

Talk to Your Patients about Climate Sensitive Infectious Diseases

Accessible link: <https://www.cdc.gov/climate-health/index.html>

The United States is home to many different disease-carrying vectors (e.g. ticks, mosquitoes, and rodents) whose geographic distribution will be affected by rising temperatures and changes in precipitation.¹ Some climate sensitive infectious diseases experiencing changes in geographic distributions and seasons include Lyme disease, West Nile fever, chikungunya fever, dengue fever, Zika virus disease, cryptococcosis, plague, hantavirus pulmonary syndrome, and leptospirosis.¹ Review this information and share with your patients.



Takeaways for Healthcare Providers, Hospitals, and Clinics

- Educate frontline providers on recognizing the symptoms of climate sensitive infectious diseases.
- Ensure clinics can easily report illnesses to local public health departments. This is key to preventing excess morbidity and mortality.^{16, 17, 18}
- Engage local communities in surveillance efforts, including reporting abnormal animal behavior and/or illnesses. This can aid in disease identification.¹⁹
- Develop and use testing protocols to track the spread of mosquito-borne illnesses. This practice can inform vector control programs and public health initiatives.^{20, 21}

Advice for Your Patients

1. Educate patients on the signs and symptoms of climate sensitive infectious diseases, particularly those that are present or emerging in your area.
2. Talk to patients about how to reduce mosquito breeding areas: by emptying or covering containers or treating standing water that cannot be drained.²²
3. Advocate for mosquito and tick bite prevention. Patients can use EPA-registered insect repellents, wear long-sleeved shirts and long pants, and install or repair screens on windows.²³

Populations at Greater Risk¹

- Infants and children
- Pregnant women
- Adults over 65 years old
- People with chronic health conditions
- People with lower incomes
- People experiencing homelessness
- Rural populations
- Outdoor workers
- Athletes and outdoor recreationists



Climate Change Medical Factsheets Footnotes

Accessible link: <https://www.cdc.gov/climate-health/index.html>

1. Hayden, M. H., Schramm, P. J., Beard, C. B., Bell, J. E., Bernstein, A. S., Bieniek-Tobasco, A., Cooley, N., Diuk-Wasser, M., Dorsey, M. K., Ebi, K. L., Ernst, K. C., Gorris, M. E., Howe, P. D., Khan, A. S., Lefthand-Begay, C., Maldonado, J., Saha, S., Shafei, F., Vaidyanathan, A., & Wilhelmi, O. v. (2023). Human health. In A. R. Crimmins, C. W. Avery, D. R. Easterling, K. E. Kunkel, B. C. Stewart, & T. K. Maycock (Eds.), Fifth National Climate Assessment. U.S. Global Change Research Program. <https://doi.org/10.7930/NCA5.2023.CH15>
2. Melnychuk, E., Sallade, T. D., & Kraus, C. K. (2022). Hospitals as disaster victims: Lessons not learned? *Journal of the American College of Emergency Physicians Open*, 3(1), e12632. <https://doi.org/10.1002/emp2.12632>
3. CDC. (2018, April 4). Reaching At-Risk Populations in an Emergency. <https://emergency.cdc.gov/workbook/index.asp>
4. FEMA. (2024). National Risk Index - Map. <https://hazards.fema.gov/nri/map>
5. National Wildlife Federation. (2011). Facing the Storm: Indian Tribes, Climate-Induced Weather Extremes, and the Future for Indian Country. <https://www.nwf.org/Educational-Resources/Reports/2011/08-03-2011-Facing-the-Storm>
