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The Regional Municipality of Durham Information Report

From: Commissioner & Medical Officer of Health
Report: #2025-INFO-52
Date: June 13, 2025

Subject:

Climate Change and Health Vulnerability Assessments; Vector-borne Disease Report

Recommendation:

Receive for information

Report:

1. Purpose

- 1.1 To provide an update on Durham Region Health Department's (DRHD's) Climate Change and Health Vulnerability Assessments (CCHVAs).

2. Background

- 2.1 DRHD is mandated to conduct health vulnerability assessments under the [Ontario Public Health Standards: Requirements for Programs, Services and Accountability](#) (OPHS).
- 2.2 The [Healthy Environments and Climate Change Guideline](#) of the OPHS requires DRHD to assess health impacts related to climate change.
- 2.3 DRHD is completing the following seven reports in a special CCHVA series called Understanding the Local Health Impacts of Climate Change:
- a. A [background primer on climate change and health](#) in Durham Region, which was released on August 12, 2024, followed by six CCHVAs on:
 - [Extreme heat](#) (released September 23, 2024)
 - [Solar UV radiation](#) (released February 6, 2025)
 - Vector-borne disease (VBD)
 - Air quality
 - Extreme weather

- Food and water impacts

2.4 The report series aims to:

- a. Improve understanding of the links between climate change and health,
- b. Assess the risks of local climate hazards and associated health impacts,
- c. Prioritize health equity and priority populations, and
- d. Establish a baseline for future analysis.

2.5 The VBD CCHVA entitled [Climate Change and Health in Durham Region: Assessing the Impact of Vector-borne Disease](#) was released on June 5, 2025.

2.6 Reviews and feedback on the report were provided by the Mississaugas of Scugog Island First Nation (MSIFN) and the Regional Sustainability staff of the Office of the CAO.

2.7 The report, along with an executive summary are available at durham.ca/ClimateAndHealth.

3. Report Highlights

3.1 The report explores current and future health impacts of VBD in Durham Region.

3.2 It establishes an equity-focused framework for assessing and addressing factors of VBD vulnerability based on exposure, sensitivity, and adaptive capacity.

3.3 It provides a knowledge base to support strategies to prepare and protect residents, particularly those most exposed and sensitive to VBD.

3.4 Key findings of the report:

- a. Climate change is increasing the spread of VBD in Durham Region, mainly Lyme disease (LD) and West Nile virus (WNV) disease.
 - LD is one of the most rapidly emerging infectious diseases in Canada, due in large part to a warming climate.
 - The areas of Durham Region with blacklegged ticks that carry LD have rapidly expanded and they are now established in all municipalities.
 - The health burden of LD in Durham Region is increasing and appears to be outpacing the provincial average.
 - The health burden of WNV disease has increased over time and has exceeded the Ontario average since 2020.
 - Mosquito surveillance indicates that WNV is increasing in Durham Region and is expected to continue, due to warmer temperatures.
 - Climate change may also increase the spread of other VBDs such as anaplasmosis, Powassan virus disease, and babesiosis (tick-borne diseases), as well as mosquito-borne diseases such as eastern equine encephalitis.

