

Emergency Management

KEY MESSAGES:

- During the COVID-19 pandemic the actions of the community and external partners, and with guidance from Algoma Public Health employees helped control the spread of infection.
- Increased number of wildfires in 2023 impacted air quality across Canada. There were 10 air quality alerts for different regions of Algoma⁽¹⁾; these are associated with more Chronic Obstructive Pulmonary Disease (COPD)-related emergency department (ED) visits⁽²⁾.
- Climate change has increased the frequency and duration of extreme heat in the past 10 years and are projected to further increase by 2030⁽³⁾.
- Despite the declining number of extreme cold days, the average rate (2019 - 2023) of cold exposure-related ED visits was higher than heat exposure-related ED visits in Algoma⁽²⁾.

The communities serviced by Algoma Public Health are vulnerable to many hazards which could result in an incident or emergency that impacts population health or the day-to-day operations of APH. APH has developed an emergency management program to support a coordinated and effective emergency response. This program aligns with the local health sector, municipal, provincial, and federal plans.

Hazard Identifications and Risk Assessment

APH conducts a Hazard Identification and Risk Assessment (HIRA) process to identify hazards and assess if they will result in an incident or emergency with public health impacts.

The HIRA method considers the hazard, its probability, and its consequences. This method is used by emergency management programs across Ontario to develop controls, safeguards, and strategies to mitigate and respond to incidents and emergencies. The development of a HIRA occurs during the preparedness phase of the emergency management cycle.

In 2023, the hazards most likely to result in a public health incident or emergency, in Algoma included COVID-19, water quality, and extreme heat. Other hazards identified included mass gatherings, wildfires, poor outdoor air quality, and flooding. Once hazards are identified we monitor local data to inform emergency management.

During an emergency, Algoma Public Health collaborates with partners to ensure an effective response. Two recent examples are detailed in this chapter.

Algoma Public Health's follows the Emergency Management Cycle when planning for and responding to emergencies⁽⁴⁾:

- prevention
- mitigation
- preparedness
- response
- recovery



Focus on COVID-19: an infectious disease hazard

The World Health Organization declared COVID-19 a pandemic on March 11, 2020⁽⁵⁾. APH activated its Emergency Response Plan (ERP) and Incident Management System (IMS) on March 11, 2020 to respond to COVID-19 at the local level. APH focused its efforts on pandemic response over the next couple of years.

COVID-19 emergency response metrics (March 2020 – March 2023)



233,617

tests completed⁽⁶⁾



231

outbreaks managed & supported⁽⁷⁾



18

business sectors partnered with APH throughout the pandemic



58,000+

calls received on the general COVID-19 information line



750+

media briefings



15,200+

calls with businesses, organizations, schools and childcare centres



80+

unique vaccination clinics (including pharmacies and provincial clinics)