6. CDC. (2024, May 15). Safety Messages for Pregnant, Postpartum, and Breastfeeding Women During Natural Disasters and Severe Weather. https://www.cdc.gov/reproductive-health/emergency-preparation-response/safety-messages.html?CDC_AAref_Val=https://www.cdc.gov/reproductivehealth/features/disaster-planning-parents/index.html
7. Nejad, S. S., Jannati, N., Sarabi, R. E., & Bahaadinbeigy, K. (2020). Use of telemedicine and e-health in disasters: a systematic review. <https://api.semanticscholar.org/CorpusID:229022509>
8. Frazee, T. K., Brewster, A. L., Lewis, V. A., Beidler, L. B., Murray, G. F., & Colla, C. H. (2019). Prevalence of Screening for Food Insecurity, Housing Instability, Utility Needs, Transportation Needs, and Interpersonal Violence by US Physician Practices and Hospitals. *JAMA Network Open*, 2. <https://api.semanticscholar.org/CorpusID:202673428>
9. Lester, C. A., Mott, D. A., & Chui, M. A. (2016). The Influence of a Community Pharmacy Automatic Prescription Refill Program on Medicare Part D Adherence Metrics. *Journal of Managed Care & Specialty Pharmacy*, 22(7), 801–807. <https://doi.org/10.18553/jmcp.2016.22.7.801>
10. CDC. (2024, February 6). Preparing for Floods. <https://www.cdc.gov/floods/safety/index.html>
11. FEMA. (2004). Food and Water in an Emergency. <https://www.fema.gov/pdf/library/f&web.pdf>
12. Climate ADAPT. (2018). Establishment of early warning systems. <https://climate-adapt.eea.europa.eu/en/metadata/adaptation-options/establishment-of-early-warning-systems>
13. World Meteorological Organization. (2022). Early Warnings for All: Executive Action Plan 2023-2027. <https://library.wmo.int/records/item/58209-early-warnings-for-all>
14. CDC. (2023, March 29). Epilepsy & Disaster Preparedness. <https://archive.cdc.gov/#/details?q=https://www.cdc.gov/epilepsy/emergency/index.html&start=0&rows=10&url=https://www.cdc.gov/epilepsy/emergency/index.html>
15. CDC. (2024, April 18). Improve Access. <https://www.cdc.gov/prepare-your-health/create-community/improve-access.html>
16. CDC. (2024, May 15). Laboratory Information for Specimen Submissions. https://www.cdc.gov/vector-borne-diseases/php/laboratories/?CDC_AAref_Val=https://www.cdc.gov/ncezid/dvbd/specimensub/index.html
17. CDC. (2019, December 17). NCEZID: Vector-borne Diseases (spread by bites from mosquitoes, ticks, or fleas). <https://archive.cdc.gov/#/details?url=https://www.cdc.gov/ncezid/what-we-do/our-topics/vector-borne-diseases.html>
18. CDC. (2024, May 15). Lyme Disease- Clinical Resources. https://www.cdc.gov/lyme/hcp/communication-resources/?CDC_AAref_Val=https://www.cdc.gov/lyme/healthcare/index.html
19. Ballman, E. S., Leahy, J. E., Sponarski, C. C., Galli, M. G., & Gardner, A. M. (2023). A citizen science approach to investigate the distribution, abundance, and pathogen infection of vector ticks through active surveillance. *Ticks and Tick-Borne Diseases*, 14 3, 102144. <https://api.semanticscholar.org/CorpusID:257441727>
20. C.R. Connelly, Justin A. Gerding, Susan M. Jennings, Andrew Ruiz, Roberto Barrera, Sue Partridge, & ben Beard. (2020, July 17). Continuation of Mosquito Surveillance and Control During Public Health Emergencies and Natural Disasters. https://www.cdc.gov/mmwr/volumes/69/wr/mm6928a6.htm?s_cid=mm6928a6_w
21. Maine Tracking Network. (2024). Tickborne Diseases. <https://data.mainepublichealth.gov/tracking/tickborne>



