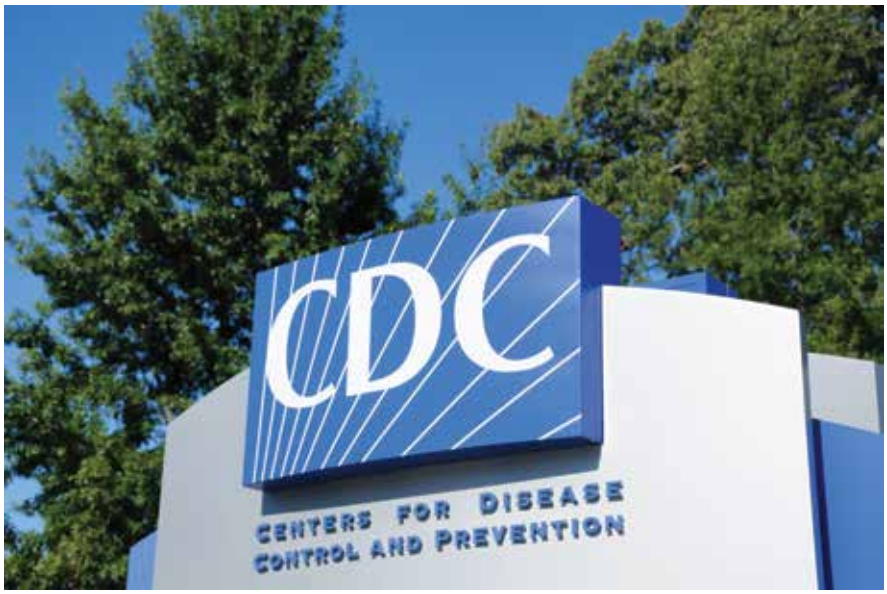
BACK PAGES

US CDC recommendations and resources for treating patients affected by climate change

According to *Healio,* the United States Centers for Disease Control and Prevention (CDC) has published a report in the *Annals of Allergy, Asthma and Immunology* that offers recommendations and resources to assist allergists and immunologists in supporting patients as they become affected by climate change. In two articles, *Healio* interviewed two of the three report authors; both are affiliated with branches of the Division of Environmental Science and Practice at the National Center for Environmental Health (NCEH) at the CDC.



A comprehensive approach

"The NCEH has implemented climate and health activities for more than a decade" and is now focusing on expansion and collaborative activities, explained Joy Hsu, medical officer with the Asthma and Community Health Branch. It utilizes a "comprehensive public health approach to climate change [that] focuses on data, science and action, amplified by policy, partnerships, communication and evaluation, to create maximum impact—with integration of environmental justice and health equity in each area. To support this approach, we prepared this report," she continued.

Potential effects on patients

In discussing the report with *Healio,* Elizabeth Gillespie, MD, FACP, of the Climate and Health Program described impacts of climate change and the ways they can affect patients, saying:

- Increases in the number of frost-free days and seasonal air temperatures can influence the onset and duration of allergy seasons for people with allergic rhinoconjunctivitis who are sensitized to pollens, outdoor molds and other seasonal allergens.
- Increases in floods, hurricanes and other events with heavy precipitation can contribute to more indoor mold growth, which exacerbates respiratory and other symptoms for people with asthma and mold allergies.
- Ground-level ozone, particulate matter and extreme summer heat can worsen asthma symptoms. Also, droughts can increase the risk for wildfires, leading to increased respiratory symptoms for people with asthma due to smoke.
- [W]ildfires and other disasters such as floods also complicate the management of allergies and asthma, impacting access to medications and medical services. Electricity failures make the refrigeration of perishable, allergen-free foods challenging as well.

How clinicians can assist patients

Healio indicated the report includes examples that allergists and immunologists can use to support patients who have any allergic condition or asthma. It also provides advice on communication, education and sources of information. "For example, providers are advised to encourage patients with pollen allergy to learn more about pollen and health via supplied resources, check pollen forecasts and spend less time outdoors when pollen levels are high."

How patients can help themselves

According to *Healio*, the report also advises patients "to include asthma, food allergy and anaphylaxis care plans as part of their emergency action plans to help them stay healthy during emergencies." Further, the report "outlines specific actions and informational resources for patients with allergies or asthma who live in areas subject to extreme heat, severe flooding and wildfires, including strategies for avoiding heat, mold remediation resources and websites that track disasters."

CDC resources

Multiple CDC websites that relate to pollen, mold, participle pollution, ozone, heat and health, temperature extremes, asthma care, wildfire smoke, disaster preparation and other effects of climate on health are listed as resources in the report. *Healio* also noted the "CDC spotlighted its Climate and Health Program, which conducts epidemiologic studies and supports state, tribal, local and territorial public health agencies in implementing the Building Resilience Against Climate Effects framework."

