with Region 5 Emergency Managers on 12/15/22
County	PHRAT	County PHRATS	Region 5 CHD Planners and Health and Medical Co-Chairs	Meeting with co-chairs and county CHD planners on 9/15/22; reminder sent via email with minutes Reminder at meeting with co-chairs and county CHD planners on 11/16/22; reminder via email on 11/18/22
Acute Care Hospitals	Multiple tools used, including Live Process, Kaiser Permanente HVA, Community Hazard Vulnerability Assessment (CHVA), and internal facility assessment tools	Facility HVAs	Region 5 Hospitals	Region 5 Hospital Call on 9/1/22 Reminder on 11/3/22 Region 5 Hospital

Members	Survey	Ranking of hazards, likelihood to occur, impact	All Coalition Members	<p>A survey to gather member input into the annual HVA update was sent on 11/14/22, with a reminder on 12/9/22</p> <p>A reminder was also made during the annual conference on 12/14/22</p> <p>The draft HVA was sent to all members for review and comment on 12/27/22</p> <p>The final HVA was posted to the website and sent to all members on 1/13/23</p>
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A summary of data collected is described in the following pages.

Assessment of Regional Characteristics and Population:

Central Florida is uniquely vulnerable to large scale disasters due to its population and critical infrastructure. The 2021 US Census data shows more than 4.5 million people reside in the nine counties representing Central Florida (Central Florida Regional Domestic Security Task Force, Region 5 or RDSTF-5). Winter residents dramatically increase this population. In addition, domestic and international tourists flock to Central Florida for golf, shopping, water sports, theme parks, conventions and the speedway. Orlando is the number one most visited destination in the world. Orlando International Airport was the 10th busiest airport in the nation before the pandemic with approximately 50 million passengers each year and rebounded at twice the average rate of travelers since December 2020. Visitors also arrive in Central Florida via cruises at Port Canaveral, Florida's fastest growing port and the second busiest port in the world, with more than 5 million travelers annually. The region has 161 miles of coastline from Volusia to Martin County. There are three large chemical manufacturing plants within the region, multiple international and commercial airports, both freight and passenger railroad service across the region, and a nuclear power plant in St. Lucie County. All of these factors increase the potential for a large-scale event in Central Florida.

The Region has a robust healthcare system, including a Level I trauma center and a Level 1 pediatric trauma center in the metro Orlando area, six Level 2 trauma centers across the region, three children's hospitals and a total of 74 acute care hospitals and free-standing emergency departments.

Region Population by County based on 2020 Census Data (updated July 2022):

County	2021 Population	Population Increase (from 2020 to 2021)*
Brevard	616,628	+13.4%
Indian River	163,662	+18.4%
Lake	395,804	+32.9%
Martin	159,942	+8.9%
Orange	1,422,746	+23.9%
Osceola	403,282	+49.5%
Seminole	470,093	+11.1%
St. Lucie	343,579	+23.5%
Volusia	564,412	+14.1%
Region 5	4,540,148	+21.7

*During this period, US population growth was +7.13% and Florida population growth was +15.6%.

<https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/florida/county/osceola-county?endDate=2021-01-01&startDate=2010-01-01>

Florida Access and Functional Needs Profile, Region 5

Indicator	Year(s)	Measure	Region Count	Region Rate	State Count	State Rate
Demographic Data						
Total Population	2019	Count	4340609		21268553	
Resident Live Births	2019	Per 1,000 Population	44716	10.3	220010	10.3
Population 65-84 Years Old	2019	Percent of Total Population	724774	16.7%	3772563	17.7%
Population 85+ Years Old	2019	Percent of Total Population	104663	2.4%	569052	2.7%
Individuals 65 years and over living alone	2019	Percent of Population 65+	184767	23.4%	997955	24.2%
Children Under 18 in Foster Care	2019	Per 100,000 Population, Under 18	3657	415.8	21066	496.8
Socioeconomic Data						
Population Below Poverty Level (Census)	2019	Population for Whom Poverty Status is Determined	554446	13.2%	2870487	14%
Population Uninsured Under Age 65 (Census)	2019	Count	495952		2586534	
Households receiving cash public assistance or food stamps	2019	Percent of Households	207009	13.3%	1093078	14.1%
Median Monthly Medicaid Enrollment	2019	Per 100,000 Population	740276	17054.7	3766453	17709
WIC Eligibles	2019	Percent of Total Population	134247	3.1%	664137	3.1%
WIC Eligibles Served	2019	Percent of WIC Eligibles	86226	64.2%	427068	64.3%
Homeless Estimate	2019	Percent of Total Population	5323	0.1%	28590	0.1%
Population 5+ that speak English less than very well	2019	Percent of Census Population 5+	361080	9%	2353336	11.9%
Population that speak Spanish among Population 5+ that speak English less than very well	2019	Limited English Proficiency Ages 5 and Over	267631	74.1%	1830118	77.8%
Vulnerability Data						
Percent of Adults Limited in Activities because of Physical,	2016	Percent				21.2%

