

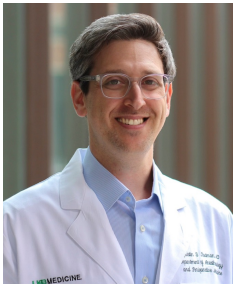


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May 2-4, 2024



Severe Weather Preparedness in the ASC

Justin Routman MD MSHA | May 2, 2024

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Disclosures

- I have no financial interests or conflicts to disclose.



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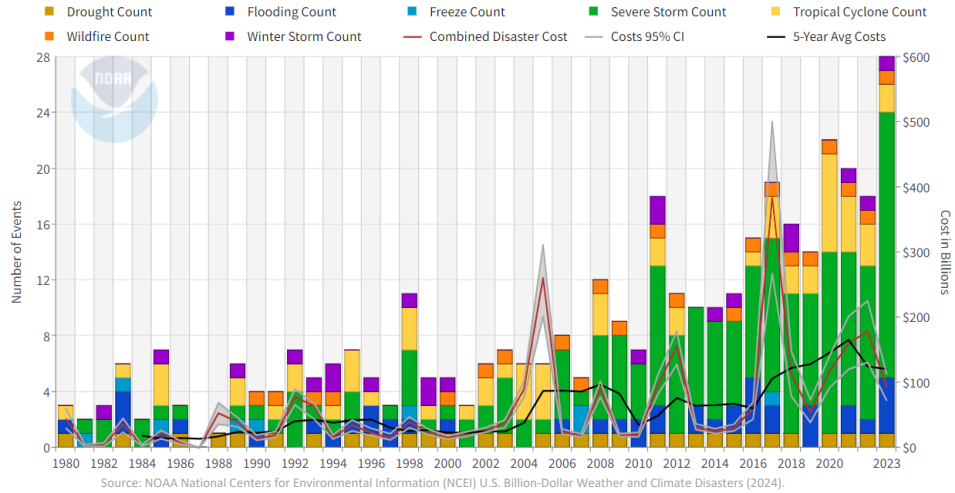
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Why Weather?

United States Billion-Dollar Disaster Events 1980-2023 (CPI-Adjusted)



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Figure 13
Breakdown of recorded economic damage (US\$)
by disaster type (1995-2015)

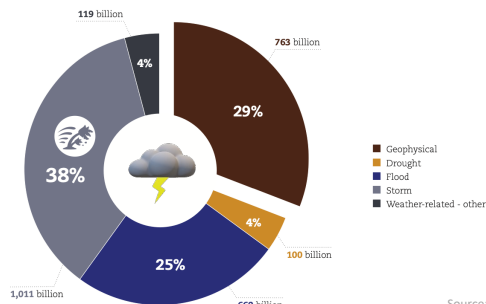
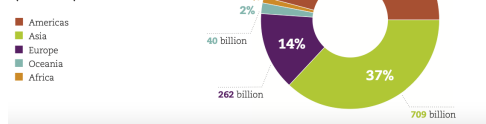


Figure 14
Absolute losses by continent (US\$)
(1994-2015)



Source: UNISDR The Human Cost of Weather-Related Disasters 1995-2015.

Billion-dollar events to affect the United States from 1980 to 2023 (CPI-Adjusted)

Disaster Type	Events	Events/Year	Percent Frequency	Total Costs	Percent of Total Costs
Drought	31	0.7	8.2%	\$352.9B	13.3%
Flooding	44	1.0	11.7%	\$196.6B	7.4%
Freeze	9	0.2	2.4%	\$36.4B	1.4%
Severe Storm	186	4.2	49.5%	\$455.2B	17.1%
Tropical Cyclone	62	1.4	16.5%	\$1,379.3B	51.8%
Wildfire	22	0.5	5.9%	\$142.4B	5.4%
Winter Storm	22	0.5	5.9%	\$98.3B	3.7%
All Disasters	376	8.5	100.0%	\$2,661.1B	100.0%

Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2024).