155

electronic newsletters to various workplaces



3

letters of Instructions (LOI) and/or Section 22 class orders enforced



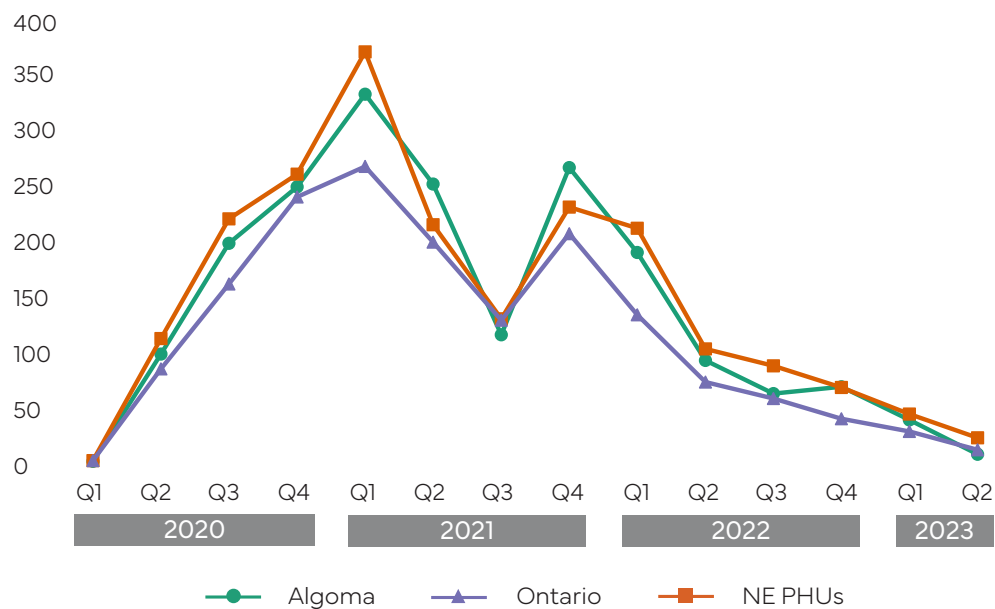
312,189

vaccine doses administered⁽⁸⁾

- From 2021 - June 2023, APH-led clinics administered a total of **145,393** doses of COVID-19 vaccine

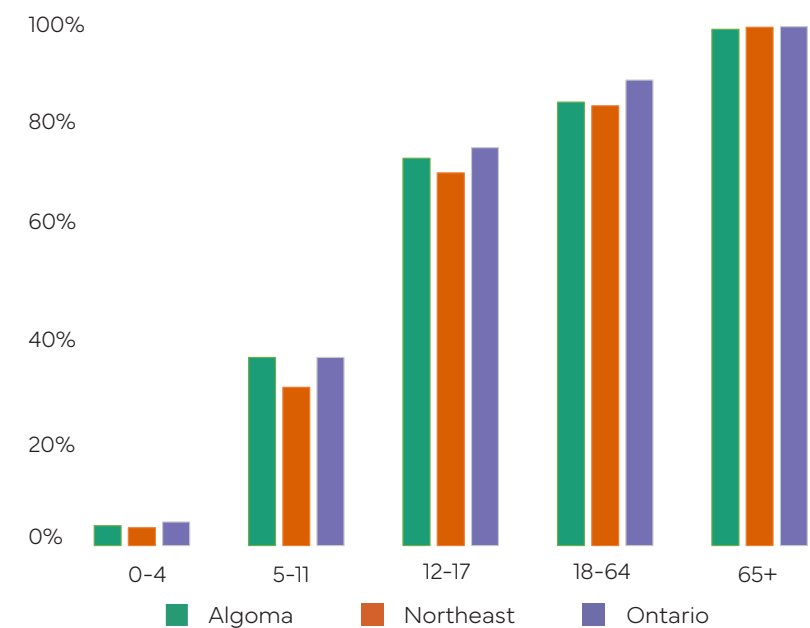
COVID-19 testing rate (per 100,000)

Testing rate in Algoma peaked in the first quarter of (Q1) 2021. At this time Northeastern Public Health Units (NE PHUs) had a higher testing rate than Algoma and all of Ontario



COVID-19 vaccine coverage rate by age groups, as of March 2023

Percentage of population with 2 doses of COVID-19 vaccine



Focus on the St. Mary's River oil spill: a water quality hazard

On June 9, 2022 a quantity of gear oil was released from Algoma Steel Inc.'s wastewater treatment plant into the St. Mary's River. As part of APH's work to investigate potential public health hazards, APH activated its internal ERP and implemented an IMS structure on June 10, 2022.



A public warning was issued to downstream users, warning residents not to drink, swim, bathe, or shower with the water, along with other precautionary measures. The response operations focused on residents most at risk, primarily those who take water from the river downstream or use those waters for fishing and recreation.

In addition, APH worked with the Ministry of Environment's Abatement and Drinking Water divisions, Public Health Ontario's technical experts, and community partners such as First Nation and Indigenous partners to ensure public health safety.

