



Tuesday, December 13, 2022: The Coalition offered the following training sessions; these were in person with no virtual access:

- Hospital Incident Command/Jason Tomashunas (8:30 am to 4:30 pm)
- Mental Health First Aid/Cynthia Krosky (9 am-6 pm)
- BOLDPlanning COOP/Kayla McMahan (9 am to noon)
- BOLDPlanning CEMP/Kayla McMahan (1:30 to 4:30)
- SKYWARN/Will Ulrich (9 am – 11 am)

Wednesday, December 14, 2022 – 9 am to 4 pm: The general sessions were offered face to face and virtually. The breakout sessions were offered face to face with two of the sessions having virtual access.

Attendees: See attached list

Opening Session/Eric Alberts: See attached presentation for details.

Hurricane Ian Lessons Learned from Lee Health/Gloria Graham: See attached presentation for details.

Climate Change and Its Effects/Eric Alberts: See attached presentation for details.

The following mini trainings were offered:

- Region 5 Lessons Learned-Hurricane Ian & Nicole /Steven Lerner
- Stress First Aid/Melyssa Allen
- Healthcare Recovery Tabletop /Robin Hinson
- National Weather Service Safety Briefing/Will Ulrich
- Essentials of Burn Disaster Care/Susan Smith

Active Assailant Lessons Learned/ASAC Bryan McCloskey: See attached presentation for details.

Cyber Security Lessons Learned-Jackson Hospital/ Jamie Hussey: See attached presentation for details.

Beyond the Pandemic: the Era of Emerging Infectious Diseases/Dr. Vincent Hsu: See attached presentation for details

Closing Session/Eric Alberts & Reginald Kornegay: See attached presentation for details

12-14-22 Attendees:

<u>First Name</u>	<u>Last Name</u>	<u>Organization</u>	<u>Title</u>
Eric	Alberts	Orlando Health, Inc.	Senior Director, Emergency Management
Marjorie	Bernadel		Member
Sheri	Blanton	District 9/25 Medical Examiner's Office	Forensic Program Administrator
Kori	Blowers	Osceola Council on Aging	VP of Operations
Edward	Bradley	FDOH-Martin	Emergency Preparedness Coordinator
Stacy	Brock	FL Department of Health in Indian River County	Government Operations Consultant III/Planner/PIO
Avi	Bryan	City of Altamonte Springs	Emergency Management Administrator
Kiandra	Bryant	Treasure Coast Community Health	Risk Manager
Hillarie	Burgess	Hot Zone USA LLC	Administrative Assistant
Stacy	Burgess	Hot Zone USA	
AC	Burke	RB Health Partners	Consultant
Miles	Butler	Orlando Health	Emergency management specialist
Nathan	Carpenter	Brooks Rehabilitation	System Safety & Emergency Management
Christine	Colby	Florida Community Health Centers	Regional Admin Director
Robert	Contreras	Health First Inc	Manager Emergency Preparedness
Beverly	Cook	CFDMC	Administrative Specialist
John	Corfield	Orlando Health, Inc.	Corporate Emergency Management Specialist (Plans)

Eric	Cruz	UCF Lake Nona Hospital	EMS Coordinator
Taylor	Dark	Oviedo Medical Center	Director of Emergency Services
James	Davis	Lmhc- retired	
John	Davis	Florida Department of Health in Brevard County	Community Health Nursing Director
Chris	Dorans	FDOH	Region 5 Planner
Jemima	Douge	Poison Control Center	
Sara	Doyle	Florida Department of Health	Planner II
Lynne	Drawdy	Central Florida Disaster Medical Coalition	ED
Molly	Ferguson	Community Health Centers, Inc.	Dir., Gov't. Relations & Grant Mgmt.
Cedah	Friday	Orlando Health	Emergency Managment Specialist
Loretta	Goggin	Retired FL DOH	FCRT
Elizabeth	Hamlett	FDOH - Orange	Government Ops Consultant II
Robin	Hinson	Osceola County Office of Emergency Management	Emergency Management Planner
Vincent	Hsu	AdventHealth	Healthcare epidemiologist
Brandon	Huang	Orlando Health	Emergency medicine pharmacist
William	Hughes	Orlando Avenue Surgery Center	Manager
Jennifer	Hulse	Cleveland Clinic Indian River Hospital	Emergency Management Program Manager
Georganna	Kirk	Florida Community Health Centers, Inc.	Chief Administrative Officer
Aaron	Kissler	FDOH-Lake	CHO
Jason	Klein	Nemours Children's Health	Environmental Safety Manager

Reginald	Kornegay	US Dept. of Veterans Affairs	Network Emergency Manager - VISN 8
Kathleen	Leake	Hospice of Okeechobee	Compliance and Risk Manager
Darby	Leimer	Orlando Health	Emergency Management Specialist
Steven	Lerner	Seminole County Office of Emergency Management	Senior Planner
John	Maze	UF Health Central Florida	Division Director
Michael	Mesa	The Gardens at Depugh	Maintenance Director
Matt	Meyers	CFDMC	Project Manager
Missy	Middleton	AdventHealth	Reputation Specialist
Janiece	Money	Retired	Registered Nurse
Jeffrey	Money	Brevard County Fire Rescue	Firefighter Paramedic
Sven	Norman	Orlando Health-ORMC	Clinical Pharmacist
Adesola	Orogade		
IHAB	OSMAN	Florida Department of Health	Government Operations consultant
Daniela	Padilla	Treasure Coast Community Health, Inc.	Compliance/Special Projects
Ken	Peach	Health Council of East Central Florida	Executive Director
Jay	Rajyaguru	Florida Department of Health	Regional Public Health Preparedness Planner
Aaron	Rhodes	Orlando Fire Dept.	District Chief
Franklin	Riddle	Tampa Bay Health and Medical Preparedness Coalition	Executive Director
Valerie	Risher	FDOH	Region 5 Special Needs Consultant

Brandi	Roy	UnitedHealthcare	Sr. Community Outreach Representative
Michelle	Rud	HCA Florida Osceola Hospital	Manager of Disaster Preparedness
Rick	Sanchez	AdventHealth	Director of Safety & Emergency Management
AJ	Saunders-Johnston	AdventHealth	Sr. Manager of Reputation Management
Turea	Sheppard	Tampa Bay Health & Medical Preparedness Coalition	Administrative Assistant
Wayne	Smith	Davita	Biomedical Operations Manager
Leigh	Spradling	Parrish Medical Center	Emergency Services Specialist
Christopher	Stabile	EMS	Retired
Karen	Street	DOH Brevard	Asst CHN Director/Public Health Preparedness Manag
Yvette	Torres	HSS Palm Beach ASC	Nurse Manager
Shawn	Treloar	Sanford Fire Dept	Battalion Chief - EMS
Stephanie	Turner	Florida Community Health Centers	Regional Admin Director
Lynda	W. G. Mason	CFDMC & Northland Church	Board Member & Chaplain/Minister
Sarah	Weiss	HCA Healthcare	Emergency Management Coordinator
Lydia	Williams	FDOH-St. Lucie	
Opal	Wilson	Northland Church	Disaster Team Volunteer
Matthew	Winter	AdventHealth	Emergency Management Specialist
Nancy	Woloshin	DOH in Brevard	Nursing Program Specialist

Kaila	Yeager	Florida Department of Health	RERA
Brenna	Young	AdventHealth	EM
Hunter	Zager	Tampa Bay Health and Medical Preparedness Coalition	Preparedness Coordinator
Jessica	Rodriguez	Humana	
John	Birkett	Convesgint	



Central Florida Disaster Medical Coalition (CFDMC) 2022 Annual Conference

Opening Session

Eric Alberts, 2022 CFDMC Board Chair

- ▶ Welcome
- ▶ Recognition of Board
- ▶ Recognition of Conference Planning Team
- ▶ Recognition of Sponsors & Supporters
- ▶ Recognition of Speakers
- ▶ Reminder re Amazon SMILE:
<https://www.centralfladisaster.org/upcoming-events>



Hurricane Ian–Lessons Learned from Lee Health

- ▶ Gloria Graham – see attached presentation



Climate Change and Its Effects

- ▶ Eric Alberts – see attached presentation



Break & Mini Trainings

- ▶ 1st Door Prize Drawing
- ▶ Break
- ▶ Mini Trainings
- ▶ Lunch



Active Assailant Lessons Learned

- ▶ Bryan McCloskey, FBI ASAC – see attached presentation



Cyber Security Lessons Learned Jackson Hospital

- ▶ Jamie Hussey – see attached presentation



Beyond the Pandemic – The Era of Infectious Diseases

- ▶ Dr. Vincent Hsu – see attached presentation



Eric Alberts & Reginald Kornegay



**CLOSING
SESSION**

2022 Member of the Year Award

Winners: John Corfield & Matt Winter



2022 Leader of the Year Award

Winner: Chief Chris Kammel

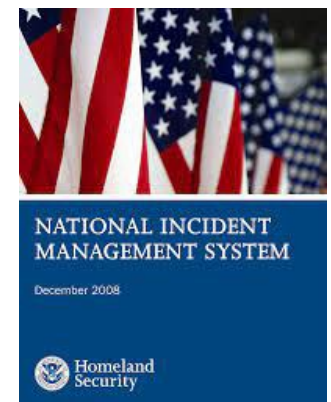


Recognition of our Host Valencia School of Public Safety



FEMA NIMS Training

- ▶ The **National Incident Management System (NIMS)** guides all levels of government, nongovernmental organizations and the private sector to work together to prevent, protect against, mitigate, respond to and recover from incidents
- ▶ NIMS provides stakeholders across the whole community with the shared vocabulary, systems and processes to successfully deliver the capabilities described in the National Preparedness System. NIMS defines operational systems that guide how personnel work together during incidents
- ▶ See www.centralfladisaster.org (under Members, Training)



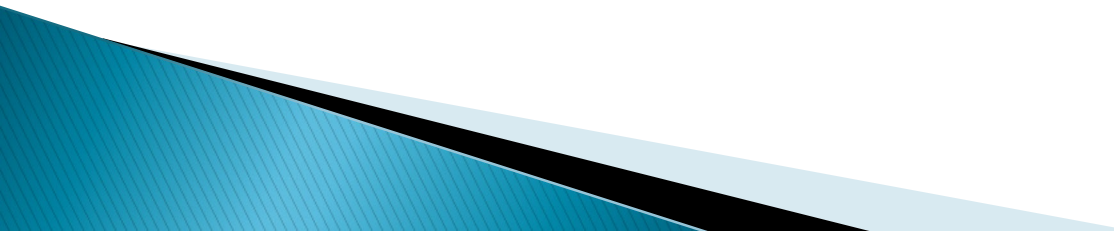
Introduction of 2023 Board Chair

Reginald Kornegay

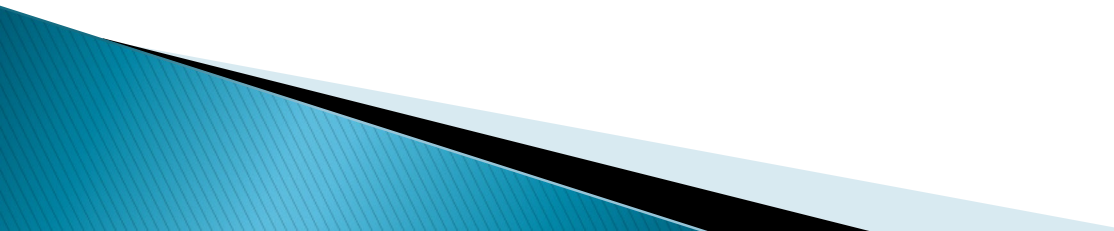


What's Ahead

Reggie Kornegay

- ▶ Finalizing Radiation Surge Annex
 - ▶ Developing a Chemical Surge Annex
 - ▶ Hazards and Vulnerabilities Update (and annual updates to all plans)
 - ▶ Standardizing use of EMResource across the Region
 - ▶ Exercises:
 - January – Great Tornado Drill
 - February – Pediatric Tabletop
 - April – Full Scale Hospital Medical Surge Exercise
 - May – Radiation Surge Exercise
 - May/June – Family Reunification Center Functional Drills
- 

Door Prize Drawing & Announcements

- ▶ Thank you for Attending
 - ▶ Please complete the e-survey
 - ▶ Summary of meeting and presentations will be posted to website
 - ▶ 2023 Meeting Schedule will be sent out and posted to the website
 - ▶ Thank you for being a CFMDC Member!
- 

The Hurricane Ian Experience at Lee Health:

Wreckage, Resilience & Recovery



LEE HEALTH







Lee Health “By the Numbers”

1916

Established as Lee Memorial Hospital

2016

Renamed and re-branded as Lee Health

15,000

Employees

2,400

Physicians

4,000

Volunteers

6

**Hospitals
(4 Acute Care; 2 Specialty)**

12

Clinics and Outpatient facilities

Today's Presentation

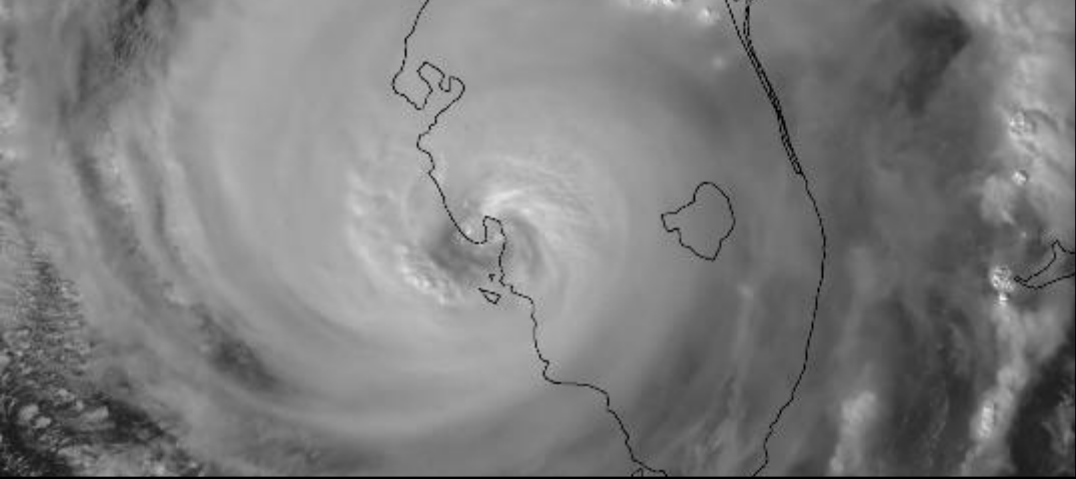
- Wreckage
 - Storm damage and its impact on patient care
 - Incident Command – what worked and what didn't
 - Our biggest challenge
- Resilience
 - Stories of Resilience and Caring
 - Hurricane Heroes
- Recovery
 - Assessing the damage
 - Taking care of our team after the storm
 - Lessons Learned

Wreckage





Hurricane Ian “By the Numbers”



150mph

Category 4 Winds (nearly Category 5)

10-15 feet

Storm Surge

146

Lives Lost

2.4 Million

People lost power

1,100

Cell Phone Towers lost due to power outages

\$40-67 Billion

Estimated insured losses (across multiple states)

The Lee Health Response

- Ten days out from storm, Lee Health begins preparations
 - Assesses fuel situation
 - Brings in supplies, including backup water supply
 - Stages necessary materials for potential repair (windows, water leaks, etc.)
 - Construction work shut down and sites secured, dumpsters emptied
 - Generators tested
 - Communicates with key partners
- Incident Command Structure activated
 - Based on HICS – Hospital Incident Command Structure
 - Central Command mobilizes at Coconut Point; Each hospital has local management team

Incident Command Structure

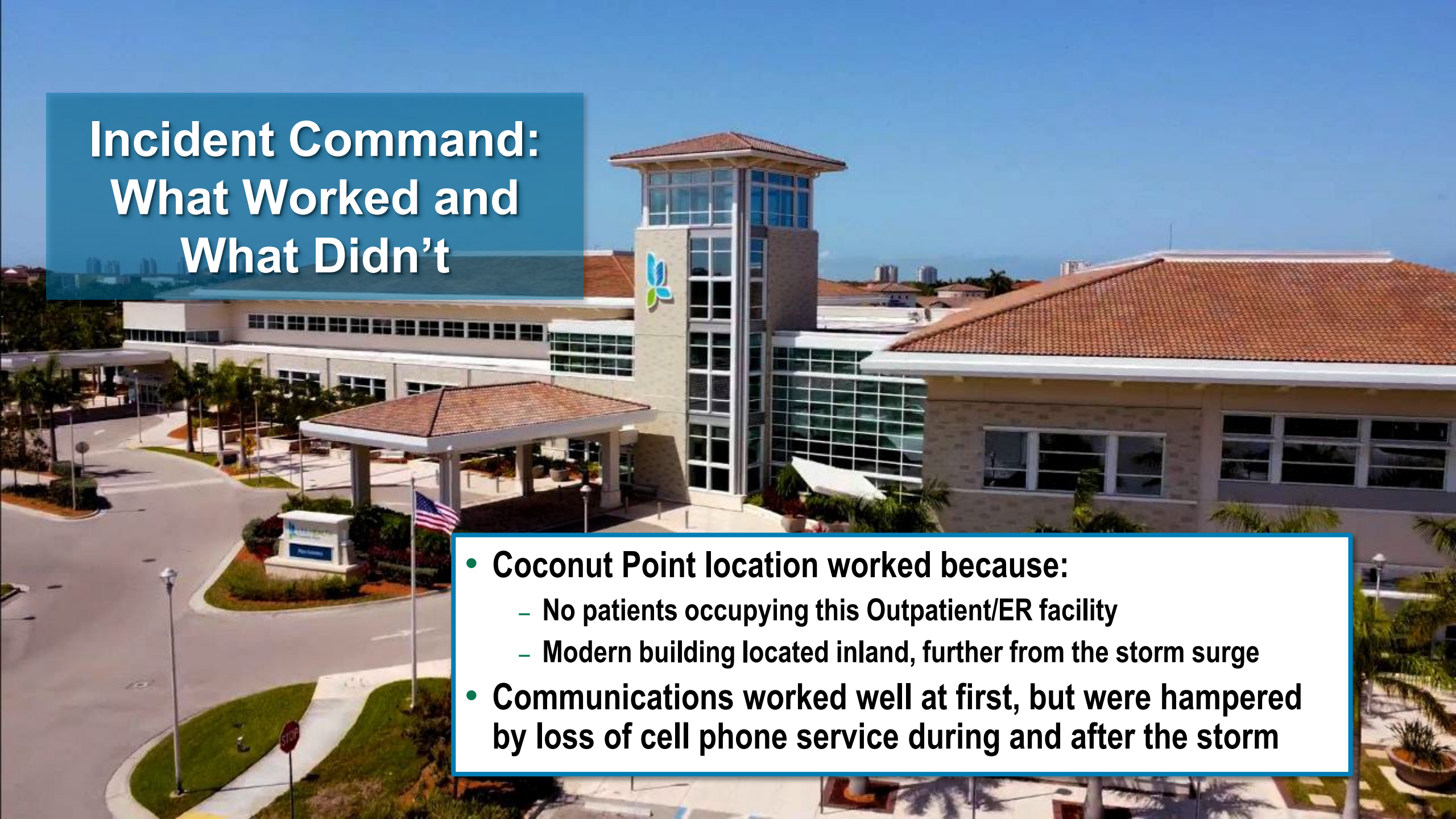


System Command
@ Coconut Point Medical Center



Incident Management Team
@ hospital

Incident Command: What Worked and What Didn't

- 
- **Coconut Point location worked because:**
 - No patients occupying this Outpatient/ER facility
 - Modern building located inland, further from the storm surge
 - **Communications worked well at first, but were hampered by loss of cell phone service during and after the storm**



\$12+ Million in damage to
Lee Health facilities



Damage Categories

Power

Due to the strategic installation of generators, pre-event planning and our work with a specialty vendor, our generators made it through 80+ hours of continuous service with minimal interruption.

Rooftops

Three buildings with older roofs had damage, but there was really minimal damage due to the roof upgrades and hardening of our buildings over recent years.

Windows / Drywall / Leaks

Minimal impact and almost immediate response from our Plant Ops teams to make repairs.

Walls / Elevators

Wall failure in Medical Office Building caused damage to three of that building's four elevators, putting us in crisis mode. Cooperative work from Plant Ops team and elevator vendor now have two of the four operating again.