Mental, or Emotional Problems						
Percent of Adults Who Use Special Equipment because of a Health Problem	2016	Percent				9.9%
Civilian non-institutionalized population with a disability	2019	Percent of Civilian non-institutionalized population	584283	13.8%	2768155	13.4%
Developmentally Disabled Clients	2019	Count	11531		61105	
Clients with a Brain and/or Spinal Cord Injury	2019	Count	121		594	
Seriously Mentally Ill Adults	2019	Count	141904		698168	
Population Ages 18-64 with Vision Difficulty (Census)	2019	Percent of Census Population 18-64	52951	2.1%	239752	1.9%
Population Ages 18-64 with Hearing Difficulty (Census)	2019	Percent of Census Population 18-64	49238	1.9%	218670	1.7%
Medicare Beneficiaries Enrolled in Medical Essential Electric Utility Program	2019	Count	35284		169371	
Substance Abuse Program Enrollees – Adult	2019	Count	17116		72978	
Population Ages 18-64 with an Independent Living Disability (Census)	2019	Percent of Census Population 18-64	99191	3.8%	442490	3.5%
Children Through Age 20						
Estimated Seriously Emotionally Disturbed Youth 9-17	2019	Count	40952		195523	
Population Under Age 18 with Vision Difficulty (Census)	2019	Percent of Census Population Under 18	6861	0.8%	30628	0.7%
Population Under Age 18 with Hearing Difficulty (Census)	2019	Percent of Census Population Under 18	4789	0.6%	22760	0.5%
Medical Foster Care Children	2019	Count	174		606	

CMS Clients	2019	Percent of Population Under 21	18578	1.8%	90364	1.8%
Substance Abuse Program Enrollees – Children	2019	Count	4685		16936	
Elderly Ages 65+						
Population Age 65+ with Vision Difficulty (Census)	2019	Percent of Census Population 65+	53537	6.7%	253647	6%
Population Age 65+ with Hearing Difficulty (Census)	2019	Percent of Census Population 65+	113498	14.1%	552633	13.1%
Probable Alzheimer's Cases (65+)	2019	Percent of Population 65+	104252	12.6%	556997	12.8%

<https://www.floridahealth.gov/%5C//programs-and-services/emergency-preparedness-and-response/community-preparedness/access-functional-needs/afn-profile.html#:~:text=Data%20for%20persons%20with%20access%20and%20functional%20needs,the%20data%20sources%20used%20in%20compiling%20the%20profile>

HHS emPOWER Data:

County	Beneficiaries	Electricity-Dependent Beneficiaries
Brevard	165,129	6,833
Indian River	57,531	1626
Lake	114,711	5011
Martin	63,887	1836
Orange	198,813	6883
Osceola	63,997	2371
Seminole	86,363	3460
St. Lucie	84,702	2898
Volusia	159,294	6836

<https://empowerprogram.hhs.gov/>

Federal, State, Regional, County, Facility and Member Data Used:

Federal Data:

DHS Hazard and Threat Assessment-2022 – Top Eight Threats:

1. Terrorism
2. People’s Republic of China
3. Russia
4. Iran
5. Cybercrime
6. Transnational Crime
7. Climate Change and Natural Disasters
8. Chemical, Biological, Radiological and Nuclear

FEMA National Risk Index

The FEMA National Risk Index is based on potential hazards, expected loss, social vulnerability index and community resilience. It compares each county to the national and Florida average.