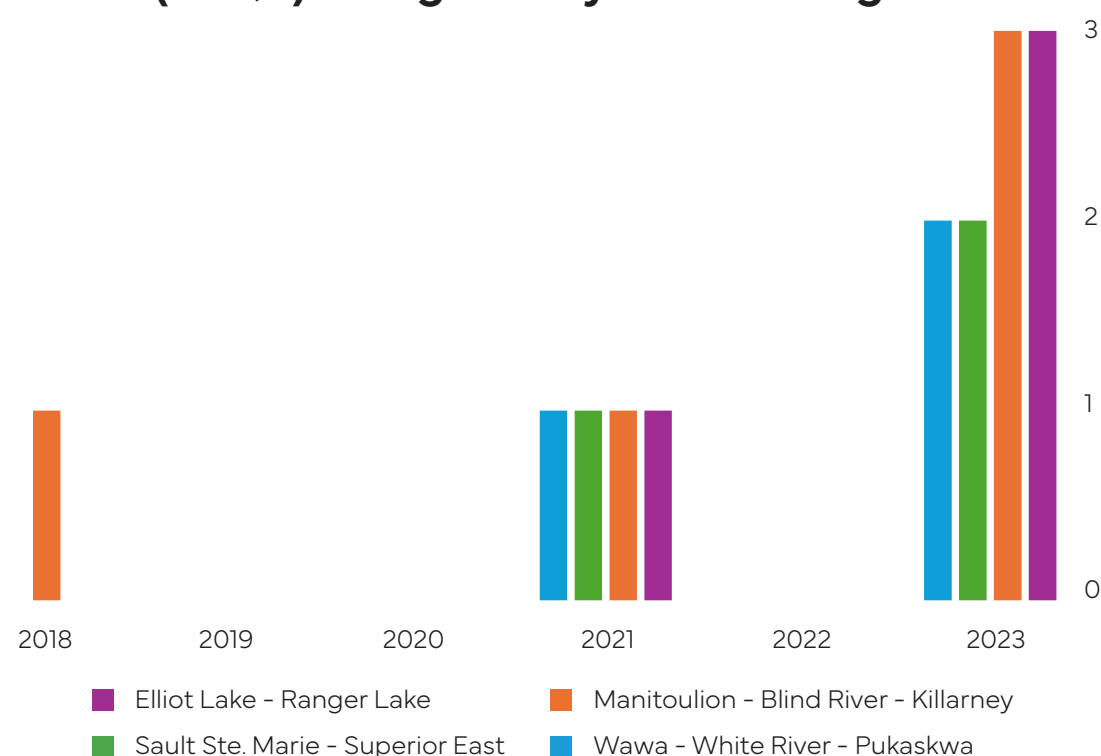
The APH team conducted risk assessments, provided guidance to partners, and communicated with the public. Once sampling was satisfactory, the warning was lifted, and residents could resume activities safely. On June 27, 2022 APH was able to stand down the IMS response and declare the emergency response over.

Air quality

Ontario Ministry of Environment, Conservation and Parks issue Special Air Quality Statements (SAQS), when the Air Quality Health Index (AQHI)ⁱ is 7 (high risk) or greater (high to very high risk) for one to two hours⁽⁹⁾.

The graph below indicates that the number of SAQS in Algoma region increased in 2023 as compared to 2018.

Count of Special Air Quality Statements (SAQS) in Algoma by weather region



Until recently, the Algoma region had only one air quality monitoring station located in Sault Ste. Marie. Algoma Public Health has coordinated with partners to facilitate the installation of small-scale air quality monitoring equipment throughout the district.

Keep in mind the [AQHI](#) to assess health risk. For instance, an AQHI rating of 4-6 indicates 'moderate risk', when it is advised to cut back on physically demanding outdoor activities, especially for those with heart and lung issues. Keep in mind that everyone may experience symptoms differently. Also, different air quality monitoring systems use different scales and measurements to display health risks.

In the 2023 forest fire season (April to October) there were 741 confirmed forest fires in Ontario, which is higher than the 10-year average of 690 forest fires⁽¹⁰⁾. Out of the 741 in 2023, one-third (35.8%) were reported in the northeastern region⁽¹¹⁾. Wildfires lead to smoke events that are a major source of air pollution and can impact air quality in areas far from the fire.

Research suggests that even short-term exposure to air pollution can increase emergency department (ED) visits for respiratory infections, particularly among people with pre-existing conditions like asthma or COPD⁽¹²⁾. Local data shows an association between poor air quality and elevated ED visits for COPD⁽²⁾.