Our Biggest Challenge



Losing Water Pressure

- Running water is needed for:
 - Fire suppression / protection
 - Flushing toilets
 - Cooling the air in hospitals with chillers and cooling towers
- The community's water utilities systems started losing water pressure when the storm damaged infrastructure and power started going out



Lee Health Response

- Tap into hospital retention ponds and storm drains to supplement municipal water supply
 - Cape Coral Hospital – ran a giant hose to the retention pond
 - Gulf Coast Hospital – tapped into pond-fed irrigation system
 - HealthPark Medical Center – set up a pump in a storm drain
 - Lee Memorial Hospital – tapped into an existing well



After the Storm

- Water trucks were brought in to supplement the supply coming from municipal utilities and the retention ponds
- This allowed enough time to lay temporary lines to re-connect Health Park to the local water system until lasting repairs could be made



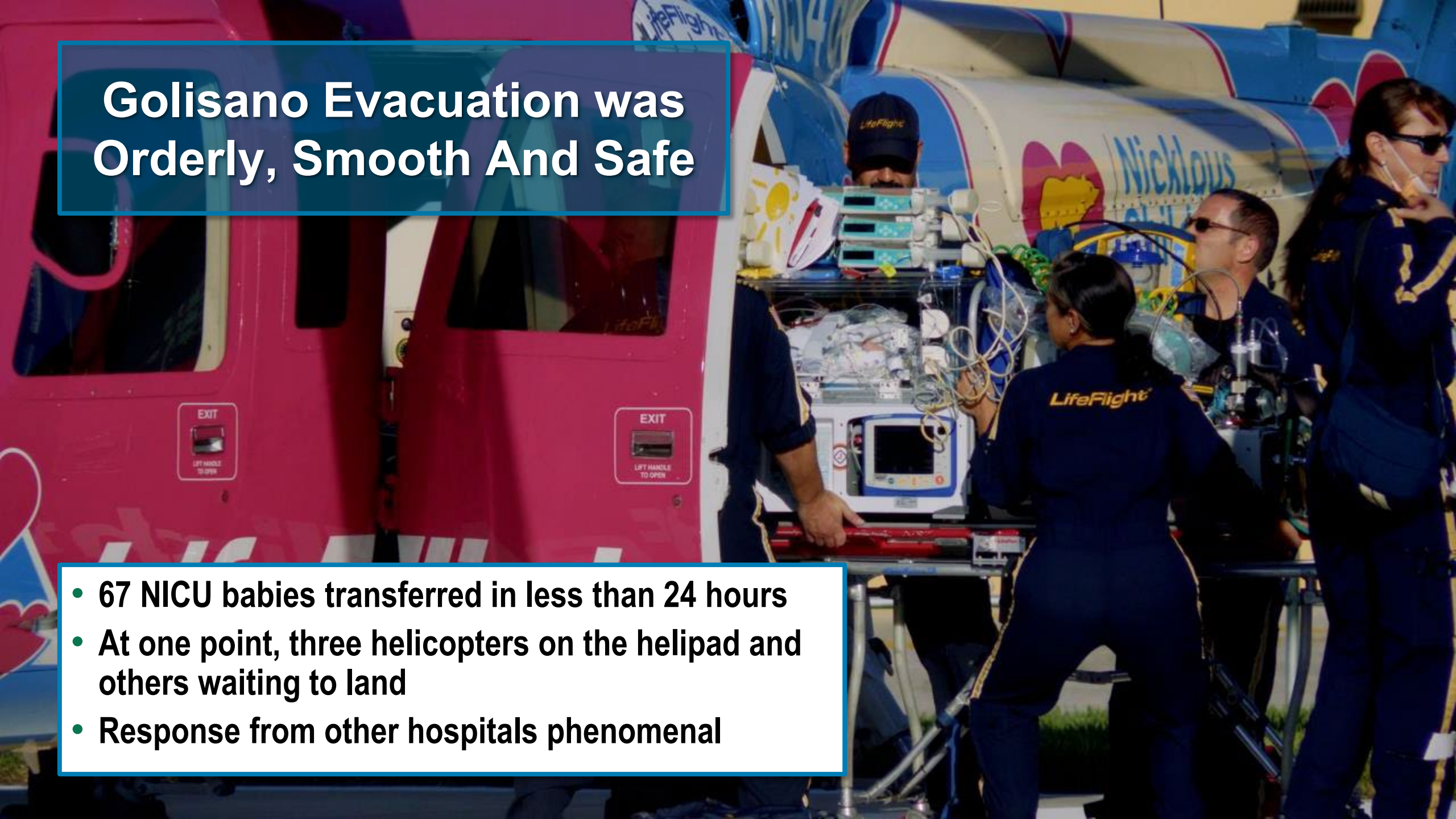
Water Pressure Problems Led to Evacuations



- **ACHA (Agency for Health Care Administration) called for two evacuations once water pressure started dropping**
 - **Golisano Children's Hospital was evacuated**
 - **Cape Coral Hospital was 10 minutes away from being evacuated, but Cape Coral Utilities got us hooked back up to water, so no evacuation took place**

Golisano Evacuation was Orderly, Smooth And Safe

- 67 NICU babies transferred in less than 24 hours
- At one point, three helicopters on the helipad and others waiting to land
- Response from other hospitals phenomenal





416 patients transferred over
five days to 50+ hospitals



Financial Impact of the Storm

October 2022 Snapshot

REVENUE

▼ \$36 Million

▼ 16% Below Budget

LABOR COSTS

▲ \$5 Million

▲ 5% Above Budget

OTHER EXPENSES

▼ 5%

Due to Decreased Volumes

TOTAL IMPACT:

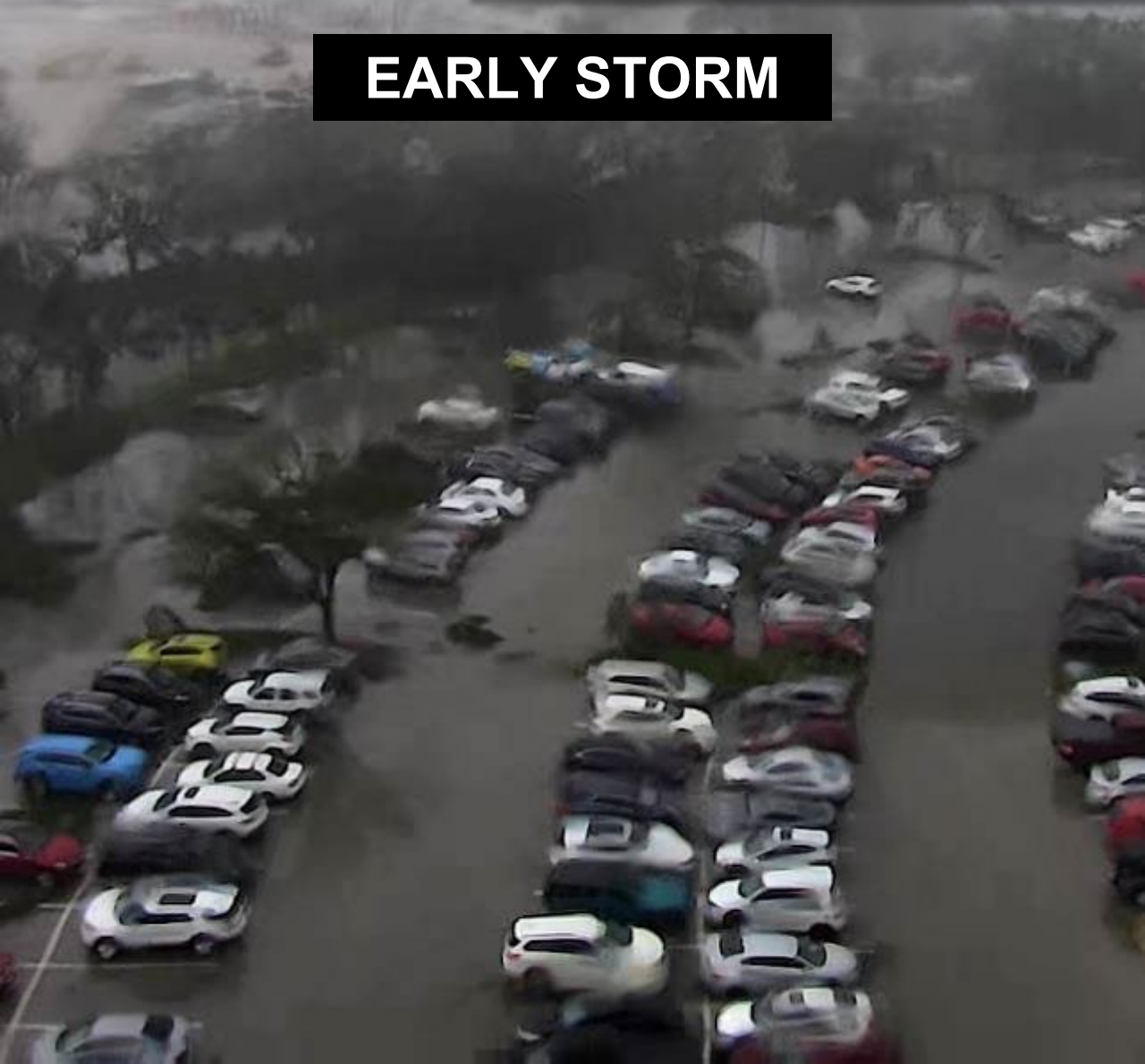
\$31 Million Short of Budget for October

Resilience



HealthPark Medical Center

EARLY STORM



LATE STORM



HealthPark Medical Center

EARLY STORM



LATE STORM



HealthPark Medical Center

EARLY STORM



LATE STORM





**After the Storm, Our
Emergency Departments
Saw the Human Wreckage**



**Disaster Medical Assistance Teams
(DMAT) Helped Supplement
Emergency Department Efforts**



Hurricane Heroes















Comments from Survey of Patients in Hospitals Before, During and After the Storm



"The lack of facilities, no water, no electricity made their job very hard. They took care of me and were away from their own families during a critical time."

"The staff and hospital were so wonderful, especially with all they were dealing with to prepare for Hurricane Ian."

...staff "was calm, helpful and professional."

"I was so impressed with how they treated each patient."

Recovery





Assessment of Damage to our Facilities





Assessment of Our Evacuation Process



Storm-Related Support Services to Staff

- Lee Health paid employee insurance deductible for those who lost their cars to hospital parking lot flooding
 - Estimated Cost: \$800K to \$1M
- Lyft transportation provided to and from work for employees
 - \$221K (cost to date)



Storm-Related Support Services to Staff

- When gasoline lines rapidly developed after storm, Lee Health helped employees get gas:
 - By bringing a gas tanker truck to employee locations
 - Working with large gas vendors like Sam's Club to provide special access to pumps



Storm-Related Support Services to Staff

- Guaranteed all employees their full wages for two weeks following the storm
- Facilitated shared PTO among employees and provided PTO cash-out opportunities
- Never laid off anyone or redeployed staff



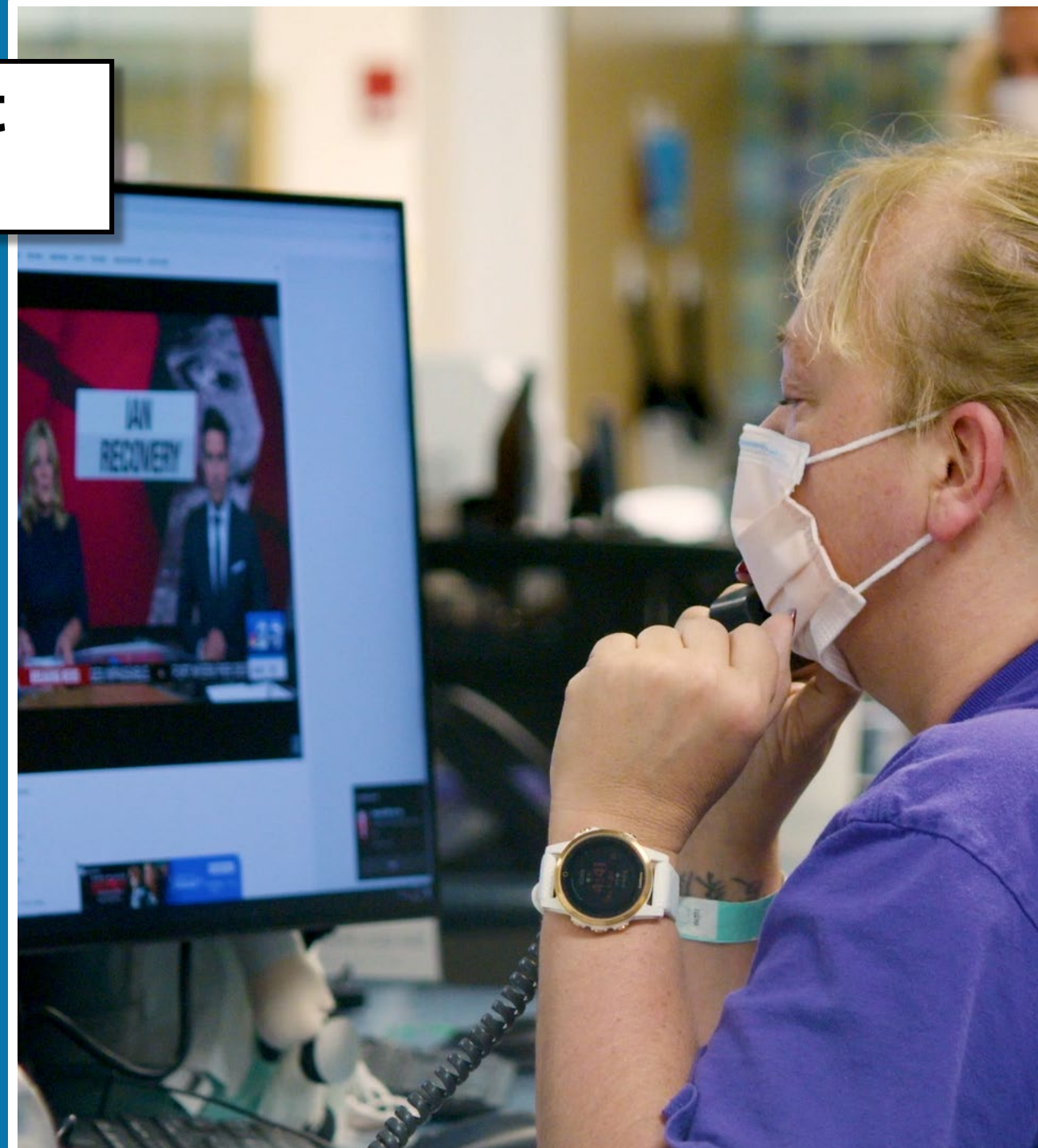
Storm-Related Support Services to Staff

- Gave away 23,000 pairs of donated scrubs, along with cleaning supplies, food, toys and clothes
- Provided free child care
 - \$370K
- Lee Health Foundation donated \$150K to United Way to support employees



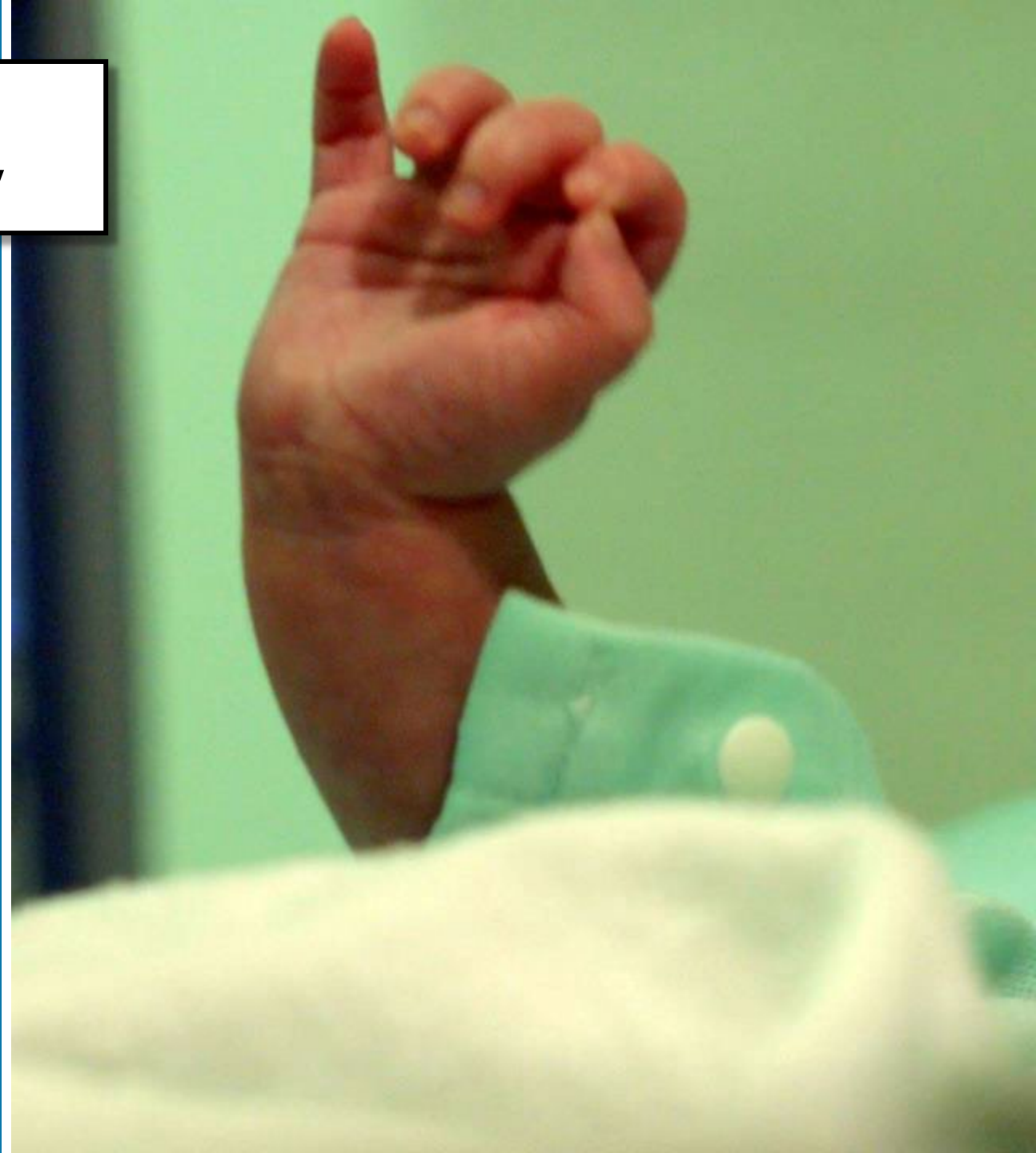
Storm-Related Support Services to Staff

- Free TeleHealth for two months
- Resilience Education Support Team (REST) - peer-to-peer stress support program
- Legal Aid services
- Call Center to provide access to housing, transportation, FEMA, and financial assistance programs



Storm-Related Support Services to Community

- Lee Health Foundation provided money to Golisano families to help with travel expenses associated with evacuation of their child
 - \$150K





Social Media Outreach

YOUR MENTAL HEALTH AFTER HURRICANE IAN

Join Dr. Paul Simeone as we take a look at the impact Hurricane Ian has had on our lives and steps for moving forward while taking care of our mental health.

Cost: FREE
When: 11/14, 12-1 p.m.
Where: Online



Dr. Paul Simeone
VP & Chief Medical
Executive Behavioral Health



Know the Health Risks of Mold After the Storm



Lessons Learned

- Proactively seek a comprehensive solution to water pressure issues
 - Wells, water trucks, relationships with municipalities
- Find the technology which will provide reliable communications when cell phones and power go out
 - Potential of systems like StarLink
- Find a technology solution to track people during catastrophic events
 - Patient transfers, employees, vendors, volunteers, patients
- Continue to build and repair at or beyond existing building codes
 - Encourage investment that will pay dividends in the future

Lessons Learned

- Maintain and enhance partnership relationships with municipalities, partner agencies, state and local government agencies, vendors
- Locate your Incident Command Center in the least vulnerable geographic region and in the most up-to-date building
- Invest in training
- Never underestimate an approaching storm



The Hurricane Ian Experience at Lee Health:

Wreckage, Resilience & Recovery



LEE HEALTH



Climate Change

???





Homeland
Security

Homeland Threat Assessment 2022

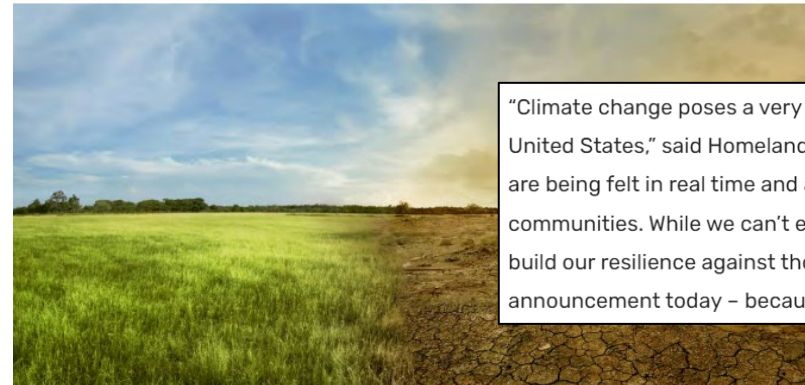
With honor and integrity, we will safeguard the
American people, our Homeland, and our
values

This Homeland Threat Assessment presents a holistic look from across the Department and provides the American people with the most complete, transparent, and candid look at the threats facing our nation, broken down in the following sections:

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

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CLIMATE CHANGE AND NATURAL DISASTERS



"Climate change poses a very real threat to the safety, security, and prosperity of the United States," said Homeland Security Secretary Alejandro N. Mayorkas. "Its impacts are being felt in real time and are felt most acutely by the nation's most vulnerable communities. While we can't eliminate the threats we face as a nation, we can and must build our resilience against those threats – and that is why we are making this announcement today – because, together, we are building climate resilience."