(b)	Disaster type	Year	Country	Economic losses (in US\$ billion)
1	Storm (Katrina)	2005	United States	163.61
2	Storm (Harvey)	2017	United States	96.94
3	Storm (Maria)	2017	United States	69.39
4	Storm (Irina)	2017	United States	58.16
5	Storm (Sandy)	2012	United States	54.47
6	Storm (Andrew)	1992	United States	48.27
7	Flood	1998	China	47.02
8	Flood	2011	Thailand	45.46
9	Storm (Ike)	2008	United States	35.63
10	Flood	1995	Democratic People's Republic of Korea	25.17

Source: WMO Atlas of Mortality and Economic Losses From Weather, Climate, and Water Extremes (1970-2019).

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Weather Plays a Role

The Effect of Weather and Sporting Events on Ambulatory Visits and Hospitalizations at a Veterans Affairs Medical Center

Cynthia Kay, MD, MS, Jeffrey L. Jackson, MD, MPH

ABSTRACT

Background: We explored the impact of weather and sporting events on clinic and emergency department (ED) visits and hospitalization.

Methods: Weather, dates of sporting events, ED visits, hospitalizations, clinic visits, no-shows, and same-day patient cancellations from 2015 to 2018 were abstracted from Milwaukee's Veterans Affairs (VA) medical system.

Results: Inclement precipitation increased clinic cancellations. Snowfall reduced ED visits. Green Bay Packers football games, University of Wisconsin-Madison football games, and the Super Bowl reduced ED visits but not hospitalizations. Milwaukee Brewers baseball home games did not affect ED visits, but hospital admissions increased slightly. Basketball events (Milwaukee Bucks, University of Wisconsin-Madison, University of Wisconsin-Milwaukee, Marquette University) had no impact.

Conclusions: Inclement weather increased clinic cancellations, and snow reduced ED visits. Football games reduced ED visits, while baseball increased hospitalizations, probably because the Milwaukee Brewers stadium is located on the VA property.

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SPECIAL ARTICLE

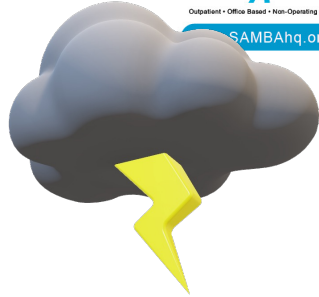
Mortality in Puerto Rico after Hurricane Maria

Nishant Kishore, M.P.H., Domingo Marqués, Psy.D., Ayesha Mahmud, Ph.D., Mathew V. Kiang, M.P.H., Irmay Rodriguez, B.A., Arlan Fuller, J.D., M.A., Peggy Ebner, B.A., Cecilia Sorensen, M.D., Fabio Racy, M.D., Jay Lemery, M.D., Leslie Maas, M.H.S., Jennifer Leaning, M.D., S.M.H., Rafael A. Inzary, Ph.D., Satchit Balsari, M.D., M.P.H., and Caroline O. Buckee, D.Phil.

ABSTRACT

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BACKGROUND

Quantifying the effect of natural disasters on society is critical



Call for Emergency Action to Limit Global Temperature Increases, Restore Biodiversity, and Protect Health

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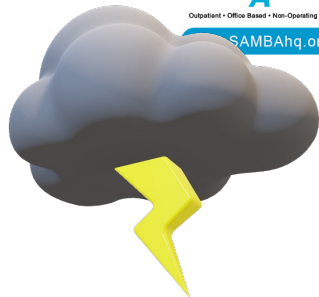
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Potential Impacts of Weather



Loss of infrastructure	Loss of communications	Loss of technology
Employee shortage	Essential services	Patient care