Extreme temperature

As the climate in northern Ontario warms, we may see an increase in extreme temperatures. The health consequences of both extreme heat and extreme cold are a major public health concern. These extremes can be dangerous to health if preventative measures are not taken. Visit our [website](#) to learn how to protect yourself and identify signs and symptoms during extreme temperature events.

Extreme temperature events can also cause feelings of anxiousness, stress, worry, panic, sadness, or isolation. It is important to take care of your mental health and well-being during these times, as well as to check in on those around you.

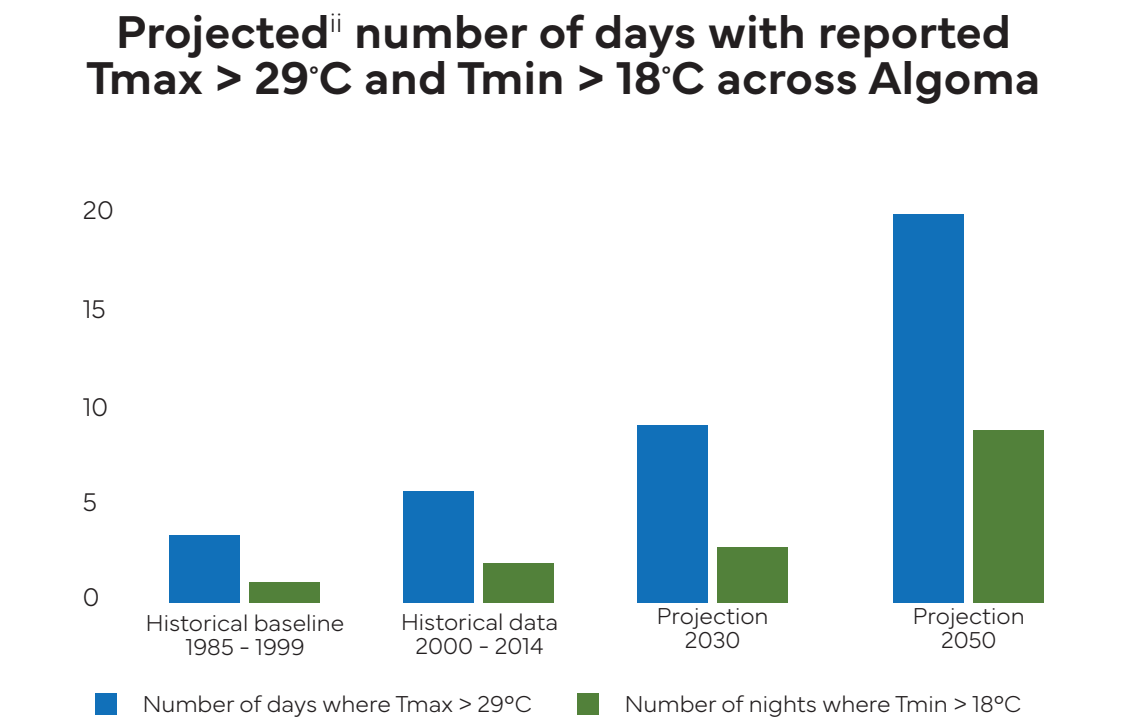
ⁱAQHI – A scale designed to help people understand the health risk of air quality in local environments ranked on a scale of 1 to 10 or greater.

Extreme heat

Climate statistics show that the areas served by Algoma Public Health have already warmed up by 2°C since 1985⁽¹³⁾.

As the climate continues to warmⁱⁱ, it is predicted that by 2030 and 2050, the average summer temperatures across Algoma could increase by 2.3°C and 3.6°C, respectively. This would mean a projected increase of 5 to 15 additional heat warnings per year⁽³⁾.

The Ministry of Environment and Climate Change Canada (ECCC) defines a heat warning in northern Ontario as a daily high temperature (Tmax) of 29°C or higher, and nightly high temperature (Tmin) of 18°C or higher, or a daytime maximum humidity of 36°C for two or more consecutive days⁽¹⁴⁾.



Extreme cold

The ECCC issues extreme cold warnings for northern Ontario when the temperature or wind chill is expected to fall below -40°C for at least two hours⁽¹⁴⁾. It is important to keep in mind that health impacts of cold can also happen at temperatures higher than -40°C, such as -15°C to -20°C.