The impacts of [climate change](#) pose both an acute and systemic threat to the safety, security, and prosperity of the United States. This "warming" has already led to changes in the environment, such as rising ocean temperatures, shrinking sea ice, rising sea levels, and ocean acidification. As our climate continues to warm, the United States will experience even more climate-related disasters such as heat waves, droughts, wildfires, coastal storms, and inland flooding.

[Natural disasters](#) occur both seasonally and without warning, subjecting nations to frequent periods of insecurity, disruption, and economic loss. Natural disasters include all types of severe weather which have the potential to pose a significant threat to human health and safety, property, critical infrastructure, and homeland security.

The U.S. government needs to take additional steps to mitigate the national security risks posed by climate change, including working to shore up military bases and critical infrastructure susceptible to extreme weather-related events, according to a report from the Government Accountability Office published on Sept. 13.

The [GAO report](#), which summarized the effects of climate change on U.S. security interests and outlined recommendations for strengthening the country's climate resilience, noted that "both the Department of Defense's global network of military installations and U.S. civilian infrastructure" are at risk of the "significant fiscal risk that climate change poses."



Barclays Corporate & Investment Bank

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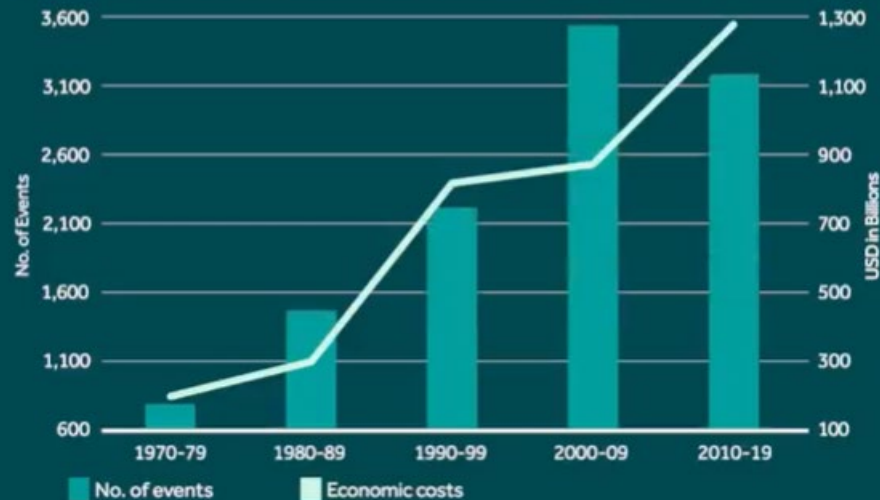
+ Follow ...

Since 1970 the number of [#ExtremeWeather](#) events has increased by 5x and the [cost of damage has risen 7x](#). Our Research analysts explore the causes and consequences of extreme weather for economies and industries.



And the cost of them is rising even faster.

Increasing frequency and cost of extreme weather events



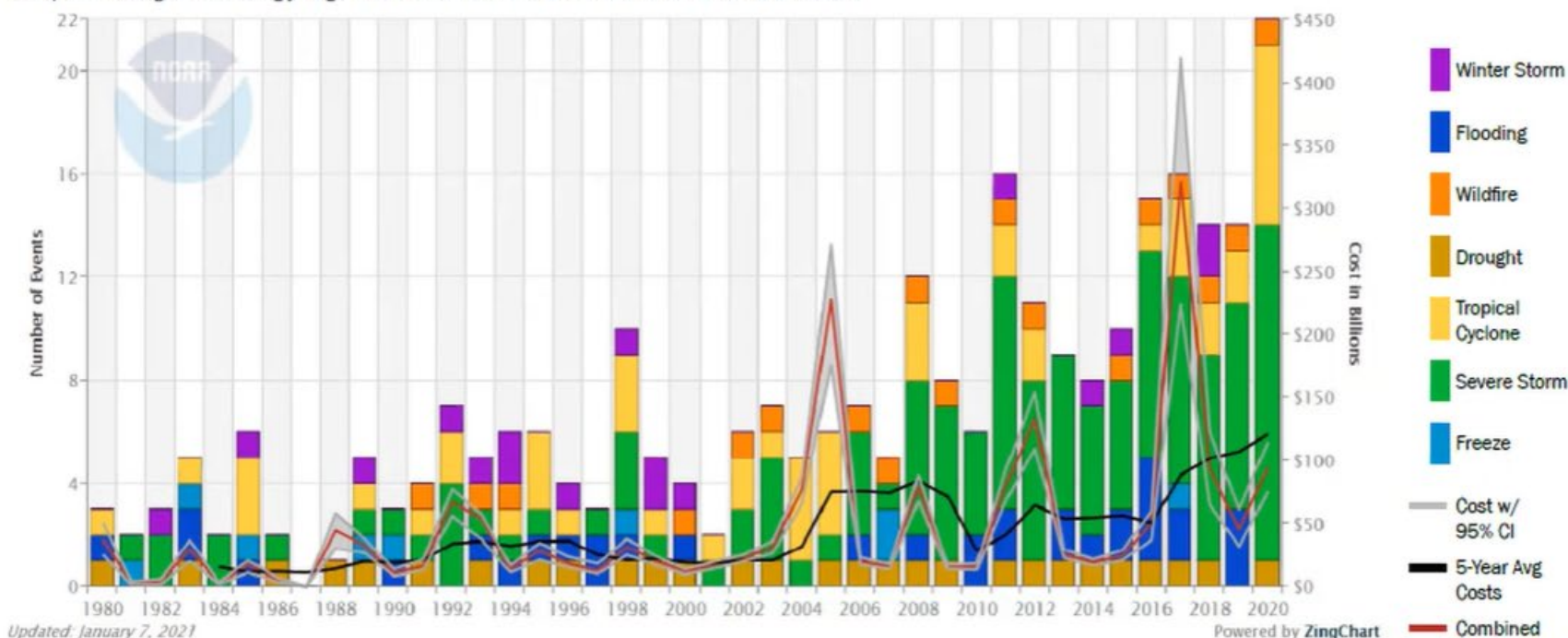
Source: World Meteorological Organization (WMO)

Most people realize that frequency & severity of disasters incr



1980 to 2020 Year-to-Date U.S. Billion-Dollar Disaster Event Cost (CPI-Adjusted)

The number (bars, left axis), type (colors), and annual cost (right vertical axis) of U.S. billion-dollar disasters from 1980 to 2020. Combined disaster cost (red line), along with the 95% confidence interval, and 5-year average costs (black line). The number and cost of disasters are increasing. Severe storms (green bars) and tropical cyclones (yellow bars) are making in increasingly large contribution to the number of U.S. billion-dollar disasters.



Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). <https://www.ndbc.noaa.gov/billions/>, DOI: 10.25921/stkw-7w73

Smith A. 2020 U.S. billion-dollar weather and climate disasters in historical context. Climate.gov NOAA (Jan 2021). <http://www.climate.gov/disasters2020>



FEMA

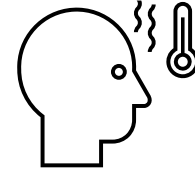
Environmental Consequences Of Climate Change

Frequency of Occurrence, Range of Duration, Range of Geographic Scope, Intensity for each of the below will increase

Warmer Temperatures – Extreme Heat Waves [Global Warming]

Last 8 years hottest record for globe

Increase temperature by 1.5°C or 2.7°F by 2030 across the globe



Intense Droughts

To become more intense

Water Scarcity

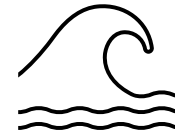


Severe Fires – Wildfires

Longer & more intense; Southeast increase to 30%

Rising Sea Levels – Saltwater Intrusion

Rise 1-8' by 2100



Flooding – Extreme Rainfall

Melting Polar Ice

Arctic may be ice free



Catastrophic Storms & Declining Biodiversity

Tropical Systems to become stronger and more intense

Is It Already Here

Climate Change Effects Now Hitting Home for the Majority of Americans

Kaitlin Augustine - 2h ago



React



12 Comments



28



Share



Save

Recently, temperatures in parts of the U.S. surpassed 110 degrees Fahrenheit while Europe simultaneously experienced record temperatures, reaching more than 104 degrees Fahrenheit in the U.K. Climate scientists reported that the heat waves are interconnected and that this trend will likely continue, anticipating that temperature levels will become more extreme. Data also show that heat waves are one of the deadliest extreme weather events.

Given the far-reaching implications, CivicScience checked in on how people are feeling about climate change in general and the weather in their respective areas.



HEAT.gov

National Integrated Heat Health Information System

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Urban Heat Islands

Tools & Information

At Risk Groups

Planning & Preparing

About

Current Conditions and Future Outlooks

Extreme Heat

44,238,096

people in warning area

30-Day Change



source: NOAA National Weather Service

At left, see the current number of people in the U.S. that are currently under active National Weather Service extreme heat advisories, watches, and warnings.

Below, interact with current and future heat tools to understand where dangerous heat conditions may exist in the future.



Current Heat Forecast ⓘ

Current Temperature

Climate Outlooks

Extreme Heat Days in 2050

Days Above 90 deg F in...



Source: NOAA National Weather Service

Drought

People experiencing drought **120,230,843**

Source: NOAA/NIDIS Drought.gov

Wildfire

Active fires **300**

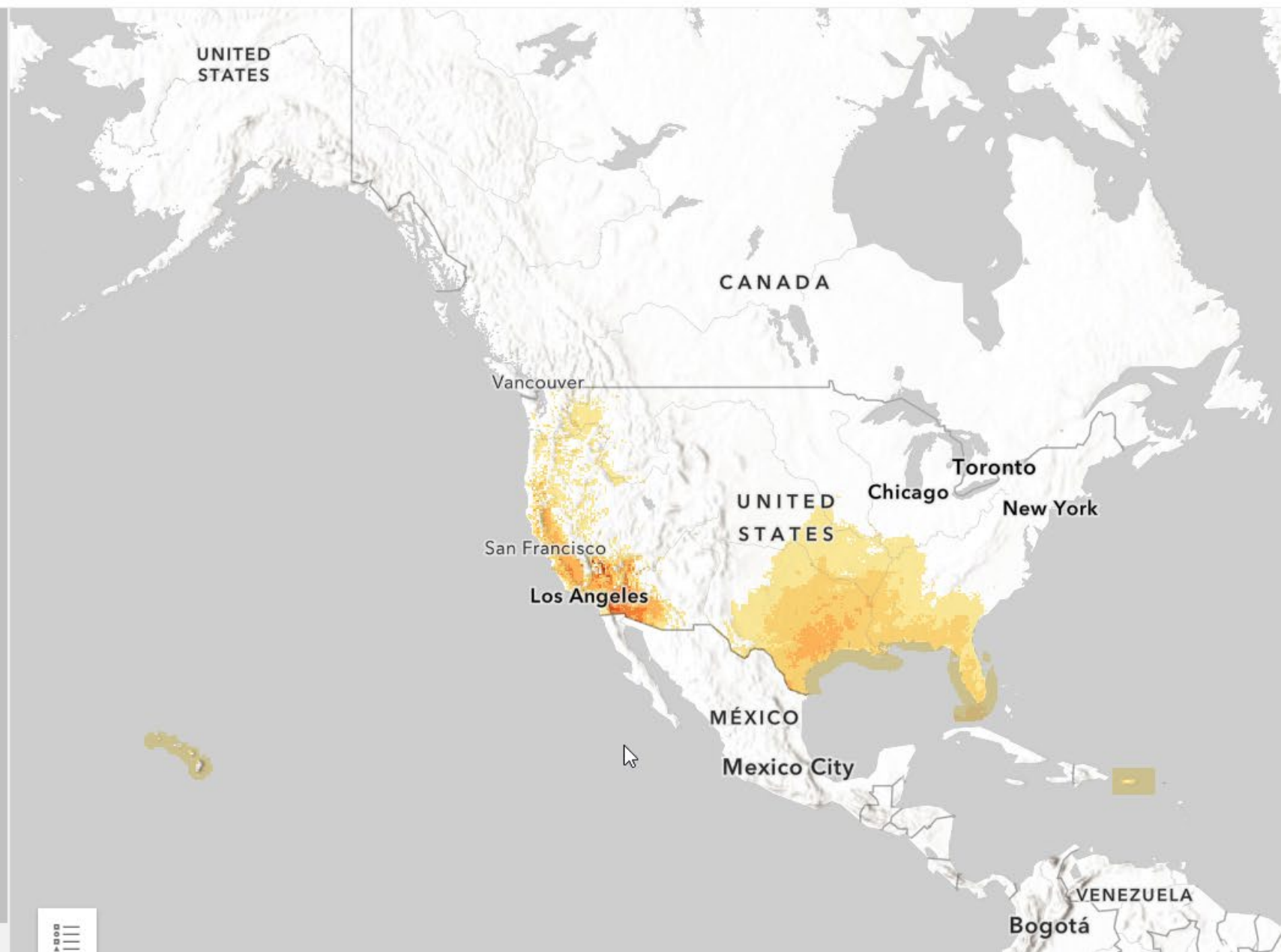
Source: National Interagency Fire Center

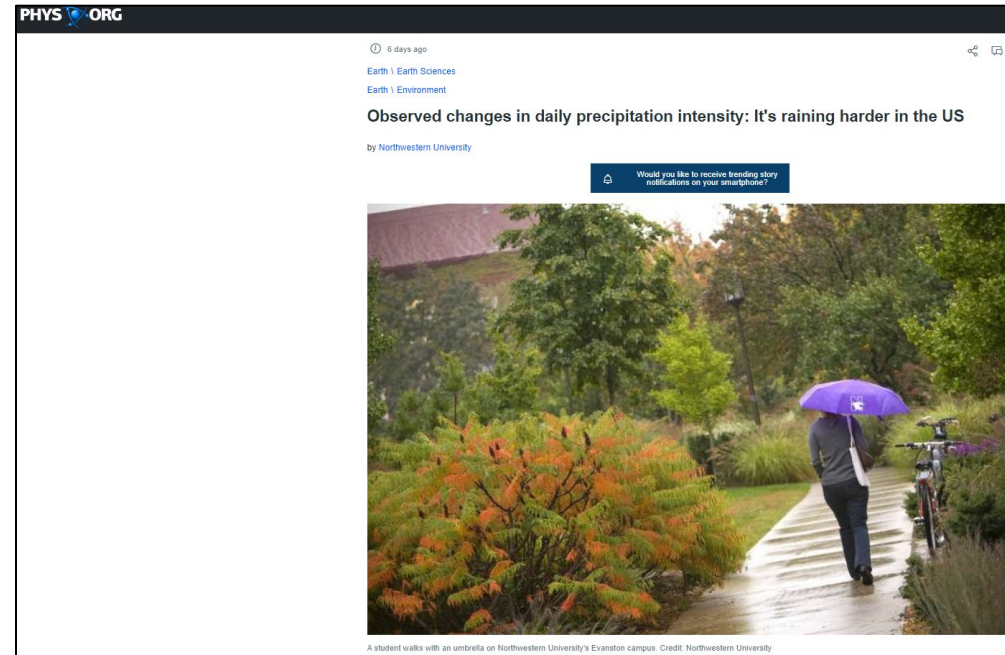
Inland Flooding

People under flood alerts **7,443,768**

Source: NOAA National Weather Service

Coastal Flooding



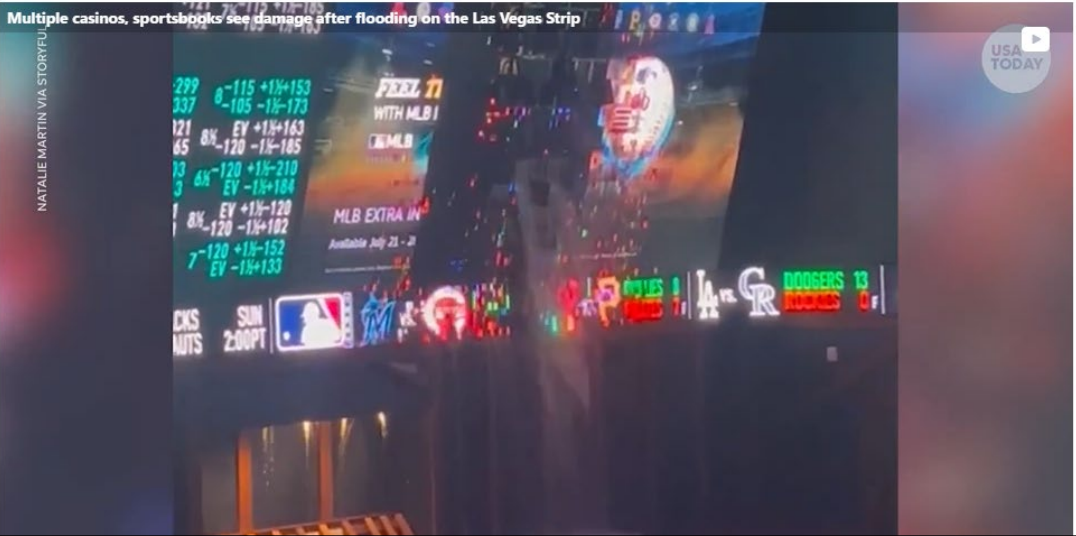


In a new study, researchers compared observed rainfall from two climatologically distinct time periods and across 17 different climate regions in the U.S. They found that when it's rained in recent decades, it's rained more. In most regions, the intensity of the rainfall has shifted from lighter to more moderate and often heavy deluges.

"When people study how climate change has affected weather, they often look at extreme weather events like floods, heatwaves and droughts," said Northwestern's Daniel Horton, the study's senior author. "For this particular study, we wanted to look at the non-extreme events, which are, by definition, much more common. What we found is pretty simple: When it rains now, it rains more."

"You don't need an extreme weather event to produce flooding," Horton said. "Sometimes you just need an intense rainstorm. And, if every time it rains, it rains a little bit more, then the risk of flooding goes up."

Related video: Multiple casinos, sportsbooks see damage after flooding on the Las Vegas Strip



NBC News yesterday at 11:11 AM

Kentucky floods death toll rises to at least 30 with hundreds unaccounted for, governor says

Flash Flooding in Death Valley Closes Roads

Kevin Hurler · 1h ago

React Comments | 2 Share Save

Death Valley was not immune to thunderstorms over the weekend, and some roads in and out of the national park have been deemed unsafe after being inundated with flood water. The damage in California follows intense rainfall and flooding that hit parts of Nevada and Arizona last week.

Death Valley is widely regarded as one of the driest places in North America, but the park experienced some notable flooding this past weekend after a series of thunderstorms dumped rain across the desert. This rainfall resulted in a flooding event that washed out roads in and out of Death Valley National Park. Dan Berc, a meteorologist from the National Weather Service's Las Vegas office, explained to Gizmodo on a phone call that the rainfall and subsequent flooding likely peaked on Sunday, with some smaller episodes yesterday.

Apple iPhone 13 512 GB in Pink with
Installment
Ad Verizon Wireless

The Intergovernmental Panel on Climate Change revealed in a 2021 report that heavy rain events will become **30% more frequent** across the globe, and contain an average of 7% more water. As our warming atmosphere holds on to

more moisture, drier areas like Death Valley may not be fully prepared for the oncoming increase in rainfall and flooding.

AP Associated Press + Follow View Profile

After the rain comes the heat in flooded Kentucky towns

By BRUCE SCHREINER and REBECCA REYNOLDS, Associated Press · 4h ago

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FRANKFORT, Ky. (AP) — The rain that unleashed massive floods in Appalachian mountain communities was diminishing on Tuesday, leaving survivors to face a new threat: baking in the heat as they try to recover.

“It’s going to get really, really hot. And that is now our new weather challenge,” Kentucky Gov. Andy Beshear said at his morning briefing on the disaster.