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CMS' Opinion



Four Core Elements of Emergency Preparedness

- Risk Assessment and Emergency Planning (Include but not limited to):
 - Hazards likely in geographic area
 - Care-related emergencies
 - Equipment and Power failures
 - Interruption in Communications, including cyber attacks
 - Loss of all/portion of facility
 - Loss of all/portion of supplies
 - Plan is to be reviewed and updated at least annually
- Communication Plan
 - Complies with Federal and State laws
 - System to Contact Staff, including patients' physicians, other necessary persons
 - Well-coordinated within the facility, across health care providers, and with state and local public health departments and emergency management agencies.
- Policies and Procedures
 - Complies with Federal and State laws
- Training and Testing
 - Complies with Federal and State laws
 - Maintain and at a minimum update annually

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How to Make a Severe Weather Plan



Identify capabilities and vulnerabilities



Develop workflows and procedures



Create a communications plan



Educate, practice, and maintain



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Qualities of a Good Plan



Weather “watcher”



Communication strategy



Sheltering/suspended operations strategy

D. Administrator On-Call (AOC):

1. The Administrator On-Call (AOC) shall be authorized to place the hospital on “stand by alert” or “full alert” status based on the conditions of the weather.
2. The Administrator on-call (AOC) or designee **activates** the plan when appropriate, after discussion with the UAB Police, Chief Executive Officer, Executive Vice President of Ambulatory and Administrative Services, Emergency Management, and other key leaders. The AOC will notify the Call Center and Emergency Management, the plan is being activated.
 - a. A B-Alert or HS-Alert may also be sent by Emergency Management or University Relations.
3. When the weather conditions improve resulting in safer travel conditions, the AOC must **deactivate** the Severe Weather Plan.

W. Ambulatory and Outpatient Services

1. Activation decision and execution of the Severe Weather Plan will be made by the HSF-TKC Weather Conference Group (Executive Vice President of Ambulatory and Administrative Services, Senior Leadership of TKC, HSF Exec. Director HR, AVP Ambulatory Access, and UAB Medicine AVP of Emergency Management).
2. Once a threat of severe weather has been communicated by the UAB Medicine AVP of Emergency Management, the Executive Vice President or designee will convene a meeting of the HSF-TKC Weather Conference Group as soon as possible.
 - a. HR Executive Director sends staff an email notification that HSF is monitoring weather conditions, and that further communication will occur as decisions are made regarding clinic closures.
 - b. UABHS Marketing and UAB University Relations will update the respective websites noting potential hazardous weather threat.

X. Shelter-in-Place

1. Shelter-in-place may be necessary when the external environment would pose a greater danger such as during a severe winter storm. Shelter-in-place activities shall occur on orders of the Incident Commander, Administrator On-Call, highest administrative representative present or public safety official present.
 - a. When staff are notified to shelter-in-place, they should stay within the building and advise all patients and visitors to stay within the building until an “all clear” or other instructions are given.

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Blizzard Warning
Severe winter weather is expected within the next 12 to 36 hours or is occurring - including whiteout conditions. **Do not travel.**
take action.

Winter Storm Warning
Dangerous winter weather is expected within the next 12 to 36 hours or is occurring. **Considerable travel problems** are expected.
take action.

Winter Weather Advisory
Potentially dangerous winter weather is expected within the next 12 to 36 hours or is occurring. **Travel difficulties** are expected.
be aware.

Winter Weather Preparedness at Home.

- Fall is the time to prepare your home for the winter:
- Keep the cold out by checking your insulation, caulking, and weather stripping.
- Learn how to keep pipes from freezing.
- Learn how to use fireplaces, wood stoves, and space heaters safely.
- Check your smoke alarms, carbon monoxide detectors, and fire extinguishers.
- Check your essential supplies that you would need to stay home for several days without power. Keep in mind each person's specific needs, including medications. Remember your pet's needs.
- Keep extra batteries for radios and flashlights.
- If you are unable to afford home heating costs, contact [Alabama LIHEAP](#).

Winter Preparedness for Work

It is important that each of us knows our Weather Group assignment and plans ahead as winter weather approaches. Severe weather information (closures, delayed openings, etc.) is communicated by email, B-Alert, or HS-Alert. The Severe Weather and Emergency Hotline will be updated during severe weather conditions, 205-934-2165.

