

Title: Support for Infectious Disease Wastewater Surveillance

To: Board of Health

From: Foundational Standards Division

Date: 2024-10-17

Approved by: Dr. Natalie Bocking, MOH and CEO

In Camera?  Yes  No

## Overview

- In 2020, the Wastewater Surveillance Initiative (WSI) was established to detect levels of COVID-19 in communities across Ontario.
- As of August 01, 2024, the provincial Wastewater Surveillance Initiative (WSI) is no longer collecting or testing wastewater samples provided by public health units or their municipal partners [Archived - Wastewater monitoring | ontario.ca](#).
- Wastewater surveillance has proven to be a valuable tool within the public health sector with a scope beyond COVID-19, including surveillance for other infectious diseases and pandemic preparedness.
- The termination of this program will significantly diminish local infrastructure and capacity for future wastewater surveillance, particularly in terms of pandemic preparedness.

## Recommendations to the Board of Health

THAT the Board of Health receive this briefing note for information AND THAT the Board of Health send a letter of support to the Ontario Ministers of Health and of Environment, Conservation and Parks for the Continued Support for Infectious Disease Wastewater Surveillance.

## Issue

Despite the continued importance of wastewater data to public health surveillance, the provincial Wastewater Surveillance Initiative (WSI) was discontinued as of August 1, 2024. This decision halted the collection and testing of wastewater samples from public health units and their municipal partners, even though wastewater-based surveillance has proven to be a valuable tool within the public health sector internationally and within Canada (1–6) with a scope beyond COVID-19 surveillance, including other infectious diseases such as Respiratory Syncytial Virus (RSV) (2), Polio (7), Mpox (4) and more recently H5N1 (8).

The public health community was caught off guard by the provincial decision to end this program early and not renew it on an annual basis, as many expected wastewater-based surveillance to become a standard tool for ongoing surveillance. While the province referenced the existence of a federal wastewater surveillance program, this program is extremely limited. Without ongoing support from the province, local wastewater surveillance is not feasible for many health units, including the HKPR District Health Unit.

The loss of this provincial program will diminish local infrastructure and capacity for future wastewater surveillance, particularly in terms of future pandemic preparedness and monitoring emerging infectious disease threats (5) and other public health concerns.

## Background

Minimum requirements for boards of health are outlined in the Ontario Public Health Standards. Requirements related to surveillance of infectious and communicable diseases are included in both the Population Health Assessment Standard as well as the Infectious and Communicable Diseases Prevention and Control Standard. As per the Population Health Assessment and Surveillance Protocol glossary, surveillance includes a system that provides early warnings of potential public health emergencies as well as monitors and clarifies the epidemiology of health problems and informs public health policy and strategies.

Wastewater-based surveillance for infectious diseases represents an innovative surveillance approach that was a key component of the response to the COVID-19 pandemic. This method supports more traditional clinical based surveillance by providing cost-effective timely information about disease spread in the community

without relying on individual testing, which can be expensive, and restricted only to those who seek care. Public Health units across Ontario have emphasized the importance of wastewater-based data for their ongoing respiratory and infectious disease surveillance as illustrated by the letters of continued support for the infectious disease wastewater surveillance sent by [Peterborough Public Health](#) and Renfrew County District Health Unit (9). Locally, prior to the termination of the program, the HKPR District Health Unit included wastewater surveillance data in the HKPR District Health Unit's weekly Respiratory Infections Dashboard.

COVID-19 remains a significant public health threat, leading to ongoing illness within the community. In the HKPR region, there were 2,244 identified COVID-19 cases throughout 2023. Starting in June 2024, changes in provincial data systems and reporting requirements have limited COVID-19 case reporting to only outbreak-related and death-related instances. This shift has significantly hampered public health units' ability to report comprehensive COVID-19 data, underscoring the critical need for other means of effective surveillance. Wastewater surveillance has the potential to help fill this gap.

The COVID-19 pandemic highlighted the value of wastewater surveillance as a useful and cost-effective monitoring tool (1,6,10). Such tools are crucial for effective pandemic preparedness. The loss of wastewater surveillance infrastructure has not only impacted current respiratory disease monitoring but will also hinder our ability to quickly implement this surveillance tool in the case of future pandemics.

Furthermore, wastewater surveillance has proven effective in surveillance of other infectious diseases circulating within the community, including RSV (2), Mpox (4), and more recently, H5N1 (in a one health approach) (8), as well as other emerging pathogens. Additionally, wastewater surveillance can be utilized to monitor high-risk facilities and detect outbreaks among vulnerable populations (11).

## Conclusions

Given the established applications of wastewater-based surveillance, its potential uses, and its critical role in pandemic preparedness, the Foundational Standards Division recommends that the Board of Health send a letter of support to the Premier and the Minister of Health for the Province of Ontario, endorsing Peterborough Public Health Unit's and Renfrew County and District Health Unit's Correspondence, and advocating for the continued support of infectious disease wastewater surveillance.

## References

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