The Washington Post

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More than 10 inches of rain falls in Illinois, another exceptional deluge

Matthew Cappucci - 53m ago



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Comments



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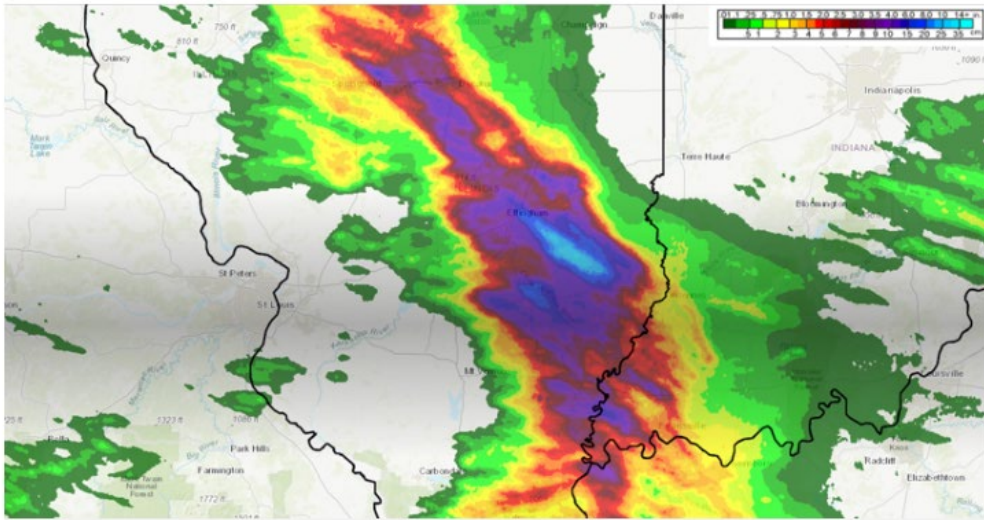


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If it seems like a barrage of extreme rain events has been wreaking havoc across the country over the past week, you're not imagining things. The latest resulted from an overnight deluge in central and southeastern Illinois, with some areas registering 8 to 12 inches of rain in less than 12 hours.



© Provided by The Washington Post

More than 10 inches of rain falls in Illinois, another exceptional deluge

It's the third 1-in-1,000-year rain event in the Lower 48 states in about a week.

The Washington Post
Democracy Dies in Darkness

At least one dead after Dallas area hit by 1-in-1,000-year flood

Streets and interstates remained waterlogged Monday afternoon, and some cars were left abandoned on inundated roads

By Zach Rosenthal, Mary Beth Gahan and [Annabelle Timsit](#)

Updated August 22, 2022 at 7:35 p.m. EDT | Published August 22, 2022 at 7:19 a.m. EDT



The flooded Trinity River flows past downtown Dallas on Aug. 22. (Emil Lippe for The Washington Post)



BREAKING NEWS
It's not just drought gripping the West, but also extreme heat. At 6:39 PM

Deadly California wildfire explodes in size
The McKinney fire in California has become the largest wildfire in the state this year. In... [See more](#)

CBS News yesterday at 6:39 PM

Great Salt Lake dry-up causing dangerous climate ripple effect, ecologists say

Scientists say nearby fauna, flora and human health are more at risk.

By [Kayna Whitworth](#), [Jon Schlosberg](#), [Lindsey Griswold](#), [Alyssa Pone](#), and [Ivan Pereira](#)
July 18, 2022, 6:49 PM

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Great Salt Lake dry-up causing dangerous climate ripple effect, ecologists say
ABC News' Kayna Whitworth reports on Utah's Great Salt Lake drying up and slowly shrinking, causing concern for wildlife, the people of Salt Lake City and the air quality.

Waves of extreme heat traverse the US this week

By [Jennifer Gray](#), CNN meteorologist
Updated 11:09 AM ET, Tue August 2, 2022



MORE FROM CNN

[Bernie Madoff's sister and her husband dead in apparent murder-suicide](#)

[Lindsey Pearlman, television actress, found dead after being reported missing](#)

Kentucky flooding improves as heat builds in the central US 02:07

(CNN) — Two rounds of excessive heat will grip a large part of the country this week, impacting people from the Plains to the Midwest and the Northeast.

Heat advisories are in place for more than 30 million people from Oklahoma and Arkansas to Minnesota.

"Daytime highs will likely reach into the upper 90s to low 100s, and heat indices perhaps reaching 110 degrees when combined with high dewpoints," the Weather Prediction Center said in its morning discussion Tuesday.



CNBC

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England just had its driest July since 1935

Catherine Clifford - Yesterday 1:44 PM



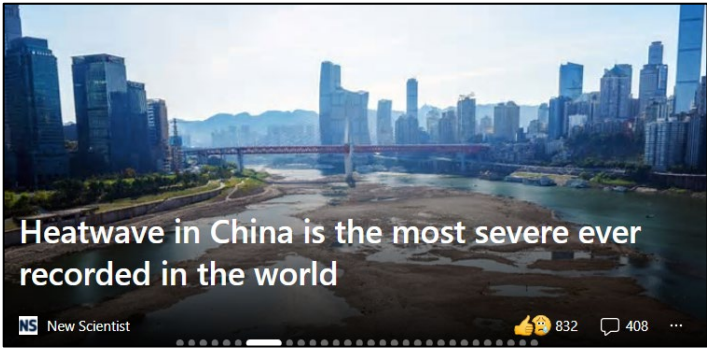
3 Comments



4



- Last month was England driest July since 1935, more than eight decades, according to provisional statistics released Monday from the Met Office, the national meteorological service for the United Kingdom.
- Climate change driven by humans has contributed to the droughts.
- The decadeslong record for dry weather is also a part of what contributed to recent wildfires throughout the region.



Science shows that demographics and funding impact wildfire resilience

Joyce El Kouarti
Office of Communication
November 14, 2022

America's forests are in a state of fire emergency. Nearly 25% of the contiguous U.S. is at risk of severe wildfire, with Western landscapes bearing the brunt.

The areas at greatest risk are those where forests and communities meet, often referred to as the wildland urban interface. These beautiful locales are where more and more people choose to call home.

Many of those who live in the wildland urban interface make their homes more resistant to wildfire by clearing away dead brush and debris or keeping flammable materials, like firewood and propane tanks, at least 30-100 feet from houses and other structures.


But fire mitigation efforts can also be costly, such as trimming large tree branches or building with fire-resistant roofing and siding materials. Not all who live along the forest's edge are able to take actions that require a large up-front investment. Plus, there may also be places valued by the entire community, such as a popular hiking destination or a historic farm, that may be at risk.



Damage after the Woolsey Fire in California. Economists recognize that the vulnerable populations who are less able to invest in risk mitigation activities may depend more heavily upon federal disaster assistance to help them recover after wildfire events. (Forest Service photo by Peter Buschman.)

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A water main break now occurs somewhere in the U.S. [every two minutes](#), and an estimated 6 million gallons of treated water are lost each day. This is happening at the same time the western United States is implementing water restrictions amid the driest 20-year span in 1,200 years. Similarly, drinking water distribution in the United States [relies on over 2 million miles of pipes that have limited life spans.](#)

Climate Change Exacerbates the Risk

The consequences of inadequate maintenance are compounded by climate change, which is accelerating infrastructure failure with increased flooding, extreme heat and growing storm intensity.

Much of the world's infrastructure was designed for an environment that no longer exists. The historic precipitation levels, temperature profiles, extreme weather events and storm surge levels those systems were designed and built to handle are now exceeded on a regular basis.

731-bed California hospital dark for hours after generator failure in heat wave

Molly Gamble ([Twitter](#)) - 6 hours ago

       
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Parts of a 731-bed hospital in San Jose, Calif., were left without power for approximately four hours Sept. 6 after its backup generators failed as the state withstood days of triple-digit temperatures.

The precise number of buildings on Santa Clara Valley Medical Center campus left without power — including light and air conditioning — was not clear as of Sept. 7, according to *The Mercury News*. One surgeon told local *ABC News* station that the building that houses all emergency and trauma care was affected, with the emergency room on the first floor and surgical patients in the surgical and trauma ICU on the second floor. The third floor is for care for women, children and newborns with additional patients on the fourth floor.

"As soon as I walked over to the ICUs, it was pitch black," the trauma surgeon, Tiffany Chao, MD, told *ABC*. "Everyone just had their iPhones out as little flashlights to try to check on people. Normally ICUs are full of, you know, just like beeping sounds and like monitor sounds — just like a lot of sounds like that. And it was just silent."

Santa Clara Valley Medical Center told *The Mercury News* no patients were put in life-threatening situations. Dr. Chao detailed patient transfers, which had to be completed in 30-minute timeframes.

...Fall 2022 was Warmer and Much Wetter Than Normal Across East Central Florida...

Temperatures...

It was a very hot and humid start to the Fall, with the warmest temperatures during the season occurring within the first several days of September, specifically from the 5th to the 9th. Maximum temperatures reached as high as the mid to upper 90s at times, with a handful of record highs being tied or set during this period.

Fall 2022 rainfall totals for the primary climate sites across east central Florida are as follows (ranking provided if in the top 10):

- Orlando received 28.83 inches of rain for the season, which was 17.21 inches above normal. This ranks as the wettest Fall on record for this site, exceeding the previous record of 26.41 inches set during the Fall of 1915. Records for this site go back to 1892.

Station	Fall 2022 Rainfall	Normal Rainfall	Departure From Normal	Percent of Normal
Orlando (MCO)	28.83"	11.62"	+17.21"	248%

Does It Affect
Our Health

More flooding, drought may cause hepatitis E to spread

Clare Roth, Deutsche Welle - Wednesday



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Comments



5



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Hepatitis E is one of the least understood forms of the disease. For Hepatitis Day 2022, DW looks at why it affects the world's most vulnerable people. For people in rich industrialized countries like the US or Germany, our understanding of hepatitis is often confined to hepatitis B and C,

How Extreme Heat Kills, Sickens, Strains and Ages Us



June 13, 2022
Raymond Zhong



Trying to stay cool during a heat wave in Houston in June. Brandon Bell/Getty Images

HEALTH WATCH

Climate Change and Your Health

by: Audrey Pentecost, Connie Fellman
Posted: Aug 1, 2022 / 06:32 PM EDT
Updated: Aug 1, 2022 / 06:58 PM EDT



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ORLANDO, Fla. (Ivanhoe Newswire) — The World Health Organization estimates that between 2030 and 2050, climate change will cause 250 thousand additional deaths per year due to malnutrition, malaria, diarrhea, and heat stress. The good news is there are ways you can help.

You've probably heard about how climate change can affect the environment, but what about your health?

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Climate Change Is Making Us More Anxious

unbranded - Lifestyle

13

17



The Daily Digest

Climate change is worsening more than half of infectious diseases



1




Climate change is driving up cases of Lyme disease in the US

unbranded - Newsworthy

50 mins ago

Climate Change Is Causing A Spike In Lyme Disease Cases

Climate change is driving up cases of Lyme disease in the US. Cases have increased fourfold... See more

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The NATION'S HEALTH

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News / Special Report

Climate change increasingly harming mental health: Resource-poor communities in US, across globe at high risk

Teddi Nicolaus

The Nation's Health November/December 2022, 52 (9) 1-8;

In this issue



The Nation's Health
Vol. 52, Issue 9
November/December 2022

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The world's climate is changing at an alarming and unprecedented rate, and numerous studies show that the mental health impacts caused by heavier rains, flooding, hurricanes, wildfires, poor air quality and extreme heat and cold are not experienced equally. According to a 2021 report from the American Psychological Association and ecoAmerica, the destructive impacts of climate change will be felt by everyone, but the impact will fall hardest on low-income people and communities of color. Climate change can increase stress, anxiety, depression, mood disorders, PTSD, cognitive decline, poor academic performance and higher exposure to violence and crime, research shows.



U.S. Department of Health and H...

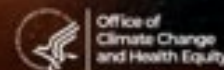


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Experts know that climate-related events like extreme heat and drought can affect the heart and lungs, even the brain. HHS's Office of Climate Change and Health Equity is here to do something about this issue. Learn more at [HHS.gov/ocche](https://www.hhs.gov/ocche). [#ClimateChange](#) [#HealthEquity](#)

Climate change is
a **health issue**





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Better Health

Climate Change and Human Health: Racing to Curb the Ripple Effect



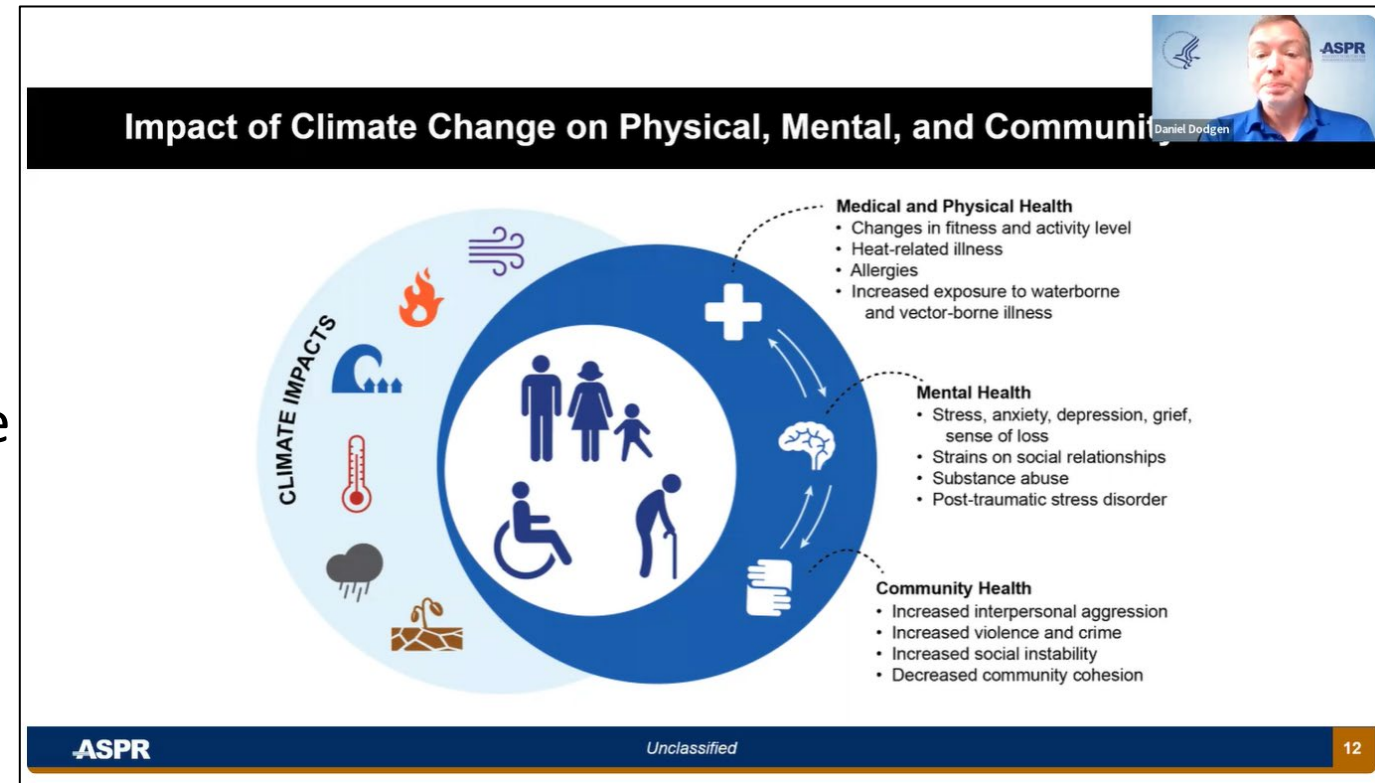
Global climate change is causing a dangerous rise in sea levels, erratic and wild weather, environmental damage, and consequently, a state of worsening human health. Quelling this crisis requires bold efforts and a better understanding of the interdependent forces at play.

“Climate change has led to more extreme-weather days, increased the number and intensity of natural disasters, and changes in infectious disease patterns. Older adults, people with disabilities, people of color, people with low incomes, and people with chronic illnesses bear the greatest burden of disease and death related to climate change. Extremely hot and cold days, which are increasing because of climate change, can be life-threatening for older adults. Older adults and people with disabilities also face greater challenges in evacuating safely during a natural disaster.”

— *AARP Policy Book 2021–2022*,
Chapter 7 “Health: Public Health Issues”

Does It Affect Our Health

- YES
 - Heat-related Illness & Death
 - Cardiopulmonary Illness
 - Air Quality Impacts
 - Food-, water-, & vector-borne disease
 - Mental health consequences & stress



Climate and Health

CDC > Climate and Health > Climate Effects on Health

🏠 Climate and Health

Climate Effects on Health	—
Air Pollution	
Allergens	+
Wildfires	
Temperature Extremes	
Precipitation Extremes	

Climate Effects on Health

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Climate change, together with other natural and human-made health stressors, influences human health and disease in numerous ways. Some existing health threats will intensify and new health threats will emerge. Not everyone is equally at risk. Important considerations include age, economic resources, and location.

In the U.S., public health can be affected by disruptions of physical, biological, and ecological systems, including disturbances originating here and elsewhere. The health effects of these disruptions include increased respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather events, changes in the prevalence and geographical distribution of food- and water-borne illnesses and other infectious diseases, and threats to mental health.

Regional Health Effects - Southeast

[Print](#)

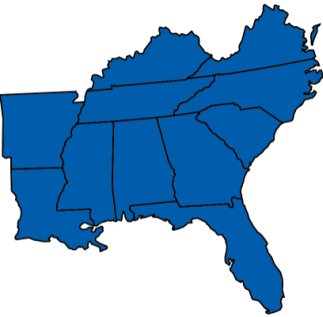
Health Impacts

Temperature-Related Death and Illness


Cities across the Southeast are experiencing more and longer summer heat waves. Sixty-one percent of major Southeast cities are exhibiting some aspects of worsening heat waves, which is a higher percentage than any other region of the country.

Air Quality Impacts

In the Southeast, poor air quality can result from emissions (mostly from vehicles and power plants), wildfires, and airborne allergens. The major urban centers in the Southeast are already impacted by poor air quality during warmer months. The Southeast has more days with stagnant air masses than other regions of the country (40% of summer days) and higher levels of fine (small) particulate matter (PM2.5), which cause heart and lung disease. The fast growth rate of urban areas in the Southeast also contributes to aeroallergens, which are known to cause and exacerbate respiratory diseases such as asthma. Urban areas have higher concentrations of CO2, which causes allergenic plants, such as ragweed, to grow faster and produce more pollen allergen than in rural areas.



What About The Animals



National Park Service


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ARTICLE

Wildlife and Climate Change

Catoctin Mountain Park, Rock Creek Park




Your Parks Have Climate Stories

National Park Service

U.S. Department of the Interior

Urban Ecology Research Learning Alliance




NPS Photo / Graphic by 4C

Climate change has produced a number of threats to wildlife throughout our parks. Rising temperatures lower many species survival rates due to changes that lead to less food, less successful reproduction, and interfering with the environment for native wildlife. These detrimental changes are already apparent in our National Capital Area parks.

Rising Temperatures and Invasive Species

Since the temperature of the beach sand that female sea turtles nest in influences the gender of their offspring during incubation, **our warming climate may be driving sea turtles into extinction by creating a shortage of males**, according to several studies. Jun 19, 2019



<https://climate.nasa.gov/news/2019/climate-change-puts-pressure-on-sea-turtles/>

Climate Change Puts Pressure on Sea Turtles

AP Associated Press

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A race to save fish as Rio Grande dries, even in Albuquerque

By BRITTANY PETERSON and SUMAN NAISHADHAM, Associated Press - 2h ago

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A

LBUQUERQUE, N.M. (AP) — On a recent, scorching afternoon in Albuquerque, off-road vehicles cruised up and down a stretch of dry riverbed where normally the Rio Grande River flows. The drivers weren't thrill-seekers, but biologists hoping to save as many endangered fish as they could before the sun turned shrinking pools of water into dust.


the impact of climate change on our planet's animals

February 28, 2022



A group of African elephants drink water at a watering hole in Hwange National Park, Zimbabwe. © Rudi Van Aarde

Humans are not the only species impacted by our planet's climate crisis. The world's wildlife and habitats will also face profound, sometimes catastrophic, change. Increases in temperature could trigger the collapse of fragile ecosystems and huge waves of extinction. The choices we make



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Global climate change has rippling effects on our environment, impacting where plants, animals, and humans can live. The USGS studies how climate change affects natural places and provides solutions to help protect fish, wildlife, and habitats.

Orlando Sentinel

Climate change heats devil fish that possess St. Johns River

By Kevin Spear, Orlando Sentinel

Orlando Sentinel 2 days ago





08-18-2022

Pets are unrecognized victims of climate-related disasters

By Alison Bosman

Earth.com staff writer

The Future

Fox Weather

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Millions more Americans will broil in extreme heat by 2053, study finds

Angeli Gabriel - Yesterday 3:57 PM

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More than 100 million Americans may experience a heat index higher than 125 degrees by 2053, according to a study published Monday by First Street Foundation.



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Scientists call for more research into 'climate endgame'

AFP - 6h ago

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The world must prepare for a "climate endgame" to better understand and plan for the potentially catastrophic impacts of global heating that governments have yet to consider, scientists warned Tuesday.

Climate models that can predict the extent of global warming depending on greenhouse gas emissions are increasingly sophisticated and provide policymakers with an accurate trajectory of global temperature rises.

CBS News

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A megaflood could bring over 8 feet of water to parts of California

Li Cohen - Yesterday 1:08 PM

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Devastating wildfires and droughts are not the only natural catastrophes that California will continue to face. According to new research published on Friday, a disastrous megaflood could bring so much water to some areas of the state that it could completely drown entire stop signs on a neighborhood street.