County	Risk Index	Expected Annual Loss	Social Vulnerability Index	Community Resilience	Comparisons : Florida Average- 19.65 National Average- 10.60
Brevard	Relatively High Score 30.22	Relatively High Score 33.64	Relatively Moderate Score 42.73	Relatively Moderate Score 54.97	97.7% of US counties have a lower risk index; 83.5% of Florida counties have a lower risk index
Indian River	Relatively High Score 37.31	Relatively High Score 31.84	Relatively High Score 54.04	Relatively Moderate Score 53.30	95% of US counties have a lower risk index; 64.1% of Florida counties have a lower risk index
Lake	Relatively Moderate Score 27.31	Relatively Moderate Score 21.34	Relatively High Score 48.05	Relatively Moderate Score 53.13	95% of US counties have a lower risk index; 64.1% of Florida counties have a lower risk index
Martin	Relatively High Score 30.86	Relatively High Score 31.81	Relatively High Score 45.13	Relatively Moderate Score 53.77	97.9% of US counties have a lower risk index; 85% of Florida

					counties have a lower risk index
Orange	Relatively High Score 27.71	Relatively High Score 32.06	Relatively Moderate Score 40.17	Relatively Moderate Score 53.71	97.2% of US counties have a lower risk index; 77.6% of Florida counties have a lower risk index
Osceola	Relatively High Score 26.52	Relatively Moderate Score 22.44	Relatively High Score 53.92	Relatively Low Score 52.73	96.8% of US counties have a lower risk index; 64.1% of Florida counties have a lower risk index
Seminole	Relatively Moderate Score 20.26	Relatively High Score 30.56	Relatively Low Score 31.42	Relatively Moderate Score 54.75	93.7% of US counties have a lower risk index; 61.1% of Florida counties have a lower risk index
St. Lucie	Very High Score 41.93	Relatively High Score 38.11	Relatively High Score 51.56	Relatively Moderate Score 54.16	99.4% of US counties have a lower risk index; 95.5% of Florida counties have a lower risk index
Volusia	Relatively High Score 37.41	Relatively High Score 35.42	Relatively High Score 49.35	Relatively Moderate Score 53.99	99% of US counties have a lower risk index; 94% of Florida counties have a lower risk index

<https://hazards.fema.gov/nri/map>

State Data:

State of Florida 2018 Hazard Summary Matrices Data:

- Floods: High
- Tropical Cyclone: High
- Severe Storm: High
- Wildfire: High
- Coastal Erosion: High
- Extreme Heat: High
- Agricultural Disruption: High
- Terrorism Incident: High
- Cyber Event: High
- Transportation Incident: High
- Drought: Medium
- Sinkholes: Medium

- Winter Storm and Freeze: Medium
- Biological Events: Medium
- Mass Migration: Medium
- Civil Disturbance Events: Medium
- Hazardous Materials Incidents: Medium
- Radiological Incidents: Medium
- Space Weather Events: Medium
- Earthquake: Low
- Tsunami: Low

[appendix-d hazard-summary-matrices.pdf \(floridadisaster.org\)](https://www.floridadisaster.org/appendix-d-hazard-summary-matrices.pdf)

Regional Data:

Region 5 THIRA/SPR:

CFDMC participated in the RDSTF 2022 Stakeholder Preparedness Review (SPR). The SPR is an annual three-step self-assessment of a community's capability levels based on the capability targets identified in the THIRA (Threat and Hazard Identification and Risk Assessment). CFDMC participated in this process with other regional partners. The THIRA helps communities understand their risks and determine the level of capability they need in order to address those risks. The outputs from the SPR lay the foundation for determining a community's capability gaps, including:

Most significant risks identified:

- Hurricane
- Active Shooter/Coordinated Complex Attack
- Complex Cyber Attack
- Pandemic

Most significant capability gaps identified:

- Planning: Radiological Surge Annex, Chemical Surge Annex, Climate Change, Patient Tracking/Reunification
- Organization: Engage community leaders in preparedness planning
- Equipment: Evacuation equipment; vehicles for regional medical assistance team
- Training: Climate change
- Exercises: Medical surge, decontamination, family assistance/reunification, radiological surge, and crisis standards of care