- Stay in contact with your supervisor for additional information and instructions.
- Anticipate and prepare for travel challenges. Allow plenty of extra time to travel to and from work.
- Prepare an emergency supply kit for your car including jumper cables, sand, flashlight, warm clothes, blankets, bottled water, and non-perishable snacks. Keep your gas tank full.
- Bring essentials to work in the event you are onsite for an extended time including



Decision thresholds and actions



Formally document the plan



Continually revisit & revise

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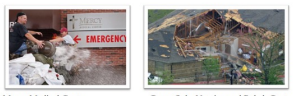
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Additional Resources

- NOAA Weather Radio (with SAME)
- StormReady
- Emergency voice/data communications
- NWS Severe Weather Planning Guide



Mercy Medical Center
Cedar Rapids, IA Green Oaks Nursing and Rehab Center
Arlington, TX

Severe Weather Planning Guide
for
Hospitals and Care Facilities



National Weather Service
Quad Cities

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Summary

Severe weather is a significant threat

All impacts of severe weather are a detriment to patient care

That's probably why CMS requires us to be prepared

Plans should identify capabilities and vulnerabilities as well as developing workflows, procedures, and communications strategies

Simple is better

Train hard, practice often, and update/maintain accordingly

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The only thing harder than preparing for an emergency
is explaining why you did not



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References

- 81 FR 63859. Federal Register, CMS/HHS, 63859-64044, Vol 81, No 180, Sept 16, 2016.
- CMS.gov
- Atwoli L, Baqui AH, Benfield T, et al. Call for Emergency Action to Limit Global Temperature Increases, Restore Biodiversity, and Protect Health. *N Engl J Med.* 2021;385(12):1134-1137.
- Bittle J. Hurricane Ian was a Powerful Storm. Real Estate Developers Made It a Catastrophe. [Internet]. Grist. 30 Sept 2022 [cited 2022 Oct 5]; Available from: <https://grist.org/extreme-weather/hurricane-ian-real-estate-developers-canals-cape-coral/>
- Kay C, Jackson JL. The Effect of Weather and Sporting Events on Ambulatory Visits and Hospitalizations at a Veterans Affairs Medical Center. *WMI.* 2022;121(2):164-166.
- Kishore N, Marqués D, Mahmud A, et al. Mortality in Puerto Rico after Hurricane Maria. *N Engl J Med.* 2018;379(2):162-170.
- NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022).
- Saint-Preux, S. How to Solve the Top 5 Weather Challenges for Healthcare Facilities. [Internet]. Healthcare Business Today. Aug 2022 [cited 2022 Sept 15]; Available from: <https://www.healthcarebusinesstoday.com/how-to-solve-the-top-5-weather-challenges-for-healthcare-facilities/>
- Severe Weather Planning Guide for Hospitals and Care Facilities. [Internet]. National Weather Service Quad Cities. July 2014 [cited 2022 Sept 15]; Available from: https://www.weather.gov/media/dvn/Brochures/NWSDVN_hospital_guide.pdf
- Sommer, L. Climate Change is the Greatest Threat to Public Health, Top Medical Journals Warn. [Internet]. NPR. Sept 2021 [cited 2022 Sept 15]; Available from: <https://www.npr.org/2021/09/07/1034670549/climate-change-is-the-greatest-threat-to-public-health-top-medical-journals-warn>
- StormReady. [Internet]. National Weather Service. nd [cited 2022 Sept 15]; Available from: <https://www.weather.gov/StormReady>
- The Human Cost of Weather Related Disasters 1995-2015. [Internet]. The United Nations Office for Disaster Risk Reduction. 2017 [cited 2022 Sept 15]; Available from: https://www.unisdr.org/files/46796_cop21weatherdisastersreport2015.pdf
- WMO Atlas of Mortality and Economic Losses From Weather, Climate, and Water Extremes (1970-2019). [Internet]. World Meteorological Organization. 2021 [cited 2022 Sept 15]; Available from: https://library.wmo.int/doc_num.php?explnum_id=10989