Scientists warn world needs to prepare for risks of "climate endgame"

The effects of climate change can be seen all around from raging

Daily Mail

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Global warming could trigger nuclear war as early as 2070, study warns

Shivali Best For Mailonline - Yesterday 3:00 PM

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With global temperatures continuing to rise, a new study has warned that we are inching dangerously close to a 'climate endgame'.

Researchers from the [University of Cambridge](#) claim that global heating could trigger [nuclear war](#), financial crisis or an extinction-level pandemic as soon as 2070.

Based on their findings, the researchers are calling for authorities to start preparing for such events.

'There are plenty of reasons to believe [climate change](#) could become catastrophic, even at modest levels of warming,' said Dr Luke Kemp, lead author of the study.

talker

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Scientists say it's time to prepare for human extinction

Talker News - 2h ago

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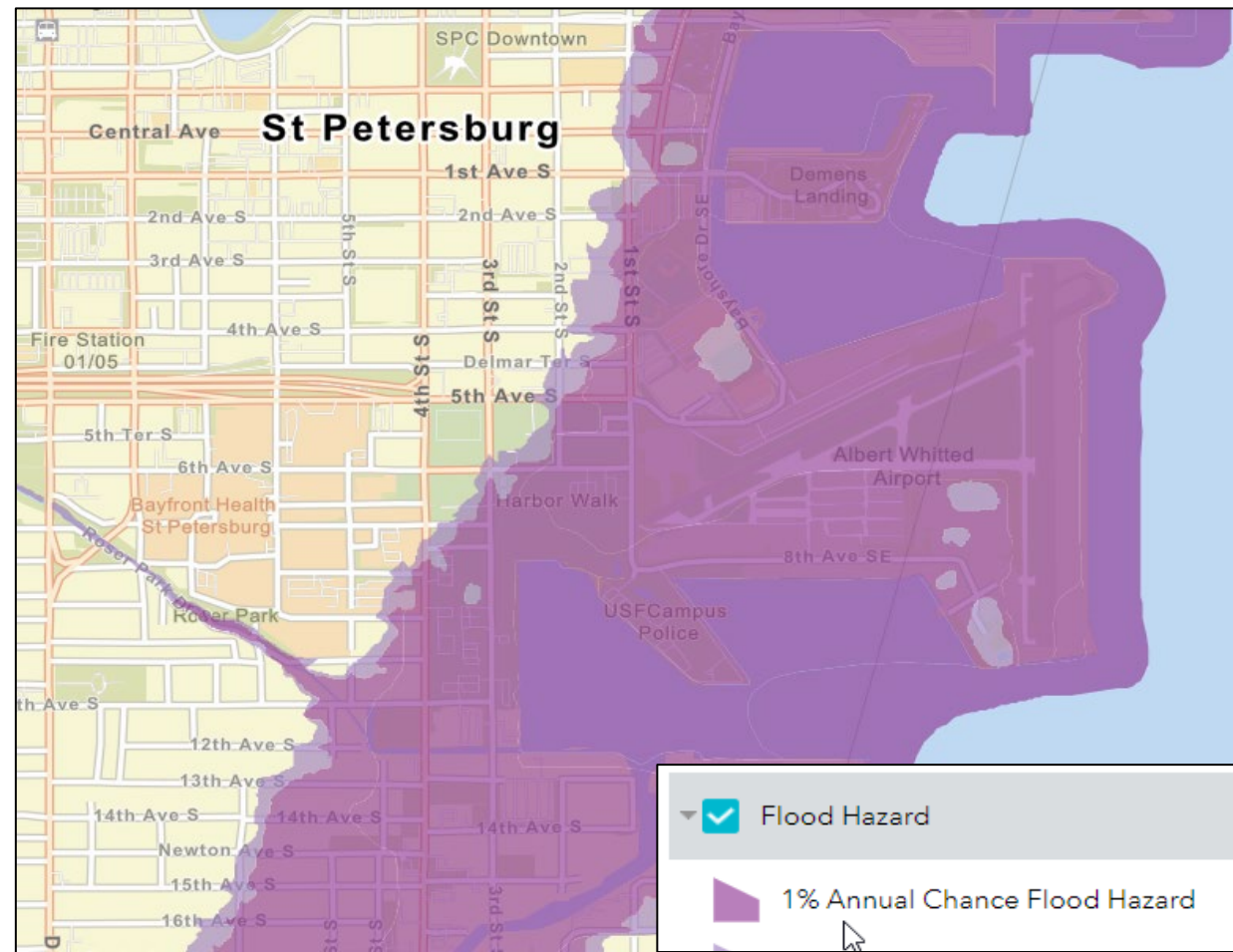
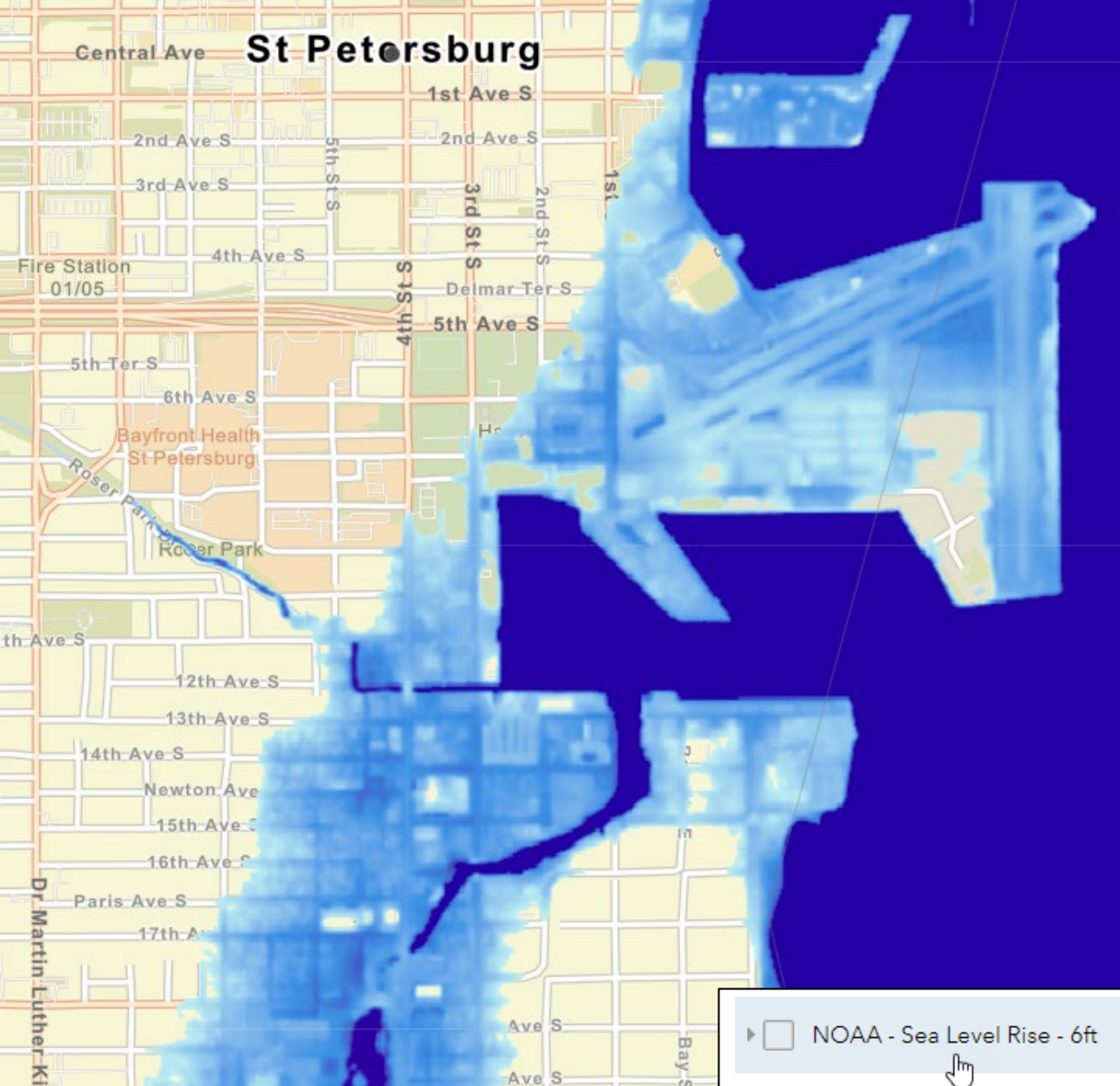
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By Gwyn Wright via [SWNS](#)

The world needs to prepare for human extinction because of climate change, according to a shocking new study.





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Hundreds of hospitals at risk of flooding from hurricanes, Harvard study finds

Molly Gamble ([Twitter](#)) - Thursday, September 29th, 2022

The 10 metro areas where a Category 2 hurricane threatens access to hospital care most are listed below, along with the number and proportion of hospitals at risk in each area.

- Miami-Fort Lauderdale-West Palm Beach — Fla. (38, or 77.6 percent of hospitals)
- New York-Newark-Jersey City — N.Y., N.J., Pa. (25, or 19.5 percent of hospitals)
- Boston-Cambridge-Newton — Mass., N.H. (6, or 15 percent of hospitals)
- **Orlando-Kissimmee-Sanford — Fla. (1, or 33.3 percent of hospitals)**
- New Orleans-Metairie — La. (15, or 78.9 percent of hospitals)
- **Tampa-St. Petersburg-Clearwater — Fla. (8, or 28.6 percent of hospitals)**
- North Port-Sarasota-Bradenton — Fla. (6, or 85.7 percent of hospitals)
- Jacksonville — Fla. (6, or 42.9 percent of hospitals)
- Cape Coral-Fort Myers — Fla. (4, or 80 percent of hospitals)
- Philadelphia-Camden-Wilmington — Pa., N.J., Del., Md. (5, or 10 percent of hospitals)

"We now have a better sense of which hospitals are likely to flood from a hurricane today and those that need to prepare for greater risks in the future," said senior author Aaron Bernstein, MD, interim director of the Center for Climate, Health, and the Global Environment at Harvard T. H. Chan School of Public Health. "Hurricanes are expected to get more severe and may strike regions further north than in the past due to climate change. In places like my hometown of Boston, we can avoid crises that other hospitals have had to endure by learning from their experience and creating plans that build on best practices. But we must act now, before disaster strikes."

What's Being Said
What's Being Done

The Joint Commission Joins Pledge to Reduce Health Care's Greenhouse Gas Emissions

JOINT COMMISSION PRESIDENT AND CEO JONATHAN B. PERLIN, MD, PHD, IDENTIFIES TAKING ACTION ON CLIMATE CHANGE AS A TOP STRATEGIC PRIORITY

The Joint Commission has joined the Biden administration's [Health Sector Climate Pledge](#) to reduce the health care sector's greenhouse gas emissions and help make health care organizations more resilient to the effects of climate change. The Joint Commission as a corporation has pledged to reduce emissions by at least 50% by 2030 and achieve net-zero emissions by 2050.

Jonathan B. Perlin, MD, PhD, The Joint Commission's new president and CEO, has identified taking action on climate change as one of his top strategic priorities. The Joint Commission is committed to working with the US Department of Health and Human Services and other hospital and health sector



*Joint Commission President
and CEO Jonathan B.
Perlin, MD, PhD*

The Joint Commission Signs Health Care Sector Climate Pledge

Pledge Aims to Reduce Health Care Sector–Related Carbon Emissions

In the United States, the health care sector contributes approximately 9% of total greenhouse gas emissions. Reducing its own carbon emissions and helping health care organizations to become more resilient to the effects of climate-related events are Joint Commission priorities. Accordingly, The Joint Commission recently signed the Biden Administration's Health Care Sector Climate Pledge to reduce its own carbon contributions. The Joint Commission participated in a White House Roundtable on the Health Care Sector and Climate Pledge along with other health care organizations that signed the pledge, including hospitals, health care systems, suppliers, and medical device companies. Since the roundtable, more than 650 health care organizations have signed the pledge.



The Health Care Sector Climate Pledge was launched by the US Department of Health and Human Services' (HHS) newly established Office of Climate Change and Health Equity. The climate pledge is an attestation by health care organizations to reduce their own emissions by 50% by 2030 and achieve net zero emission by 2050; share strategies for reducing on-site emissions publicly; designate an executive-level leader to oversee emission reduction; and release a climate resilience plan for continuous operations.

The White House and HHS recently extended the opportunity for health care organizations to sign the pledge until October 28, 2022.

Climate Resources for Health Care Organizations

The Joint Commission's efforts to address climate-related concerns will be informed by forthcoming recommendations from the National Academy of Medicine's [Action Collaborative on Decarbonizing the US Health Sector](#). Joint Commission President and Chief Executive Officer, Dr. Jonathan B. Perlin, MD, PhD, MSHA, MACP, FACMI, is the Co-Lead of the Collaborative's Policy, Financing, and Metrics Working Group. The Collaborative's recommendations should inform The Joint Commission and other health care entities on an array of next steps and good practices to positively affect the environment.

Grappling with Extreme Heat

CLIMATE CHANGE–RELATED HEAT EMERGENCIES ARE BECOMING MORE FREQUENT AND SEVERE AND LONGER LASTING. HERE ARE SOME INSIGHTS AND TIPS FOR HEALTH CARE FACILITIES

"Heat is one of the most dangerous weather-related killers in the United States, causing hundreds of deaths every year," writes Angela Murray, MSN, RN, Project Director, The Joint Commission's Department of Standards and Survey Methods, in a [blog posted on JointCommission.org](#) in August 2021.¹ This may, in fact, be an understatement.



Extreme-temperature heat waves are lasting longer, arriving earlier in the season, and occurring in unexpected places.² For example, the unprecedented heat dome in the Pacific Northwest last summer caused temperatures to reach all-time highs of 108°F in Seattle and 116°F in Portland, Oregon, on June 28, 2021. During the most intense week of that heat wave, approximately 600 people died due to heat-related causes.³ Because this geographic area traditionally has mild summer temperatures, many homes and other buildings lack air conditioning, which exacerbated the suffering.

The pattern is repeating itself this summer. On July 19, 2022, a particularly hot day, more than 100 million people in the United States faced excessive heat warnings or advisories, while approximately 265 million people (80% of the US population) dealt with extended highs of more than 90°F.⁴ Both Oklahoma City and Abilene, Texas, reached 110°F, breaking records set in 1936.⁴

"Heat waves generally and EHEs [extreme heat events] specifically have occurred



FACT SHEET: Health Sector Leaders Join Biden Administration's Pledge to Reduce Greenhouse Gas Emissions 50% by 2030

JUNE 30, 2022 • STATEMENTS AND RELEASES

Health Sector Steps Up to Protect Public Health and Lower Costs

Today, the Biden-Harris Administration announced that 61 of the largest U.S. hospital and health sector companies responded to the Administration's [Health Sector Climate Pledge](#) ↗, committing to reduce greenhouse gas emissions 50% by 2030. The new commitments represent over 650 hospitals and thousands of other providers across the country, and include plans to strengthen resilience to climate change, protect public health, and lower costs. The health care sector accounts for 8.5% of U.S. emissions, so these bold commitments advance President Biden's goal to reduce nationwide greenhouse gas emissions 50-52% in 2030 and reach net-zero emissions in 2050.



FACT SHEET: The Bipartisan Infrastructure Deal Boosts Clean Energy Jobs, Strengthens Resilience, and Advances Environmental Justice

NOVEMBER 08, 2021 • STATEMENTS AND RELEASES

President Biden has made combatting the climate crisis a central priority of his Administration, including throughout his legislative agenda. Climate change is already impacting almost every aspect of life in the United States. Extreme heat waves, catastrophic wildfires, and severe drought are taking American lives and livelihoods. In the last year alone, extreme weather has cost America more than \$100 billion – often hitting historically underserved groups the hardest, particularly low-income communities, communities of color, and people with disabilities. In just the last few months, nearly 1 in 3 Americans have been hit by a severe weather disaster and 2 in 3 Americans have suffered through dangerous heat waves. Delayed action on climate also sets us back in the global race on manufacturing and innovation, preventing us from harnessing the economic opportunity that this moment represents.

Public Transit
Electric Vehicle Infrastructure
Clean School Buses
Modern Infrastructure
Resilience
Clean Drinking Water
Legacy Pollution
Clean Energy Transmission

What Can We Do

Mitigation –

- Attempts to reduce the causes of climate change

Adaptation –

- Attempts to manage the impacts of climate change
- Process or action that changes a living thing so that it is better able to survive in a new environment

Resilience –

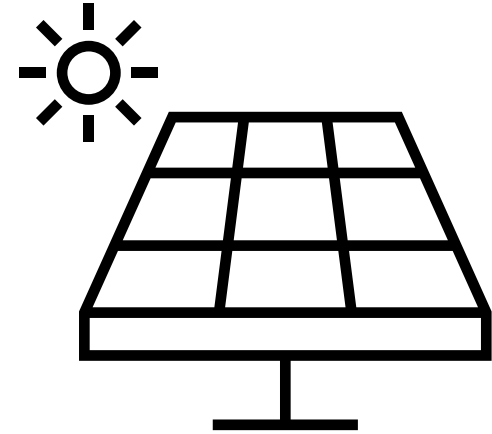
- Capacity or ability to anticipate and cope with shocks, and to recover from their impacts

Look At Emissions

Adapt To Climate Impacts

- Improving Health Systems
- How Will The Vulnerable Cope
- Early Warning Systems
- Storms & Sea-Level Rise
- Climate Resilient Infrastructure
- Look To Renewable Energy Systems
- Resilient Water Resources
- Better Water Management
- Look At Food Waste
- Improve Soil Quality
- Build Health Ecosystems

Finance Required Adjustment



Joint Commission CEO Discusses Climate Change, Standards Simplification

DURING JCR'S HOSPITAL EXECUTIVE BRIEFING IN SEPTEMBER, JONATHAN B. PERLIN, MD, PHD, DISCUSSED THESE AND OTHER TOP PRIORITIES FOR THE JOINT COMMISSION

Acknowledging the tremendous financial and staffing challenges faced by health systems and hospitals as a result of COVID-19, new Joint Commission President and CEO Jonathan B. Perlin, MD, PhD, MSHA, MACP, FACMI, vowed that The Joint Commission will be as "operationally sensitive to current realities as possible" while advancing safety, quality, value, equity, and excellence in health care. He addressed an audience of health care leaders during JCR's Hospital

Executive Briefing in Rosemont, Illinois, on September 13.

In his keynote address, Perlin outlined The Joint Commission's strategic priorities. "We have lots of opportunities in health equity, in environmental sustainability, and in improving conditions for the workforce," he said.

He also announced a new "mega-review" initiative designed to reduce the compliance burden on organizations that are accredited by The Joint Commission. In the months ahead, The Joint Commission will evaluate every standard and element



According to the [Greenhouse Gas Protocol](#), the many sources of greenhouse gas emissions attributable to the US health care sector can each be classified into one of three categories or scopes. Perlin suggested that health care organizations (HCOs) view their carbon footprint in simpler terms: "the stuff you do," "the stuff you burn," and "the stuff you buy."

In the "stuff you do" category, waste anesthetic gases are the only source of greenhouse gas emissions unique to health care. Desflurane and isoflurane are "as bad as freon in terms of escaping into the atmosphere and problematic in terms of exacerbating greenhouse gases," said Perlin. Hospitals and other anesthetizing sites can lower their costs as well as their carbon footprint by reducing flow rates or, even better, eliminating use of those volatile anesthetics, he recommended. (See *also* the article "Taking on Anesthesia-Related Greenhouse Gas Emissions" in the July 2022 issue of *EC News*.)

The "stuff you burn" category, whether the fuel burned in fleet vehicles or used to heat and cool facilities, is more difficult to address because it depends on the age of a health system's infrastructure, the location of its facilities, and many other factors, according to Perlin. However, there are certainly opportunities for return on investment in this realm, he said.

Regarding the "stuff you buy," Perlin predicts that carbon footprint labeling will become commonplace in the health sector supply chain within three years. The pressure on health care industry suppliers to reduce their greenhouse gas emissions will, in turn, enable HCOs to make more environmentally sustainable purchases. "If we buy as thoughtfully as if we were in a supermarket [looking at product labels], shopping carefully with respect to the carbon footprint, we can have an extraordinary impact," Perlin asserted.

Published in *Environment of Care® News*, October 2022
Joint Commission Resources, 2022.
File Name: Extreme Temperature Preparedness Checklist

APPLICABLE PROGRAM(S)

☒ **AHC** ☒ **ALC** ☒ **BHC** ☒ **CAH** ☒ **HAP**
☒ **LAB** ☒ **NCC** ☐ **OBS** ☒ **OME**

Toolbox


APPLICABLE PROGRAMS: ALL

Is Your Organization Prepared for Temperature Extremes?

HERE IS A CHECKLIST TO HELP YOUR ORGANIZATION PLAN FOR EXTREME COLD AND EXTREME HEAT EMERGENCIES, WHICH ARE OCCURRING MORE FREQUENTLY, LASTING LONGER, AND WREAKING HAVOC EVEN IN UNEXPECTED PLACES

As a result of climate change, severe weather events have become increasingly common, occurring in surprising places and at unexpected times. It's important not to overlook extreme temperature emergencies—including long stretches of brutal cold or scorching heat—in your emergency management (EM) planning activities.