22. EPA. (2024, October 16). Success in Mosquito Control: An Integrated Approach. <https://www.epa.gov/mosquitocontrol/success-mosquito-control-integrated-approach>
23. CDC. (2024, February 8). What to Do to Protect Yourself From Animals After a Disaster. https://www.cdc.gov/natural-disasters/response/what-to-do-protect-yourself-from-animals-after-a-disaster.html?CDC_AAref_Val=https://www.cdc.gov/disasters/animalhazards/facts.html
24. Payton, E. A., Pinson, A. O., Asefa, T., Condon, L. E., Dupigny-Giroux, L.-A. L., Harding, B. L., Kiang, J., Lee, D. H., McAfee, S. A., Pflug, J. M., Rangwala, I., Tanana, H. J., & Wright, D. B. (2023). Water. In A. R. Crimmins, C. W. Avery, D. R. Easterling, K. E. Kunkel, B. C. Stewart, & T. K. Maycock (Eds.), Fifth National Climate Assessment. U.S. Global Change Research Program. <https://doi.org/10.7930/NCA5.2023.CH4>
25. CDC, & AWWA. (2019). Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities. <https://www.cdc.gov/water-emergency/media/pdfs/2024/07/emergency-water-supply-planning-guide-2019-508.pdf>
26. CDC. (2024, May 22). About Waterborne Disease Surveillance. https://www.cdc.gov/healthy-water-data/about/?CDC_AAref_Val=https://www.cdc.gov/healthywater/surveillance/nors.html
27. CDC. (2024, May 6). Clinical Signs and Symptoms Caused by Freshwater Harmful Algal Blooms. https://www.cdc.gov/harmful-algal-blooms/hcp/clinical-signs/symptoms-freshwater-harmful-algal-blooms.html?CDC_AAref_Val=https://www.cdc.gov/habs/specific-groups/healthcare_providers.html
28. CDC. (2022). Facts about Cyanobacterial Blooms for Poison Center Professionals. https://www.cdc.gov/harmful-algal-blooms/media/pdfs/332669A_FS_CyanobacterialBlooms_508.pdf
29. Minnesota Department of Health. (2022, October 20). Causes and Symptoms of Waterborne Illness. <https://www.health.state.mn.us/diseases/waterborne/basics.html>
30. CDC. (2024, November 9). How to Make Water Safe in an Emergency. https://www.cdc.gov/water-emergency/about/?CDC_AAref_Val=https://www.cdc.gov/healthywater/emergency/making-water-safe.html
31. FDA. (2023, November 20). Food Safety in a Disaster or Emergency. <https://www.foodsafety.gov/keep-food-safe/food-safety-in-disaster-or-emergency#:~:text=A%20disaster%20can%20disrupt%20the%20food%20supply%2C%20so,who%20are%20on%20special%20diets%20Meet%20pets%E2%80%99%20needs>
32. CDC. (2024, April 29). People at Increased Risk for Food Poisoning. <https://www.cdc.gov/food-safety/risk-factors/index.html>
33. FDA. (2024, March 5). Safe Food Handling. <https://www.fda.gov/food/buy-store-serve-safe-food/safe-food-handling>
34. FDA. (2022, May 25). Foodborne Illness Continuing Medical Education Program. <https://www.fda.gov/food/healthcare-professionals/foodborne-illness-continuing-medical-education-program>
35. White, D. D., Elias, E. H., Thomas, K. A., Bradatan, C. E., Brunson, M. W., Chischilly, A. M., Enquist, C. A. F., Fisher, L. R., Froehlich, H. E., Koebele, E. A., Méndez, M., Ostojia, S. M., Steele, C., & Vanos, J. K. (2023). Southwest. In A. R. Crimmins, C. W. Avery, D. R. Easterling, K. E. Kunkel, B. C. Stewart, & T. K. Maycock (Eds.), Fifth National Climate Assessment. U.S. Global Change Research Program. <https://doi.org/10.7930/NCA5.2023.CH28>
36. FDA. (2017). Four Steps to Handling and Preparing Food Safely. <https://www.fda.gov/media/107837/download?attachment>
37. Bolster, C. H., Mitchell, R., Kitts, A., Campbell, A., Cosh, M., Farrigan, T. L., Franzluebbers, A. J., Hoover, D. L., Jin, V. L., Peck, D. E., Schmer, M. R., & Smith, M. D. (2023). Agriculture, food systems, and rural communities. In A. R. Crimmins, C. W. Avery, D. R. Easterling, K. E. Kunkel, B. C. Stewart, & T. K. Maycock (Eds.), Fifth National Climate Assessment. U.S. Global Change Research Program. <https://doi.org/10.7930/NCA5.2023.CH11>
38. Jonovich, S. J., & Alpert-Gillis, L. J. (2014). Impact of pediatric mental health screening on clinical discussion and referral for services. *Clinical Pediatrics*, 53(4), 364–371. <https://doi.org/10.1177/0009922813511146>
39. North, C. S., & Pfefferbaum, B. (2013). Mental Health Response to Community Disasters: A Systematic Review. *JAMA*, 310(5), 507–518. <https://doi.org/10.1001/jama.2013.107799>
40. Bhui, K., Warfa, N., Edonya, P., McKenzie, K., & Bhugra, D. (2007). Cultural competence in mental health care: a review of model evaluations. *BMC Health Services Research*, 7(1), 15. <https://doi.org/10.1186/1472-6963-7-15>
41. CDC. (2018, March 19). Emergency Responders: Tips for taking care of yourself. <https://emergency.cdc.gov/coping/responders.asp>
42. CDC. (2019, November 13). Taking Care of Your Emotional Health. <https://emergency.cdc.gov/coping/selfcare.asp>
43. Dodgen, D., Donato, D., Kelly, N., la Greca, A., Morganstein, J., Reser, J., Ruzek, J., Schweitzer, S., Shimamoto, M. M., Thigpen Tart, K., & Ursano, R. (2016). Ch. 8: Mental Health and Well-Being. *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*. <https://doi.org/10.7930/JOTX3C9H>
44. Patel, L., Conlon, K. C., Sorensen, C., McEachin, S., Nadeau, K., Kakkad, K., & Kizer, K. W. (2022). Climate Change and Extreme Heat Events: How Health Systems Should Prepare. *NEJM Catalyst*, 3(7), CAT.21.0454. <https://doi.org/10.1056/CAT.21.0454>
45. Loban, E., Scott, C., Lewis, V., Law, S., & Haggerty, J. L. (2021). Improving primary health care through partnerships: Key insights from a cross case analysis of multi stakeholder partnerships in two Canadian provinces. *Health Science Reports*, 4. <https://api.semanticscholar.org/CorpusID:238527266>
46. Boudreaux, M., Chu, J., & Lipton, B. J. (2023). School-Based Health Centers, Access to Care, and Income-Based Disparities. *JAMA Network Open*, 6(9), e2334532–e2334532. <https://doi.org/10.1001/jamanetworkopen.2023.34532>
47. Rayburn, W. F., Armstrong, J., & Fairchild, D. (2024). Women Accessing Care at a National Network of Retail Health Clinics. *Journal of Women's Health*, 33(6), 774–777. <https://doi.org/10.1089/jwh.2023.0933>