County Data:

County Emergency Management HVAs:

The Coalition met with the county emergency management health planners on November 17th and requested the county HVAs. A follow-up email was sent to remind the planners of this request. The coalition also reminded the county emergency managers of this request at a meeting on December 15th. Martin and Osceola Counties provided HVA data. The top hazards identified were:

- Floods (both counties identified this as high)
- Severe thunderstorms (both counties identified this as high)
- Hurricane (one county identified this as high)
- Tornado (one county identified this as high)
- Wildfire (one county identified this as high)
- Pandemic (one county identified this as high)
- Cyber Attack (one county identified this as high)

County Health Department PHRATS:

The Coalition discussed the HVA process and requested county PHRATs at a meeting with co-chairs and county planners on 9/15/22. Follow-up emails were sent, and a reminder was discussed at co-chair/planner meeting on 11/16/22. Four counties provided PHRATS (Brevard, Lake, St. Lucie and Volusia).

The highest rated threats in the county PHRATs submitted were:

- Extreme Heat (all four counties rated this as a high risk)
- Hurricane/Tropical Storms (all four counties rated this as a high risk)
- Lightening (three of four counties rated this as a high risk)
- Seasonal Influenza (three of four counties rated this as a high risk)
- Tornados (three of four counties rated this as a high risk)
- Water Supply Contamination/Environmental (three of four counties rated this as a high risk)
- Wildfires (three of four counties rated this as a high risk)

Hospital Data:

The HVA process and a request for facility HVAs was discussed during the 9/1/22 regional hospital call. A reminder was discussed on the 11/3/22 call and reminder emails were sent to individual hospitals in late November. HVAs were received from Orlando Health hospitals, AdventHealth hospitals, HCA hospitals, Halifax and Nemours. The top hazards identified by hospitals were:

- Epidemic/Pandemic (21 hospitals)
- Medical Surge/MCI (16 hospitals)
- Active Shooter (14 hospitals)
- Hurricane (12 hospitals)
- Hazmat Incidents (11 hospitals)
- Cyber Attack/IT Failure (9 hospitals)

- MCI/Trauma Event (9 hospitals)
- Emerging Infectious Diseases (9 hospitals)
- Workplace Violence (8 hospitals)
- Tornado (7 hospitals)
- Terrorism (7 hospitals)

CFDMC Member Data:

A survey to gather input from all members in the annual HVA update was sent on 11/14/22, with a reminder on 12/9/22. A reminder was also made during the annual conference on 12/14/22. A total of 71 responses were received and the top seven risks identified were:

1. Hurricane (55 members)
2. Flooding (29 members)
3. Pandemic (25 members)
4. Tornados (18 members)
5. Cyber Security/IT Outage (17 members)
6. Active Shooter (17 members)
7. Climate Change/Extreme Temperatures (16 members)

The draft HVA was sent to all Coalition members for review and comment on 12/27/22. The final HVA was posted to the website and sent to all members on 1/13/23.

For additional details or the data that informed the HVA, please contact CFDMC at info@centralfladisaster.org

Glossary

Acronym	Description
CFDMC	Central Florida Disaster Medical Coalition
CHD	County Health Departments
CMS	Children's Medical Services (part of DOH) or the Centers for Medicare and Medicaid (federal agency)
DHS	Department of Homeland Security
DOH	Florida Department of Health
EM	Emergency Management
emPOWER	A national database that reports number of electrically-dependent individuals in each jurisdiction
EMS	Emergency Medical Services
ESF-8	Emergency Support Function 8/Health and Medical
FEMA	Federal Emergency Management Agency
HHS	Department of Health and Human Services
HVA	Hazard Vulnerability Assessment
PHRAT	Public Health Risk Assessment Tool
RDSTF-5	East Central Florida Domestic Security Task Force Region 5 (nine counties); also known as Region 5
SPR	Stakeholder Preparedness Review
SVI	Social Vulnerability Index
THIRA	Threat and Hazard Identification and Risk Assessment
WIC	Women, Infant and Children