Asthma and Vermont's Changing Climate

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Vermont's changing climate is a serious public health issue that negatively impacts the air we breathe and places we live. Climate change alters our environment in ways that increase the presence of asthma triggers and make asthma management more challenging. Climate change is also an environmental justice issue, adding to the stressors already experienced by communities with a disproportionate burden of asthma and environmental exposures. Understanding how the changing climate and increased presence of environmental exposures impacts asthma is the first step to ensure Vermonters with asthma have the resources and knowledge to control their asthma.

This document describes how Vermont's climate is changing and how those changes might impact Vermonters with asthma, as well as actions that can be taken by Vermonters with asthma & their caregivers, health care professionals, and public health professionals.

How is Vermont's climate changing?

Rising temperatures

Temperatures in Vermont have risen about 3°F since the beginning of the 20th century.[1] The last 11-year period (2010-2020) was the warmest 11-year period on record.[1]

Worsened air quality

Changes in temperature and precipitation are expected to increase ground-level ozone, particulate matter, pollen and mold growth. A longer growing season, more rainfall, and more carbon dioxide in the air are expected to increase the amount of pollen in the air and the length of pollen season.[2]

Increased extreme weather events, like flooding

Annual precipitation in Vermont has increased nearly 6 inches since the 1960s.[1] In Vermont, extreme weather can take the form of extreme rainfall or snowmelt. Flooding from these events can increase mold growth – wherever there is moisture, mold can grow.[7]

Learn more about climate change in Vermont.

What does this mean for asthma?

- **Heat can worsen asthma symptoms** through dehydration and increased levels of air pollutants and pollen.[3]
- **Some medications used to manage asthma can decrease the body's ability to sweat and cool itself**. This, combined with typical dehydration from hot days, can lead to heat illness.[3]
- Some **medications used to treat asthma need to be kept cold or require electricity**, which might not be possible during extreme weather events.[3]
- **Pollen and other air pollutants are asthma triggers** that can lead to worsened asthma symptoms and asthma attacks.[8]
- **Extreme weather events such as flooding can lead to increased exposure to mold**, increasing risks of asthma attacks.[4]
- **Extreme weather events may disrupt access to housing, healthcare and social support**, which could be stressful or result in medications being left behind. Stress is a common asthma trigger.[6]
- **Effects of climate change can happen at the same time**, resulting in the need for Vermonters with asthma to face several asthma triggers at once.[3]

How can you prepare for the impacts of climate change on asthma?

Coping with the effects of climate change can feel overwhelming, especially when you need to think about managing asthma. Below are key steps Vermonters can take to prepare for managing asthma in the context of rising temperatures, worsened air quality, and increased extreme weather events.

Vermonters with Asthma & their Caregivers

- Stay inside and use an air conditioner when pollen or humidity is high. On hot days, if you don't have air conditioning, find a cooling site near you.
- Install a dehumidifier and fix water leaks, or ask your landlord to fix them.
- Check the risk of heat-related impacts in your area to inform your activities.
- Learn about the Air Quality Index (AQI) and take action depending on the air quality level in your area, such as avoiding outdoor activities on poor air quality days.
- Talk with your provider about any concerns you may have and make sure your Asthma Action Plan is reviewed at least once a year.

Health Care Professionals

- Use the CHILL'D-Out questionnaire with your patients to assess risk factors for the health harms from heat and poor air quality and create a Heat Action Plan.
- Have conversations with children, teens, and their caregivers on the impact of heat on asthma using guidance from CDC's clinical overview of heat and children and teens with asthma.
- Review and follow CDC Clinical Guidance for Asthma, Other Respiratory Conditions, and/or Mold Allergy After a Severe Weather Event.

Public Health Professionals

- Explore data and consider how it might be used to set priorities around climate change, environmental justice, and asthma. Vermont's Environmental Public Health Data Tracking covers topics including air quality, climate, heat vulnerability, and pollen.
- Consider including additional messaging for vulnerable populations, such as those with asthma, when disseminating public health messages about climate change.
- Support Vermonters with asthma to prepare for disasters and make emergency response plans.

Sources

[1]https://climatechange.vermont.gov/vermont-today
[2]https://www.healthvermont.gov/environment/climate-health/health-risks-climate-change
[3]https://www.cdc.gov/heat-health/hcp/clinical-overview/heat-children-asthma.html
[4]https://www.cdc.gov/asthma/hcp/clinical-guidance/index.html
[5]https://www.healthvermont.gov/environment/healthy-homes/mold
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[8]https://www.healthvermont.gov/environment/climate-health/air-quality-alerts-wildfires-your-health

This report was created by Professional Data Analysts, the contracted external evaluator. Questions about this work or report can be directed to the Vermont Asthma Program, ***AHS.VDHAsthmaProgram@vermont.gov.***

VERMONT DEPARTMENT OF HEALTH