Even if your health care facility serves a region that typically has relatively mild weather, extreme temperature events should be considered in your organization's hazard vulnerability analysis (HVA) and addressed in your Emergency Operations Plan (EOP). Such events, which frequently lead to power outages and tax the limits of emergency power supply systems, should also be part of emergency preparedness training for staff. What's more, the devastating impacts of extreme temperatures can provide scenarios for EM exercises and drills.

The checklist on the following pages was developed by JCR as a helpful EM preparedness tool to be used in conjunction with other tools. A downloadable, customizable version of the tool is available [here](#). 

Extreme Temperature Preparedness Checklist

Joint Commission Emergency Management (EM) Standards EM.11.01.01 (effective July 1, 2022, for hospitals and critical access hospitals) and EM.01.01.01 (for non-acute-care settings) require accredited organizations (except for office-based surgery [OBS] practices) to conduct either a hazard vulnerability analysis (HVA) or a similarly thorough risk assessment. The Joint Commission does not specify which hazards need to be addressed. However, given the increasing frequency, severity, and duration of extreme temperature emergencies, The Joint Commission recommends that health care organizations (HCOs) address such events in their HVAs and Emergency Operations Plans (EOPs). In addition, the National Fire Protection Association (NFPA) Health Care Facilities Code (NFPA 99-2012) has requirements to ensure that there are no utility system failures in HCOs. Such system failures may be due to losing municipal supply, mechanical failures, or accidents. NFPA 99-2012 defines Category 1 systems as "facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers." NFPA Category 1 requirements are addressed in this checklist, which also reflects best practice suggestions for HCOs. Use of this checklist is not required by The Joint Commission.

*Answers to all questions ideally should be **Y** for **Yes** (unless marked **NA** for **Not Applicable**). Use the Comments section to indicate any required follow-up action(s) identified by an **N** for **No** response.*

ORGANIZATION: _____ **DEPARTMENT/UNIT:** _____

DATE OF REVIEW: _____ **REVIEWER(S):** _____

QUESTIONS	Y	N	NA	COMMENTS
Does your hazard vulnerability analysis (HVA) address temperature extremes (extreme cold and/or extreme heat)? (Note that what is considered to be an				



Boston Medical Center (BMC)

2d • 🌐

+ Follow

The U.S. healthcare system 🏥 emits the same amount of greenhouse gases as 100 coal-fired power plants every year. A large portion of this climate footprint 🌍 is the supply chain. 🌱

At BMC, our rooftop farm 🌱 produces more than 3 tons of vegetables each year. 🍅 🥬 🥕 The farm provides food for patients and those experiencing food insecurity, who can receive a produce prescription from a doctor via the hospital's food clinic.

"Food often travels thousands of miles. 🚚 ✂️ We're growing it just feet away from our patient rooms." -BMC's David Maffeo, Senior Director of Support Services.

Hear from others in the healthcare industry on [Modern Healthcare](#) 📺:



Healthcare is dirty. Hospitals are doing something about it

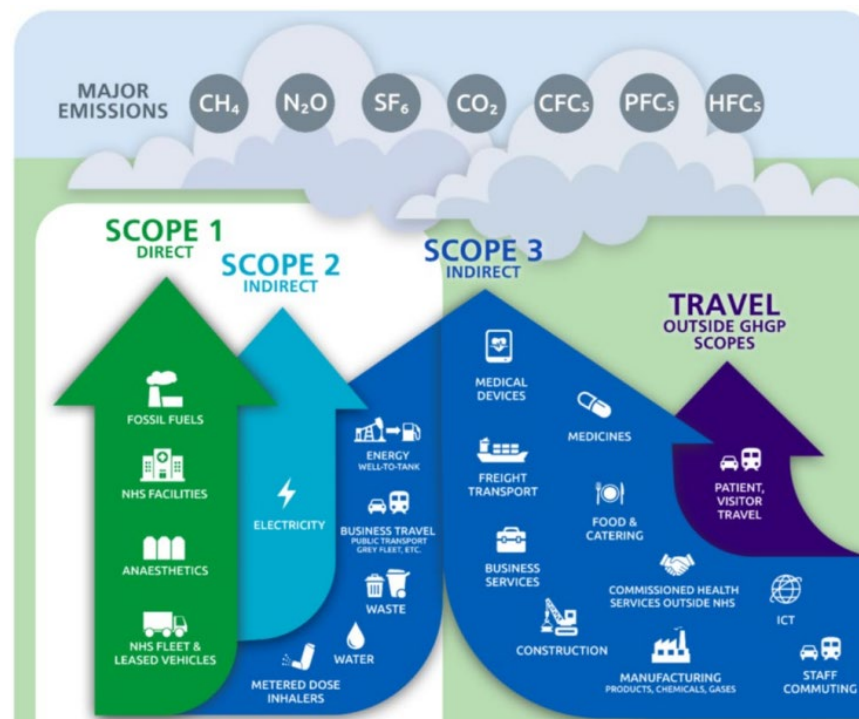
Reducing Healthcare Carbon Emissions

A Primer on Measures and Actions for Healthcare Organizations to Mitigate Climate Change



AHRQ Publication No. 22-M011
September 2022
www.ahrq.gov

This primer serves as an action guide for healthcare organizations to begin the journey to reduce greenhouse gas emissions. It offers **prioritized measures** to monitor progress and guide strategic management and examples of **interventions** that healthcare organizations may use toward their decarbonization goals. While not all strategies are equally feasible or carry equal weights across organizations, Figure 1 provides several options for healthcare organizations to consider based on their local conditions.



Critical Enablers

Establish a Management System

- ☐ Nominate executive leadership to take responsibility for sponsoring and supporting climate action
- ☐ Build a system of whole organizational GHG (or proxy) accounting to inform strategic management and track progress
- ☐ Establish a cross-functional team to build data collection and management infrastructure
- ☐ Develop a climate action plan to strategically prioritize decarbonization activities
- ☐ Develop a financing plan and resource commitment for implementing interventions
- ☐ Build a governance structure for accountability and internal reporting

Set Targets and Timelines

- ☐ Set a net-zero emissions goal and associated timelines for decarbonization targets
- ☐ Set a baseline year to assess decarbonization performance improvement
- ☐ Set interim annual decarbonization targets

Long-Term Enablers

Build Workforce Capability


- ☐ Institute education and training programs to promote climate literacy across the workforce
- ☐ Embed sustainability in administrative and clinical roles and responsibilities
- ☐ Promote a culture of sustainability and resource stewardship

Manage Carbon Accounting and Finance

- ☐ Establish procurement policies that prioritize suppliers based on verified environmental disclosures
- ☐ Limit carbon offset purchases so they only apply to residual emissions that cannot otherwise be mitigated

B. Braun Medical Inc. (US) 22h • Edited • [+ Follow](#)

We are proud to announce that we have been awarded a state grant, secured by PA State Senator Pat Browne, to help fund a medical plastics waste recycling project in the Lehigh Valley. The project will investigate the use of advanced technology to recycle non-hazardous plastic waste from B. Braun's medical device manufacturing plant in Hanover Township and [Lehigh Valley Health Network](#) Cedar Crest Hospital. Read the press release: <https://lnkd.in/eSa9vm3M> #bbraunusa



B. Braun and Lehigh Valley Health Network to Collaborate on Recycling Medical Plastics Waste

bbraunusa.com • 5 min read

According to the Healthcare Plastics Recycling Council, U.S. hospitals generate about 28 million pounds of waste a day, with 20-25 percent of that being plastic products and packaging. Only a small percentage of these plastics are recycled.

The companies are working with PureCycle TechnologiesSM, which uses an innovative, patented technology to separate color, odor and any other contaminants from certain non-hazardous plastic waste feedstock to transform it into virgin-like recycled polypropylene. High volume plastics such as packaging materials, non-PVC IV bags, disposable gowns and masks, and irrigation bottles used at Lehigh Valley Hospital-Cedar Crest, and scrap materials generated at B. Braun's medical device manufacturing plant in Hanover Township, PA will be targeted for collection and recycling.

CLIMATE AND ENVIRONMENT | News

This 100% solar community endured Hurricane Ian with no loss of power and minimal damage



The streets in this meticulously planned neighbourhood were designed to flood so houses don't. Native landscaping along roads helps control storm water. Power and internet lines are buried to avoid wind damage. This is all in addition to being built to Florida's robust building codes.

Some residents, like Grande, installed more solar panels on their roofs and added battery systems as an extra layer of protection from power outages. Many drive electric vehicles, taking full advantage of solar energy in the Sunshine State.

Climate resiliency was built into the fabric of the town with stronger storms in mind.

OPINION > HEALTHCARE

Disaster after disaster, hospital preparedness remains a deficiency

BY DR. AMESH ADALJA, OPINION CONTRIBUTOR 10/14/22 08:30 AM ET



In this photo provided by Dr. Birgit Bodine, various containers and clothes soak up floodwater near debris at an area at HCA

However, events such as these raise the question of why sufficient hospital preparedness remains a deficiency at many hospitals.

In most hospitals, emergency preparedness was often an afterthought, relegated to some minimally staffed office in some low trafficked area of the hospital and largely out of sight. Most emergency preparedness managers did not have any link to the executive management team of the hospital who often viewed emergency preparedness as a box to be checked, a single mass shooting exercise to conduct, and, above all, a cost (vs. a revenue) center. This lack of priority was and is a surefire path to being inadequately prepared.

Hospital preparedness, like public health, is better thought of as an aspect of national security and be a perennial priority for every hospital. Cycles of panic and neglect will never suffice if resiliency to the next emergency we face is the goal.

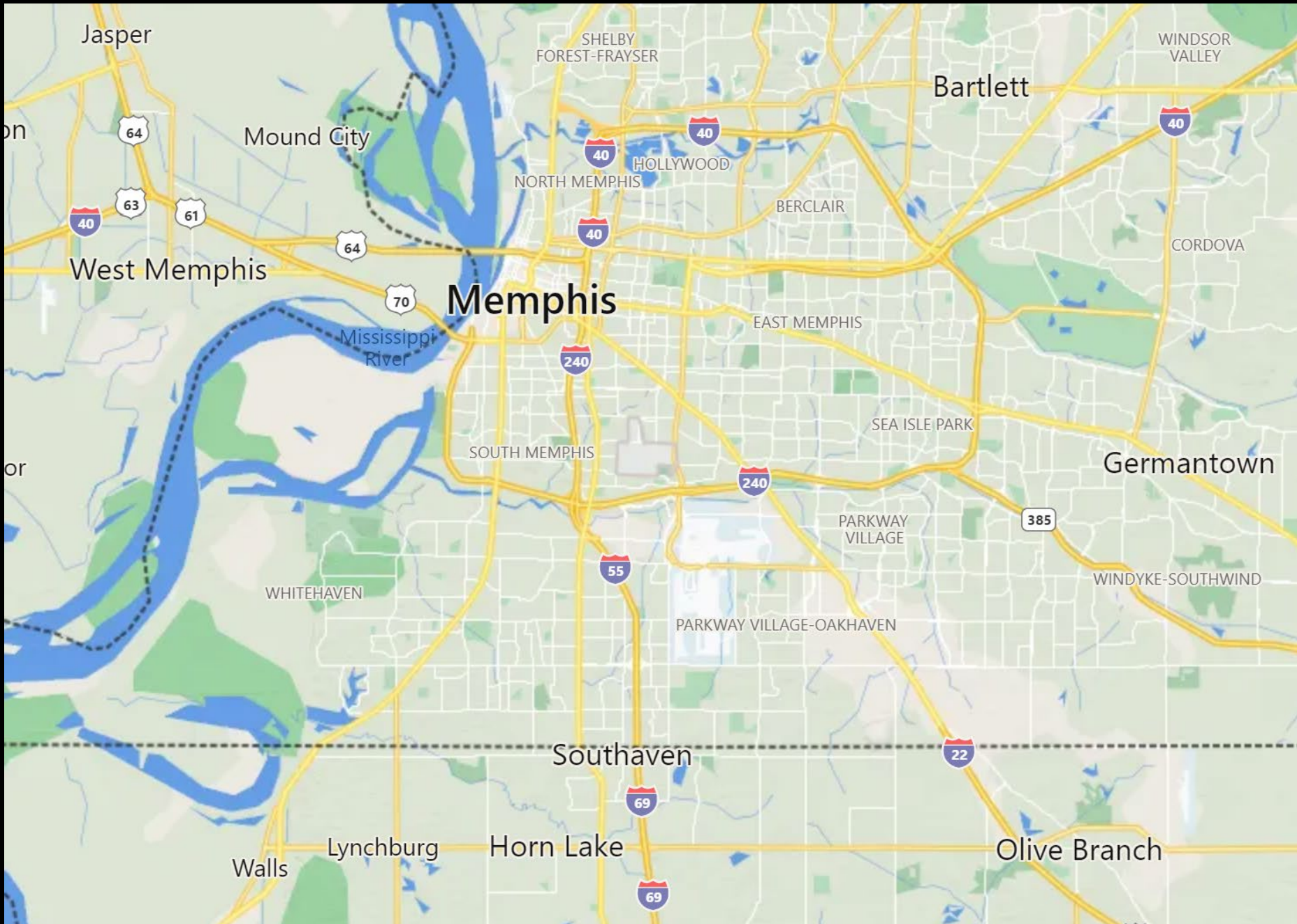
Questions

— 3 Dead, 3 Wounded

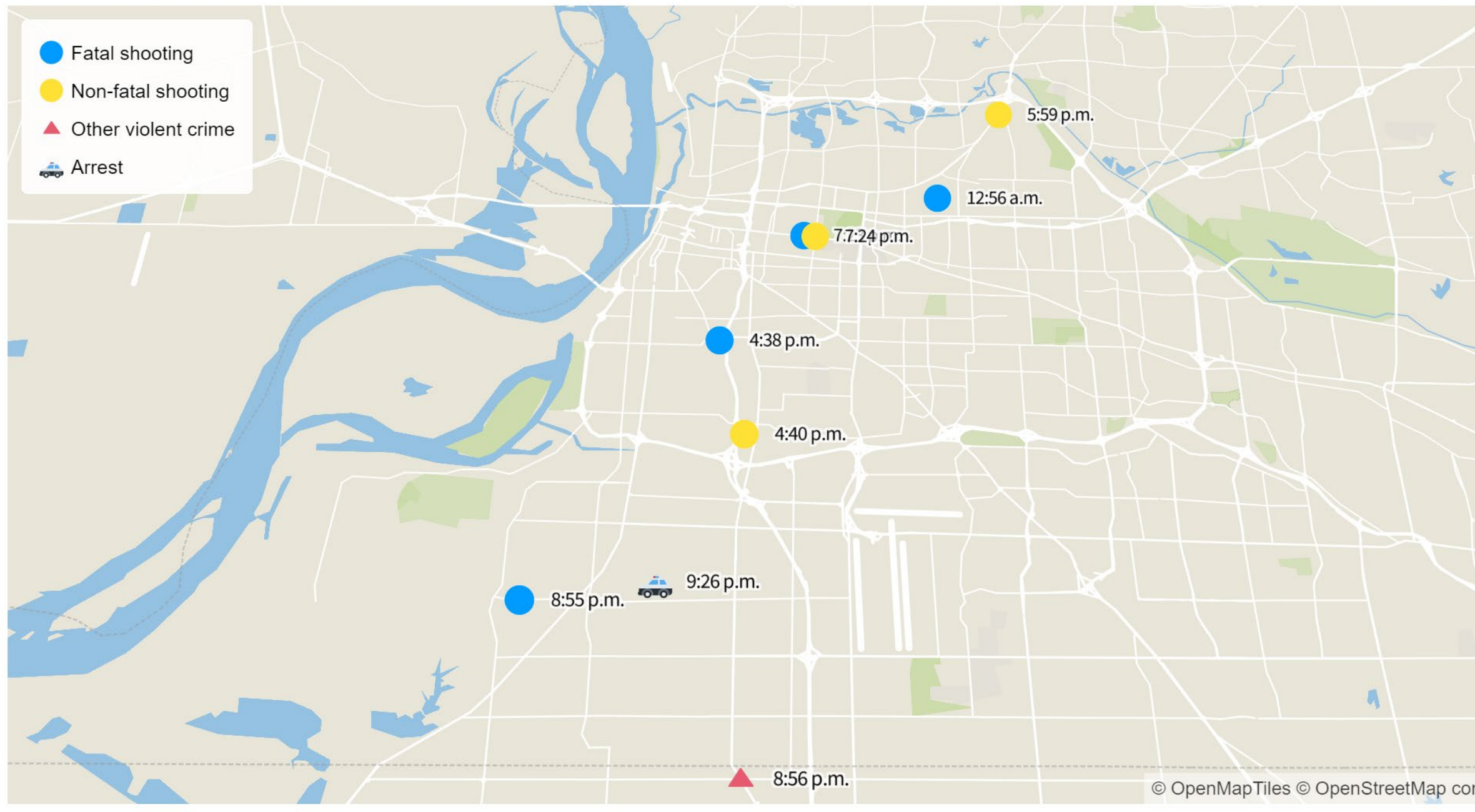
Ezekiel Kelly
Facebook Live Shoot Spree
Memphis, TN
09/07/2022

FBI On-scene Commander, ASAC
Bryan McCloskey

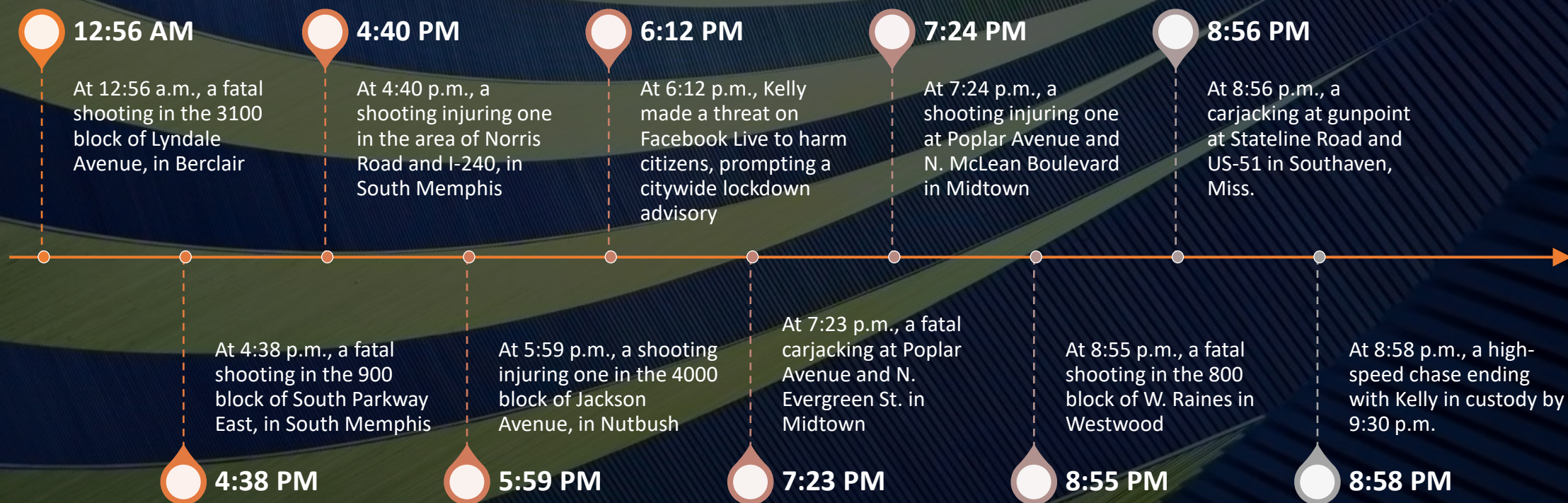




- Fatal shooting
- Non-fatal shooting
- Other violent crime
- Arrest



Timeline of Events





12:56 AM
3176 Lyndale Avenue

- Victim 1: Dewayne Tunstall – 24yo
- Shot in driveway of friend's residence
- Friends with subject Kelly
- DECEASED





4:38 PM
946 S.Parkway E.