- b. Health impacts can range from mild to severe, and some people experience greater health risks than others.
 - In some cases, these diseases are mild but in other cases they can be debilitating, cause neurological symptoms, and in rare cases, death.
 - People at greater risk of serious illness and complications from VBDs include older adults, infants and young children, pregnant individuals, Indigenous Peoples, people with a weakened immune system or chronic illness, and those who lack access to protections such as shelter and insect repellent.
 - People who work or spend many hours outdoors may be more exposed to VBD than other Durham residents.
 - First Nations Peoples asserting their harvesting, gathering, and fishing Rights face greater risk of VBD.
- c. There is overall low awareness and poor uptake of VBD prevention measures among Durham Region residents.
 - Among LD cases reported in Durham Region from 2019 to 2023, 80 per cent of people reported that they spent time in a tick-prone location, yet most did not check for ticks, wear protective clothing, or use insect repellent.
 - A local public health survey of Durham Region residents found that:
 - a) Fewer than half of adults took consistent measures to protect themselves after visiting a tick-prone area;
 - b) Almost all (90 per cent) reported they do not use any type of insect repellent;
 - c) Only 30 per cent wore protective clothing; and
 - d) Most could not name symptoms associated with a LD infection.
 - Among WNv disease cases in Durham Region from 2014 to 2023, most were involved in activities that exposed them to mosquitoes, and most did not wear protective clothing or insect repellent.
- d. Local strengths to protect Durham Region residents from VBD include:
 - Durham Region's VBD Prevention and Response Plan, established to provide surveillance and programming to prevent LD, WNv, and other emerging VBDs. The Plan includes:
 - a) Mosquito surveillance and population reduction;
 - b) Site inspections in response to Durham Region resident complaints;
 - c) Active tick surveillance;
 - d) Health promotion to prevent infections; and
 - e) An active Durham Region Vector-borne Disease Response Committee comprised of Regional, municipal, conservation authorities, and public representatives.

- e. Local needs to increase awareness and prevention of VBD include:
- Targeted health promotion strategies to address the overall low awareness and poor uptake of LD and WNV disease prevention measures;
 - Prevention strategies and health promotion to protect outdoor workers;
 - Community engagement to improve understanding of barriers to VBD prevention among equity-deserving priority populations;
 - Community engagement and collaborative approaches to VBD prevention and response planning to help support context-specific and culturally appropriate solutions; and
 - Promotion of the links between VBD risk and climate change.

4. Previous Reports

- 4.1 Report [2024-INFO-49](#) provided an update on DRHD's CCHVAs and highlighted the release of the first report which was a background primer entitled: [Understanding the Local Health Impacts of Climate Change](#).
- 4.2 Report [2024-INFO-58](#) highlighted the release of [Climate Change and Health in Durham Region: Assessing the Impact of Extreme Heat](#).
- 4.3 Report [2025-INFO-13](#) highlighted the release of [Climate Change and Health in Durham Region: Assessing the Impact of Solar Ultraviolet Radiation](#).

5. Relationship to Strategic Plan

- 5.1 This report aligns with/addresses the following Strategic Directions and Pathways in Durham Region's 2025-2035 Strategic Plan:
- a. Healthy People, Caring Communities
- H1. Implement preventive strategies to support community health, including food security.
 - H4. Support the development of healthy children and youth, including access to affordable and quality child care.
 - H7. Prepare for and respond to local health emergencies in partnership with the community.
- b. Strong Relationships
- S2. Build and strengthen respectful relationships with First Nations, Inuit, Métis, and urban Indigenous communities.
 - S3. Collaborate across local area municipalities, with agencies, non-profits, and community partners to deliver co-ordinated and efficient services.

6. Next Steps

- 6.1 The VBD report will be shared and promoted to municipal and community partners. The communication plan includes a news release and social media messages to build public awareness of VBD as one of the six climate hazards of concern for communities, as well as the link between VBD exposure and health.
- 6.2 The remaining reports of the CCHVA series will be completed, published and promoted in sequence.
- 6.3 The next report entitled, Climate Change and Health in Durham Region: Assessing the Impact of Air Quality, is expected in the fall.
- 6.4 The report development process will continue to integrate the review and feedback of the Mississaugas of Scugog Island First Nation and Regional Sustainability staff.

7. Conclusion

- 7.1 The CCHVA report series is intended to help decision-makers better understand the health risks that Durham Region residents will face in the coming years.
- 7.2 It will help guide equity-focused adaptation plans to protect residents, especially those who are most affected and least protected.
- 7.3 The CCHVA report series will help support municipalities, community organizations and residents respond to the growing impacts of climate change.

Respectfully submitted,

Original signed by

R.J. Kyle, BSc, MD, MHSc, CCFP, FRCPC, FACPM
Commissioner & Medical Officer of Health