The CDC's next anticipated step

According to the report, "[Next,] the CDC plans to implement and evaluate a strategy that focuses on climate and health data, science and action with wide applications including allergy and immunology care," *Healio* explained. "With a focus on health equity and environmental justice, the strategy's goals include increasing the understanding of the impacts of climate change and the effectiveness of adaptation strategies; supporting locally led responses; and using data to inform, track and evaluate these actions."

References

Content for this article was based on and excerpted from:

- CDC experts issue climate change information, resources for allergists, immunologists. Healio. February 15, 2022. https://www.healio.com/news/allergy-asthma/20220215/cdc-experts-issue-climate-change-information-resources-for-allergists-immunologists.
- Q&A: Allergists can take action to address the health impact of climate change. Healio. February 17, 2022. https://www.healio.com/news/allergy-asthma/20220217/qa-allergists-can-take-action-to-address-the-health-impact-of-climate-change.
- Gillespie E, Schramm PJ, Hsu J. US public health response to climate change for allergists-immunologists. Annals of Allergy, Asthma & Immunology. February 6, 2022. DOI:https://doi.org/10.1016/j.anai.2022.02.002.

Climate change may have more severe effect on children

Stanford News and *Stanford Medicine Scope* reported that Kari Nadeau, MD, PhD, director of Stanford University's Sean N. Parker Center for Allergy & Asthma Research and Frederica Perera, DrPH, PhD of the Columbia University Mailman School of Public Health published a review paper in the *New England Journal of Medicine.* Their article, "Climate Change, Fossil-Fuel Pollution, and Children's Health, outlines pollution and climate change threats to children's health and calls for better understanding and intervention from health professionals."

Rob Jordan of the Stanford Woods Institute for the Environment published articles in both *Stanford News* and *Stanford Medicine Scope* interviewing Nadeau to discuss environmental risks to children's health and actions that caregivers and health workers can do to decrease them. Here are selected highlights from that interview.

Expected to affect every child

Nadeau began by explaining that children are at higher risk for health changes due to air pollution and impacts from a changing climate, for a variety of reasons. Children "need more air on a per pound basis and regulate temperature differently than adults. Their bodies also metabolize toxins differently."

She also predicted that "every single child in the world is expected to suffer from at least one climate change-related event in the next 10 years" and stressed that "about a quarter of deaths among children under 5 globally could be prevented by addressing environmental risks."

Reducing exposure

When Jordan asked how children's exposure to air pollution and climate change impacts could be reduced, Nadeau gave several examples. For instance, "driving an electric family car can decrease the likelihood of a child getting asthma by 30% and that using electric appliances instead of gas can improve air [quality] by 50%."

Effects on mental health

They also discussed impacts that air pollution and climate change can have on children's mental health and/or cognitive abilities. Nadeau explained that "recent epidemiologic research indicates that air pollution is a risk factor for mental health conditions in children and adolescents." In addition, she warned about "cumulative impacts on mental health of air pollution and climate change saying that "Adverse experiences in childhood, such as disasters and displacement, not only raise the short-term risk for

mental disorders but also confer a lasting vulnerability to anxiety, depression, and mood disorders in adulthood."

In disadvantaged communities

Jordan also questioned Nadeau about ways children in disadvantaged communities suffer a higher burden from these impacts. In response, she stated that "Children of color are up to 10 times more likely to be exposed to toxins, pollution, and climate change than other children. In the U.S., rates of childhood asthma are twice as high among Black children as white children likely because of higher concentrations of particulate air pollution in Black communities. These and other environmental impacts, combined with poverty-related stress, injustice, and lack of access to health care, add up over a lifetime. They lead to worsened health effects and shortened lifespans."

References

Content for this article was based on and excerpted from:

- Jordan, R. Stanford researcher discusses climate change and air pollution impacts on children's health. Stanford News. June 15, 2022. https://news.stanford.edu/2022/06/15/childrens-health-climate-change/?utm_source=Stanford+ALL&utm_campaign=8ea9862a1c-int_COPY_01&utm_medium=email&utm_term=0_c042b4aad7-8ea9862a1c-55198450.
- Jordan, R. Climate change impact may affect kids more severely. Stanford Medicine SCOPE. June 20, 2022. https://scopeblog.stanford.edu/2022/06/20/climate-change-impact-may-affect-kids-more-severely.
- Perera F and Nadeau K. Climate Change, Fossil-Fuel Pollution, and Children's Health. New England Journal of Medicine. 386:2303-2314, 2022. DOI: 10.1056/NEJMra2117706.