- Victim 2: Richard Clark – 62yo
- Shot in parking lot of gas station
- Car was not taken
- Video footage provided partial description of subject's car – black or charcoal gray sedan – possibly Infiniti
- DECEASED



4:40 PM
Norris Rd/240 S. Hwy

- Victim 3: Lakesha McGlathen – 44yo
- Shot in the leg
- Victim was on the side of the on ramp while her father was changing her flat tire
- Subject Kelly pulled up and asked for directions. As McGlathen was providing him directions, he shot at her several times striking her once.
- Gave vehicle description as dark color sedan





5:59 PM
4011 Jackson Ave

- Victim 4: Rodolfo Berger Zepeda – 63yo
- Facebook Live shooting – 10 minutes
 - Purge event
 - Saying that he killed Tunstall and that he's going to kill more
 - Going to shoot it out with Police
- Shot once in the lower abdomen
- Vehicle description given as a gray Infiniti

7:23 PM
4011 Jackson Ave

- Victim 5: Allison Parker – 38yo
- Suspect Kelly crashed his car when going through an intersection. Got out and approached 2 cars. Both cars sped away. Kelly did shoot at one of the drivers and struck the driver in the arm prior to the driver speeding off.
- Kelly then approached Parker, where he shot her and took her car
- Full vehicle description along with license plate was obtained from Insurance card. – Toyota CHR
- Passerby, walking, was struck in his shorts
- DECEASED



8:56 PM
580 Stateline Road
Southaven, MS

- Carjacked victim at gunpoint at the gas station – no shots fired – victim ran when he saw Kelly approach as he recognized him from the media push
- Left behind the gray SUV
- Stole a Dodge Challenger
- Southaven PD had saturated the area
- Law Enforcement was able to locate and pursue
- Kelly crashed in a field off of Hodge Road and Ivan Road where he was subsequently taken into custody.



Command Post

- At MPD HQ
- Started in small conference room
- Moved to large training center w/in PD
- Representatives from all agencies assisting
- PIO vital
- Intelligence Analysts vital
- Communications





Considerations

- Employees afraid to drive to the office
- Joint ops and training previously
- CP was too small to start
- Everyone thinks they need to be in the CP (good idea fairies)
- Comms concerns with some agencies
- Went into other jurisdictions (comms previously established)
- Identifying the vehicle
- Other crimes – “shiny objects”
- LE traffic at arrest location - adrenaline
- PIOs instrumental – 6pm lockdown
 - Utilization of other media platforms

A blue-tinted city skyline at night, featuring several skyscrapers. A bright light source, possibly the sun or moon, is positioned behind the word 'FOLLOW', creating a lens flare effect. The word 'FOLLOW' is written in large, bold, black capital letters on a white rectangular background. Below this, there is a large white rectangular area, flanked by two vertical red bars on the left and right sides, which appears to be a placeholder for additional content or a logo.

FOLLOW

Charges

Incident 1 (946 S. Parkway E.):

- 1. TCA 39-13-202, First Degree Murder of Richard Clark
- 2. TCA 39-13-101(a)(1)(B), Reckless Aggravated Assault on Stevie Scott
- 3. TCA 39-17-1307(b)(1)(A), Criminal Felon in Possession of a Firearm, Prior Crime of Violence

Incident 2 (I-240 & Norris exit ramp):

- 4. TCA 39-12-101, Criminal Attempt to wit: First Degree Murder of Lakesha McGlathen
- 5. TCA 39-13-101(a)(1)(B), Reckless Aggravated Assault on Willie McGlathen
- 6. TCA 39-17-1324(b)(1), Employing Firearm in the Commission of a Dangerous Felony, to wit: CA: First Deg. Murder of Lakesha McGlathen
- 7. TCA 39-17-1307(b)(1)(A), Criminal Felon in Possession of a Firearm, Prior Crime of Violence

Incident 3 (4011 Jackson Ave.):

- 8. TCA 39-12-101, Criminal Attempt to wit: First Degree Murder of Rodolfo Zepeda
- 9. TCA 39-13-101(a)(1)(B), Reckless Aggravated Assault on Christopher Bedsole
- 10. TCA 39-17-1324(b)(1), Employing Firearm in the Commission of a Dangerous Felony, to wit: CA: First Deg. Murder of Rodolfo Zepeda
- 11. TCA 39-17-1307(b)(1)(A), Criminal Felon in Possession of a Firearm, Prior Crime of Violence

Incident 4 (Poplar & N. Mclean):

- 12. TCA 39-13-102, Aggravated Assault on Beau Bates
- 13. TCA 39-12-101, Criminal Attempt to wit: First Degree Murder of Randall Graham

- 14. TCA 39-12-101, Criminal Attempt to wit: Carjacking of Randall Graham
- 15. TCA 39-17-1324(b)(1), Employing Firearm in the Commission of a Dangerous Felony, to wit: CA: First Deg. Murder of Randall Graham
- 16. TCA 39-13-101(a)(1)(B), Reckless Aggravated Assault on Matthew Carrozza
- 17. TCA 39-13-101(a)(1)(B), Reckless Aggravated Assault on Jill Carrozza
- 18. TCA 39-13-202, First Degree Murder of Allison Parker
- 19. TCA 39-13-404(a)(2), Carjacking of Allison Parker
- 20. TCA 39-17-1324(b)(1), Employing Firearm in the Commission of a Dangerous Felony, to wit: Carjacking of Allison Parker
- 21. TCA 39-12-101, Criminal Attempt to wit: First Degree Murder of Ariana Parker
- 22. TCA 39-17-1324(b)(1), Employing Firearm in the Commission of a Dangerous Felony, to wit: CA: First Deg. Murder of Ariana Parker
- 23. TCA 39-17-1307(b)(1)(A), Criminal Felon in Possession of a Firearm, Prior Crime of Violence

Incident 5 (580 W. Stateline Rd):

- 24. TCA 39-14-103, Theft of Property Over \$10,000, Demetrick Porter's Dodge Challenger
- 25. TCA 39-16-603(b), Evading Arrest in an Automobile
- 26. TCA 39-17-1307(b)(1)(A), Criminal Felon in Possession of a Firearm, Prior Crime of Violence

All incidents:

- 27. TCA 39-13-805, Commission of an Act of Terrorism

Jackson Hospital Mespinoza Cyber Attack

After Action Report/Improvement Plan (AAR-IP)

Date: 01/09/2022

Details: Mespinoza Ransomware

Key Strengths:

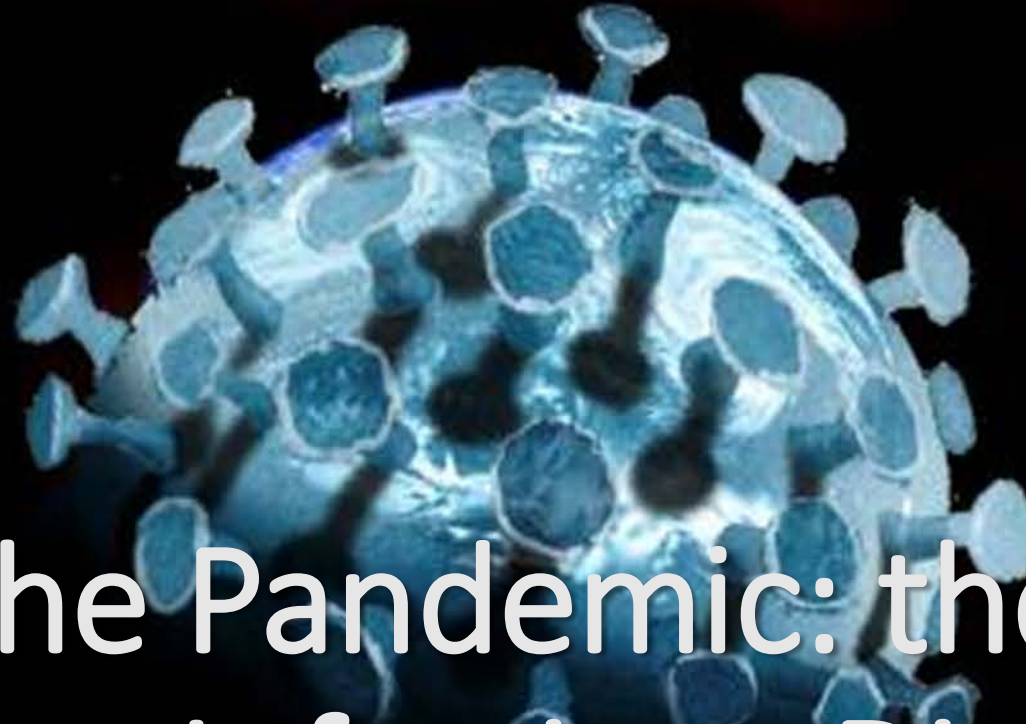
- Awareness, response, and clinical downtime procedures are performed perfectly.
- When we were unable to view orders on CPSI, the Omnicells were utilized as MAR's.

Key Opportunities for Improvement:

- Lab is working on updating their paper form for downtime processes.
- Emergency Management updating phone list and attaching to policy.
- Security will be provided a key to everywhere in case of any emergency.
- Registration and physician practices need to update their downtime processes.
- Radiology is talking to their provider about downtime radiology reading options.
- Will review the need for a cyber-attack badge code to call overhead and quickly alert all employees.
- Remote servers are suspected to be our weakness. IT is working on a system control center to make sure default access is not easy.
- Emergency response plan and cyber-attack contact list needs to be printed and filed in every departments downtime procedures folder.
- Back-ups need to be further than Icloud share drives. Important information can be placed on jump drives periodically.
- Accounting needs a plan/back-up for instances of cyber-attack on payroll weeks.
- Department specific phone numbers need to be accessible offline.

ACTION	RESPONSIBLE PARTY	TIMELINE
Downtime paperwork	Lab	3months
Contact list for cyber-attack update Attaching to policy	Emergency Management	3 months

Keys for all access to security personnel	Maintenance	1 month
Downtime processes for registration and physician practices (MD to hospital)	Kelly/Ronni	1 year
Downtime radiology options	Sam/IT	6 months
System control center	IT	1 year



Beyond the Pandemic: the Era of Emerging Infectious Diseases

Vincent Hsu, MD MPH FACP
Healthcare Epidemiologist and Infection Control Officer, AdventHealth
Associate Dean, Loma Linda Univ School Medicine AH Orlando Campus

Central Florida Disaster Medical Coalition Annual Conference
Dec 14, 2022

I have no disclosures relevant to this presentation

Ferguson

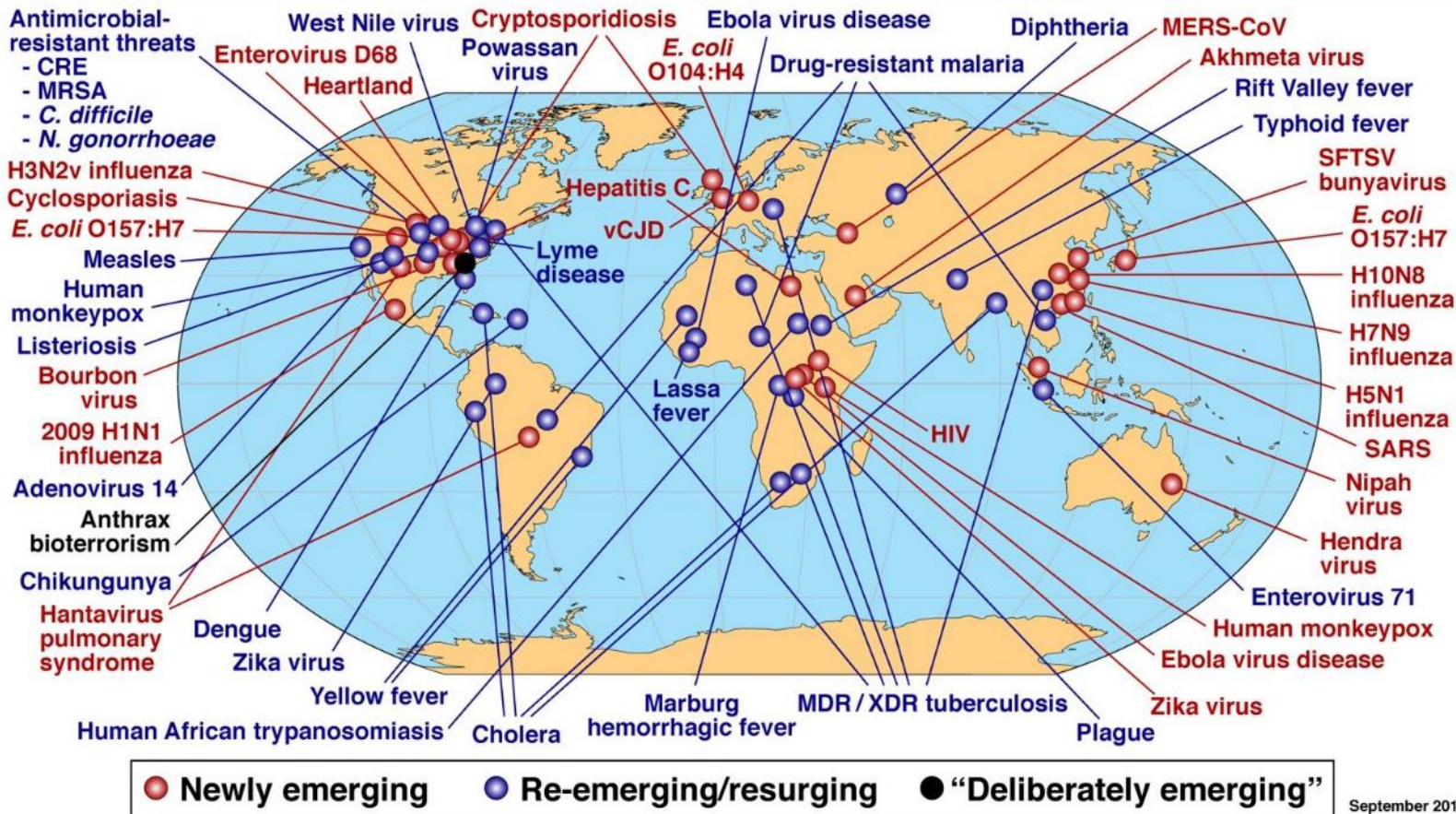
Prevailing Thought on Infectious Diseases, 1967

“The time has come to close the book
on infectious diseases. We have
basically wiped out infection in the
United States.”



State of Infectious Diseases, Today

Global Examples of Emerging and Re-Emerging Infectious Diseases



“No more excuses. We have the drugs. We have the prevention capabilities...it’s going to take political and other will to change the trajectory of that epidemic” – Anthony Fauci, 2017

HCCs Must Collaborate
with Hospitals to
Manage Emerging
Infections



EID Preparation Remains a Critical Role of Healthcare Coalitions



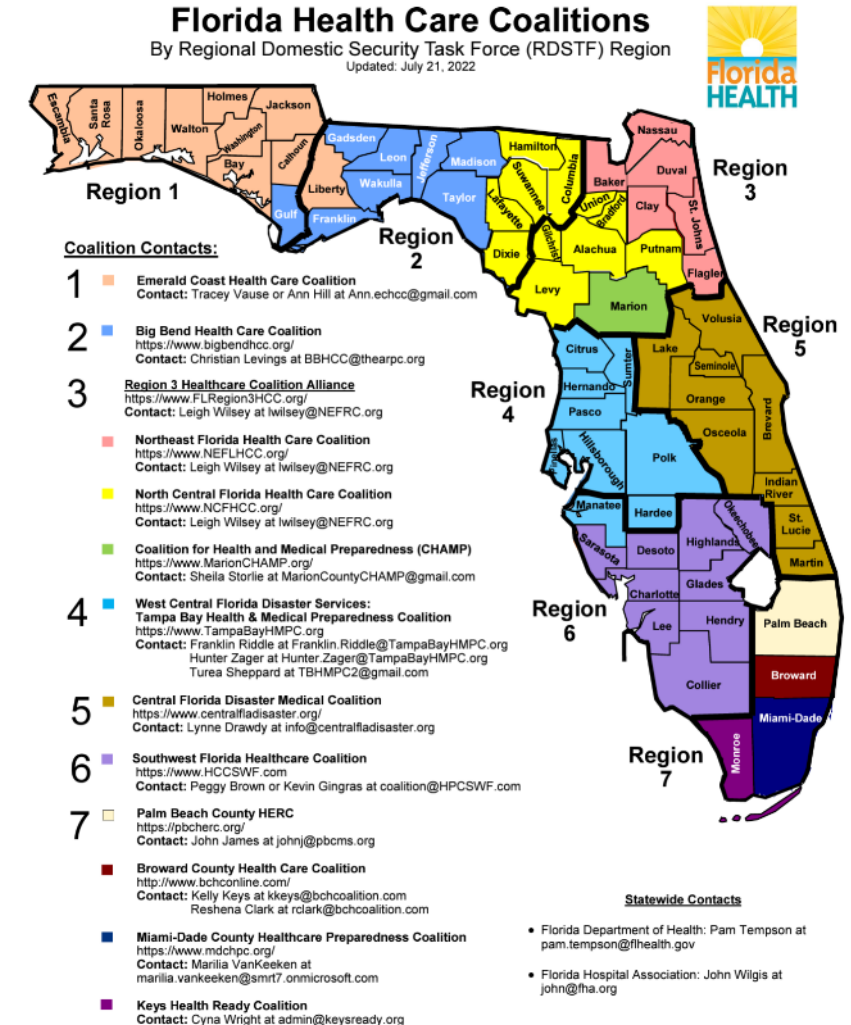
foundation for
national health
care readiness



national focus to
improve patient
outcomes during
emergencies



support health
care resilience,



All hazards, extreme weather, large- and small-scale, mass-casualty, chemical, biological...

Collaboration & Communication with Hospitals

- COVID-19 and Ebola
- Provided equipment for hospitals
- Consultation for nursing homes
- Training & exercises
 - Standardized PPE for Ebola
- Situation awareness & resource coordination



HCCs Must Provide Competencies to Address Emerging Infections

Antibiotic stewardship

Vaccinations









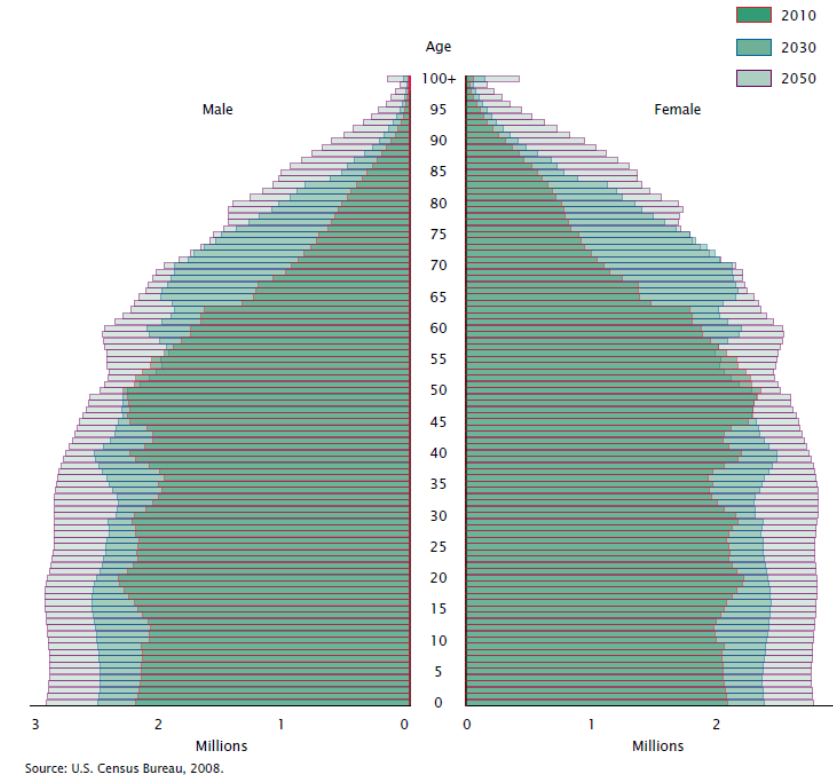
When Will the Next
Pandemic Strike?

Contributing Factors to Emerging Infectious Diseases

Microbial adaption & change	Human susceptibility to infection
Climate & weather	Changing ecosystems
Human demographics & behavior	Economic development & land use
International travel & commerce	Technology & industry
Intent to harm	Poverty & social inequality
War & famine	Lack of political will / public health measures

EID & Susceptibility to Infection

- Age over 75: 18M
- Diabetes: prevalence 26M; 7M undiagnosed, 79M prediabetic
- HIV: prevalence 1.1M (20% adherent & undetectable)
- Pregnancy: 4M births annually
- Cancer: 1.7M new cases annually; 14.5M survivors
- Transplant: 15K cases annually
- Iatrogenic immunosuppressive therapy (RA, Crohn's)

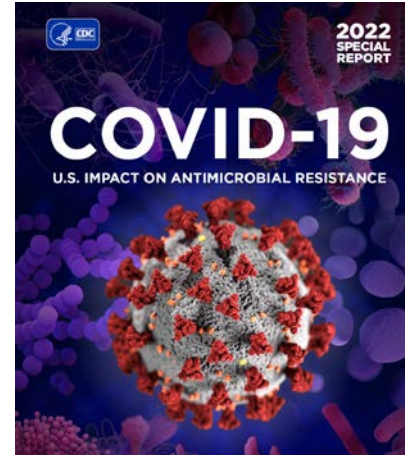


Sources: CDC Fact Sheet. Accessed at http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf; American Cancer Society at <http://www.cancer.org/acs/groups/content/@editorial/documents/document/acspc-044552.pdf>; US Census bureau; United Network for Organ Sharing accessed at <http://optn.transplant.hrsa.gov/>; Gardner E M et al. Clin Infect Dis. 2011;52:793-800, CDC NCHS

30-Second Timeline on Antimicrobial Resistance



1942



2022



2016



Because of pandemic impacts, 2020 data are delayed or unavailable for 9 of the 18 antimicrobial resistance threats.