► Common health impacts of extreme cold include hypothermia, frostbite, and windburn.

Climate models predict that extreme cold will happen less often and be less severe⁽³⁾, but emergency visits for cold exposure are higher than for heat exposure. This means people still need to protect themselves from extreme cold.

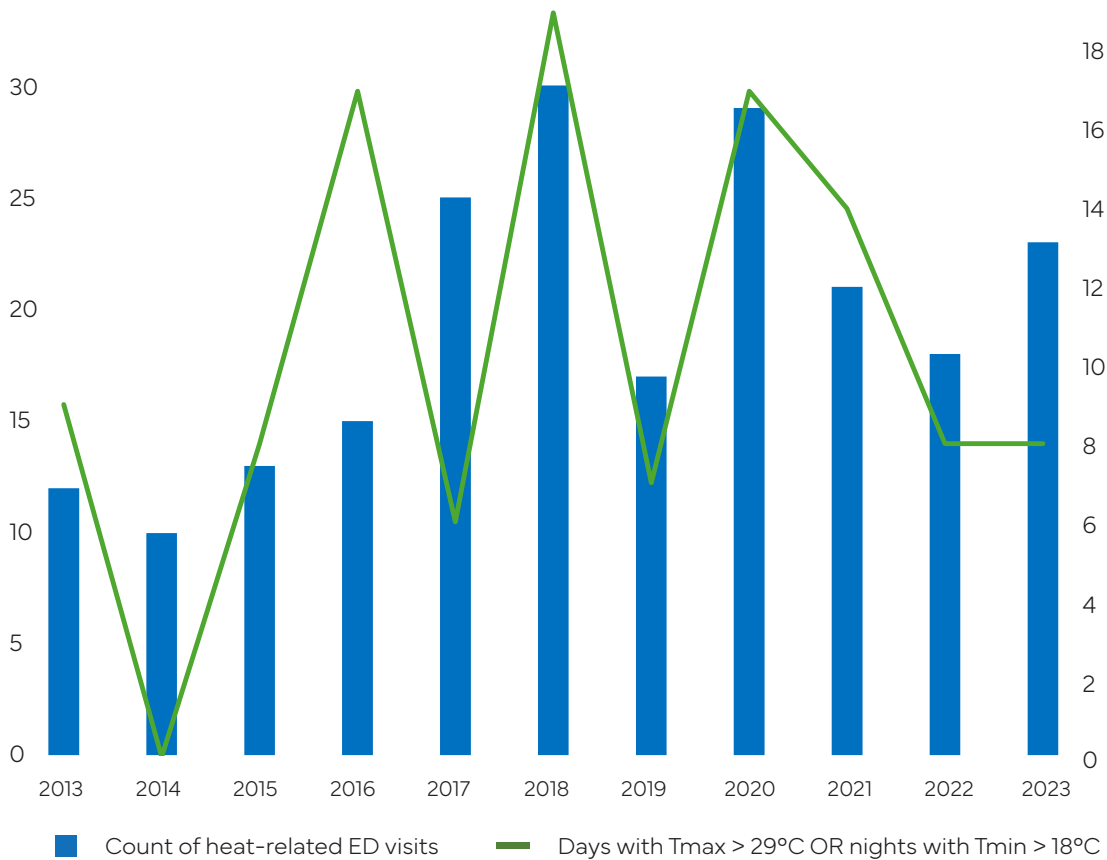
ⁱⁱ Predictions using the SSPS5 – 8.5 model: Considering ‘business as usual’ i.e. high emission scenario.

As the frequency of hot days in the region increases, so may the illness and death linked with them. Heat may exacerbate pre-existing illnesses and health issues. Common health impacts of extreme heat include heat strokes, sun strokes, sunburns and dehydration.

A trend emerges when comparing the number of heat-related emergency department visits in Algoma to the number of days with extreme heat.

The 5-year average (2019 – 2023) rate of ED visits due to heat-related illness is **18.4 per 100,000** people in Algoma⁽²⁾.

Heat-related emergency department visits in Algoma



The 5-year average (2019 - 2023) rate of ED visits due to cold-related illness is **23.2 per 100,000** people in Algoma⁽²⁾.

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