- *Clostridioides difficile* (*C. diff*)
- Drug-resistant *Neisseria gonorrhoeae*
- Drug-resistant *Campylobacter*
- Drug-resistant nontyphoidal *Salmonella*
- Drug-resistant *Salmonella* serotype Typhi
- Drug-resistant *Shigella*
- Drug-resistant *Streptococcus pneumoniae*
- Erythromycin-resistant group A *Streptococcus*
- Clindamycin-resistant group B *Streptococcus*

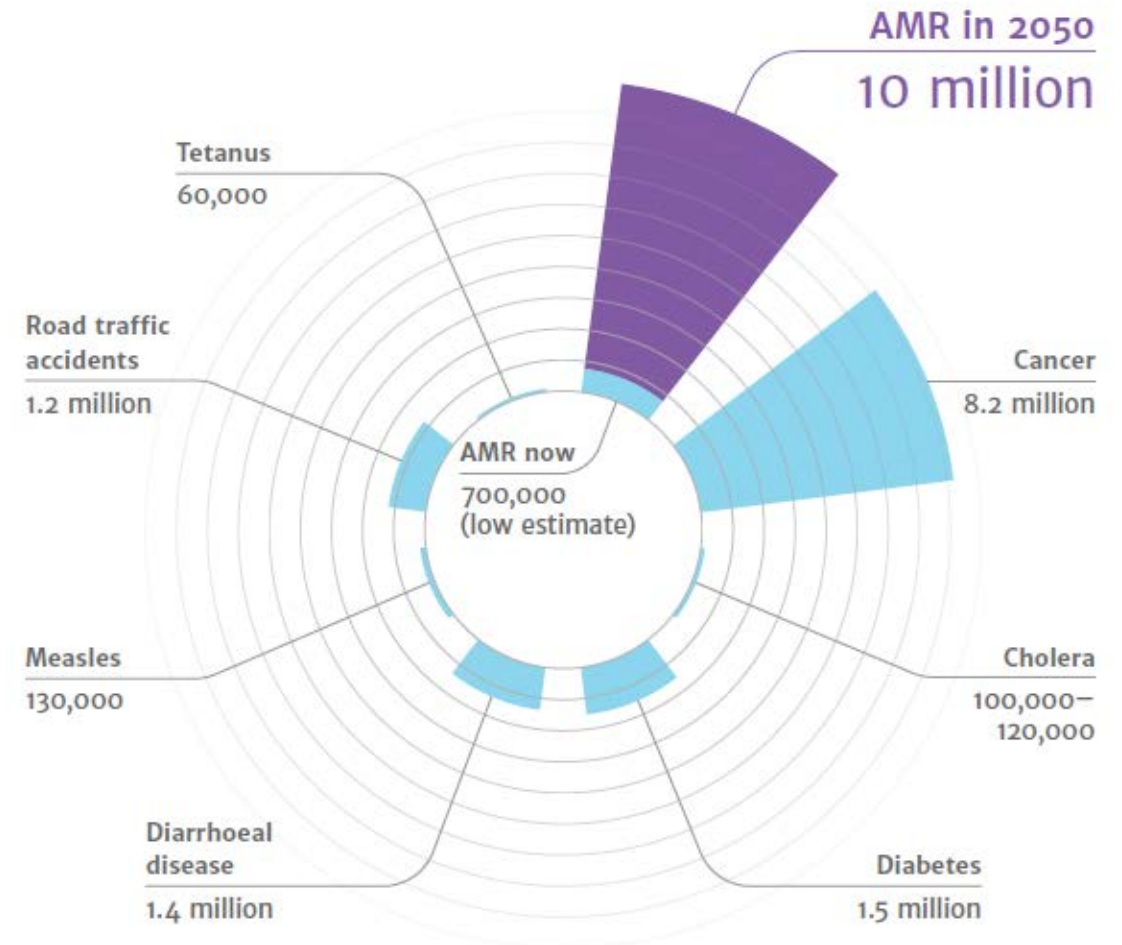


Available data show an alarming increase in resistant infections starting during hospitalization, growing at least 15% from 2019 to 2020.

- Carbapenem-resistant *Acinetobacter* (+78%)
- Antifungal-resistant *Candida auris* (+60%)*
- Carbapenem-resistant Enterobacterales (+35%)
- Antifungal-resistant *Candida* (+26%)
- ESBL-producing Enterobacterales (+32%)
- Vancomycin-resistant Enterococcus (+14%)
- Multidrug-resistant *P. aeruginosa* (+32%)
- Methicillin-resistant *Staphylococcus aureus* (+13%)

Impact of Antimicrobial Resistance: Current and Projected

- In US
 - 2M MDRO infections
 - 23K deaths
 - Greater mortality compared to susceptible organisms
- Worldwide projection
 - 700K deaths today
 - 10M deaths by 2050



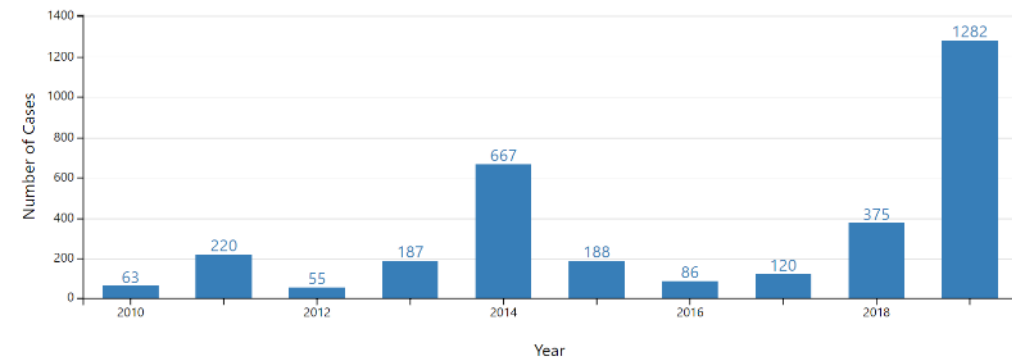
Human Behavior: Vaccine Hesitancy

- Measles: 2014, 2019
- Polio: 2022
 - Rockland County NY
 - 37% vaccination rate



Number of measles cases reported by year

2010-2019*(as of October 15, 2020)



How do pathogens spread between animals and people?

Vector-borne

Contact with a living organism that carries the disease pathogen

Direct contact

Coming into contact with the bodily fluids of an infected animal

Indirect contact

Coming into contact with areas where animals live and roam, or surfaces that have been contaminated with pathogens

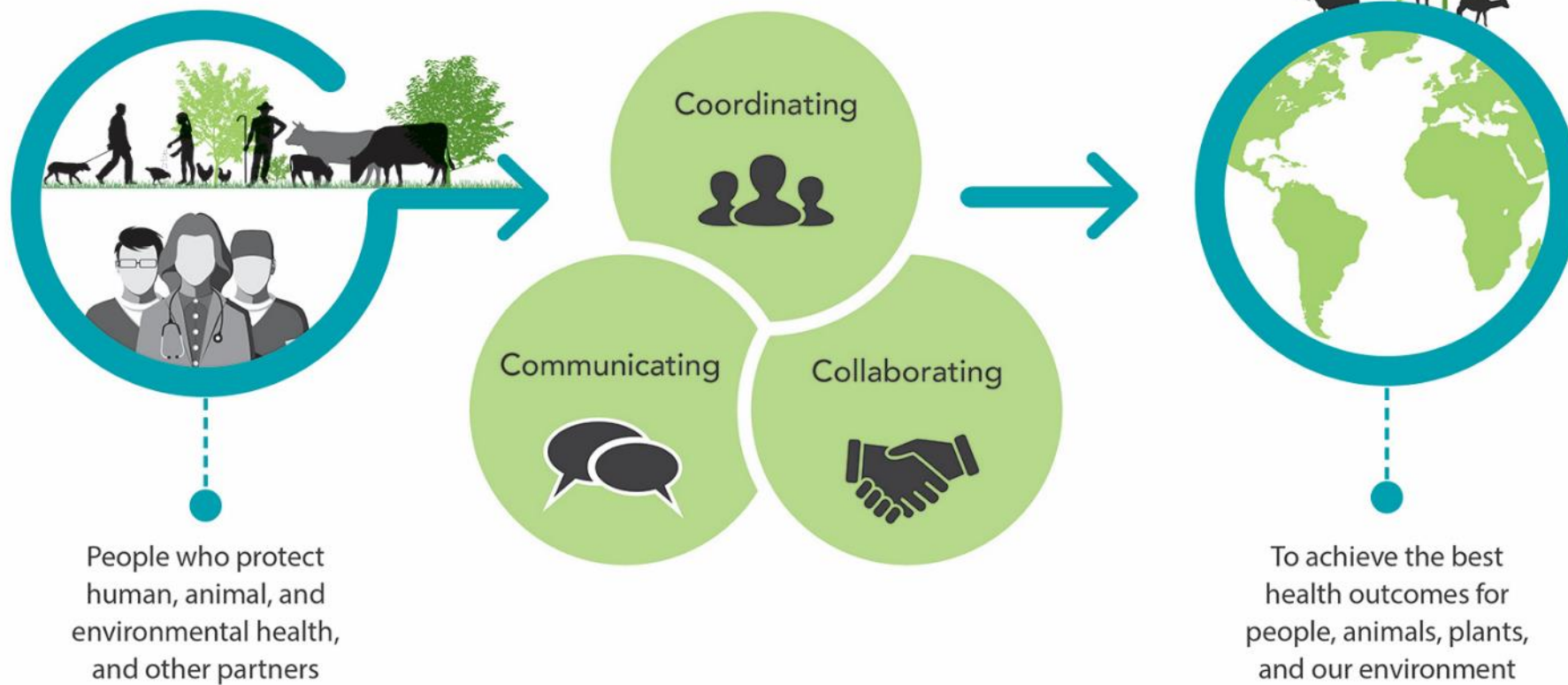
Foodborne

Consuming infected food

Waterborne

Drinking or coming into contact with contaminated water

One Health



International Travel & Environmental Pressure

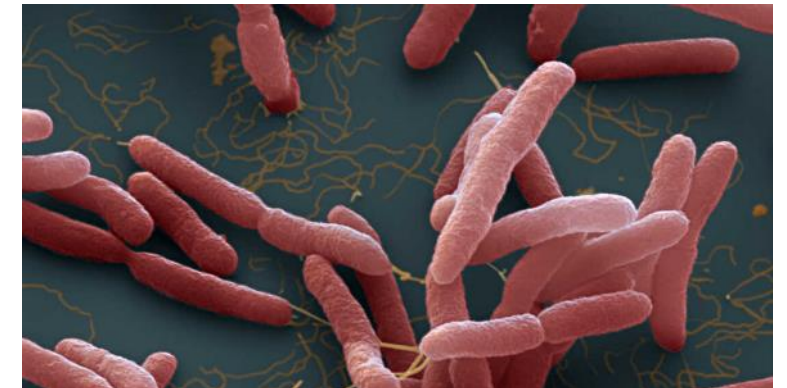
- MPox
 - Endemic in Africa, reservoir unknown
 - Transmission: prolonged close contact
 - Gay, bisexual and MSM comprise majority of cases
 - Antivirals and vaccine available
- Melioidosis: *Burkholderia pseudomallei*
 - Endemic Gulf Coast Mississippi, soil & water
 - Varying symptoms: skin, pulmonary, disseminated
 - Bioterrorism potential



Melioidosis Locally Endemic in Areas of the Mississippi Gulf Coast after *Burkholderia pseudomallei* Isolated in Soil and Water and Linked to Two Cases – Mississippi, 2020 and 2022



Distributed via the CDC Health Alert Network
July 27, 2022, 3:30 PM ET
CDCHAN-00470



EIDs Associated with Healthcare, Technology

- *Legionella*
- Infections related to nanotechnology & sterile processing deficiencies, e.g. duodenoscopes, heater-cooler, robotics
- *C. difficile* colitis and infections related to improperly screened fecal transplants
- MDROs: ESBL, carbapenem resistance
- *Candida auris*
- *Exosporohilum rostratum* fungal meningitis



3x

Disease cases from mosquito, tick, and flea bites tripled in the US from 2004 to 2016.

9

Nine new germs spread by mosquitoes and ticks have been discovered or introduced since 2004.

8 in 10

About 80% of vector control organizations lack critical prevention and control capacities.

Illnesses on the rise

From mosquito, tick, and flea bites

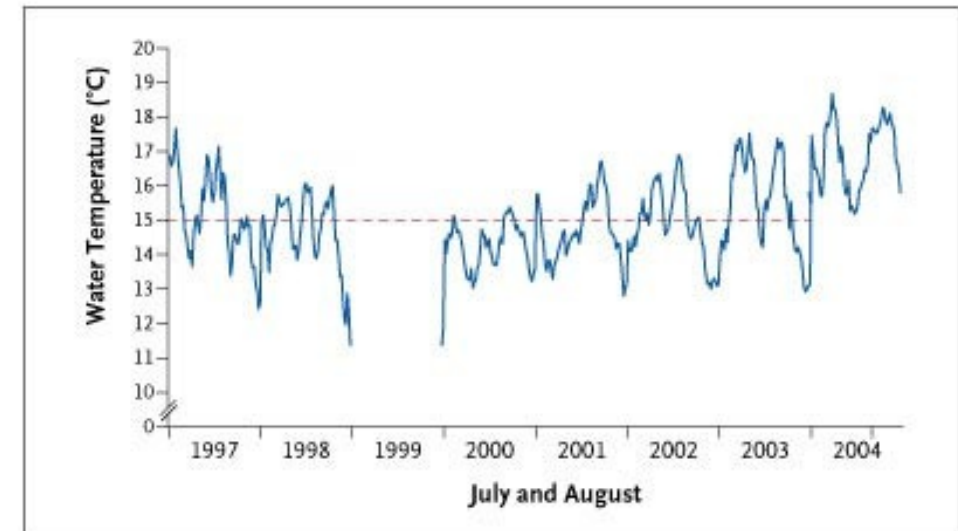
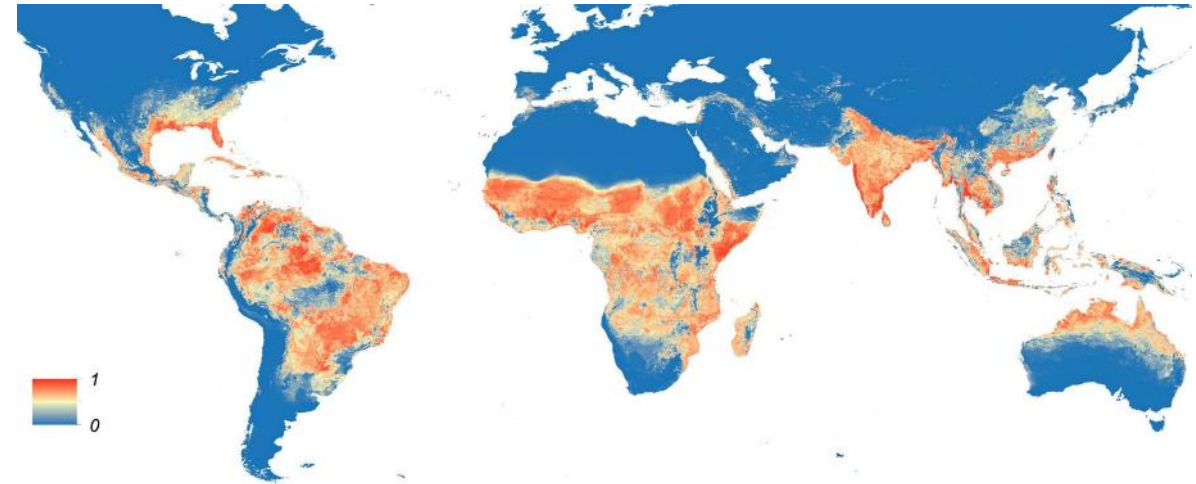
Almost everyone has been bitten by a mosquito, tick, or flea. These can be vectors for spreading pathogens (germs). A person who gets bitten by a vector and gets sick has a vector-borne disease, like dengue, Zika, Lyme, or plague. Between 2004 and 2016, more than 640,000 cases of these diseases were reported, and 9 new germs spread by bites from infected mosquitoes and ticks were discovered or introduced in the US. State and local health departments and vector control organizations are the nation's main defense against this increasing threat. Yet, 84% of local vector control organizations lack at least 1 of 5 core vector control competencies. Better control of mosquitoes and ticks is needed to protect people from these costly and deadly diseases.



- Malaria
- Zika
- Chikungunya
- Dengue
- West Nile
- Venezuelan Equine Encephalitis
- Lyme
- Babesiosis

Climate Change and Emerging Infectious Disease

- Vectorborne disease spread
 - Extreme weather events, e.g. hurricanes
 - Expansion to temperate zones
- “Migration” of pathogenic organisms: *V. parahaemolyticus* gastroenteritis, Alaska, 2005
- Emergence of novel pathogens



NATURE CLIMATE CHANGE



HCCs Must Address Underlying Causes of EIDs

Education

Action

Advocacy



The Power of the Coalition to Address Underlying Causes of EID

- 2062 Members Representing 719 Organizations: acute care, SNFs, DOH, Home health, dialysis, funeral homes, and everything in between...
- Education: providers, public
- Action
- Advocacy

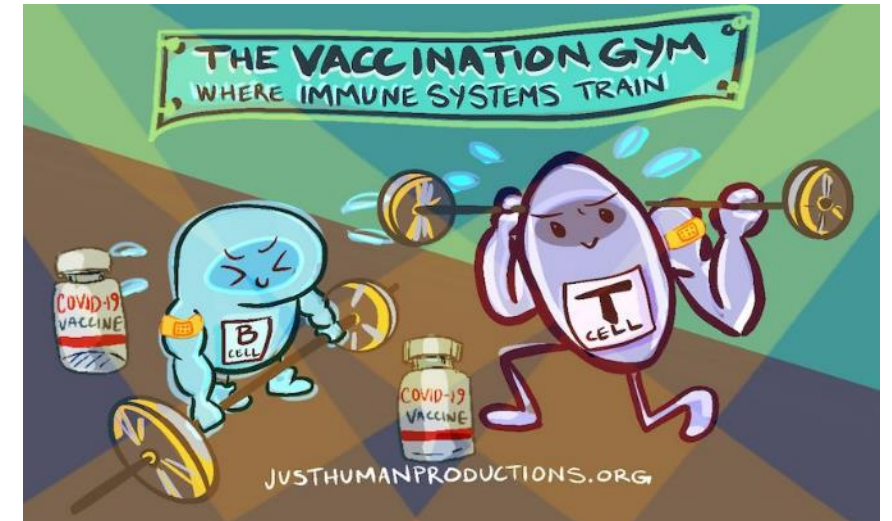
Addressing Antibiotic Prescribing: Needs for Provider Training

- Communication: during and outside visit
- Prescribing techniques
 - Delayed: post-date, recontact, patient-led, no script led to 40% less use; no difference outcome
 - Cough & cold care kit
- CDC, U Minnesota CIDRAP



Addressing Vaccine Hesitancy: Needs for Provider Training

- Impact of social media
- Use trusted circle of friends
- Listen to underlying patient concerns
 - Financial, pain, convenience, etc
 - Flat out refusal vs on-the-fence
- Explain basics
 - Phase 3 & 4 trials
 - Immunology
- CDC, Immunization Action Coalition



Addressing EIDs Affected by Environmental, Travel, Animals, Climate Change

- Thorough H&P: travel, activities, animals, insect bites
- Recognize many EIDs are expanding beyond traditional geographic areas
- Communicate to public health diseases of significance
- Counsel patients on travel safety

Actions & Advocacy

- Education is necessary, but insufficient
- Taking action
 - Assess current state
 - Collaborate on low-hanging fruit based on best practices
 - Measure impact
- Advocacy
 - Leverage your organization
 - Individual: in your setting, health system, professional societies
 - Run for office

Actions: Healthcare Decarbonization

- GHG emissions ~8.5% of domestic US emissions
- EID, pollution, extreme weather, mental health
- Leaky boat
- CFDMC Climate Change Workgroup
- HHS Climate Pledge



Summary: What HCCs Can Do to Prepare for the Next EID / Pandemic

- Continue to focus on disaster recognition and management
- Recognize recent examples and accelerating trends in EID and mitigation strategies
 - Vaccine-preventable disease: vaccinate
 - Multidrug resistant organisms: antimicrobial prescribing
 - Emerging diseases due to travel, environment, climate change, healthcare & technology
 - Sustainability and emissions reduction
 - Healthcare equity
- Use the power of coalition to work together
 - Education
 - Action
 - Advocacy



Photo courtesy of CDC. Public Domain

“The health security of the U.S. is only as strong as the health security of every country around the world. We are all connected by the food we eat, the water we drink and the air we breathe.” — *Tom Frieden*