



July 8, 2024

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RE: The Value of Wastewater Surveillance

Dear Dr. Knox, Mr. Hillmer and Mr. Carrasco,

On behalf of the Association of Public Health Epidemiologists in Ontario (APHEO) and its membership, I am writing to request the Ontario Ministry of Health and Public Health Agency of Canada consider increasing the number of proposed federal wastewater surveillance sites in Ontario to enhance coverage. The previous program led by the Ontario Ministry of the Environment, Conservation and Parks (MECP) designed a framework for their sampling network with the goal of representative coverage. We strongly recommend that this modelling work be considered in prioritizing sampling sites. Based on this previously validated work, we urge you to ensure the sampling frequency and test turnaround time are sufficient to render the program effective for public health and clinical decision making. Specifically, we recommend the following to support evidence-informed decision making at the local level: (1) Creating a regional wastewater hub for Ontario similar to what has been established for the Atlantic Canada surveillance program (2) Sampling at least five times per week at each site, (3) Implementing a 24-hour test turnaround time for all sites, and (4) Adding at least one surveillance site added for each of the following three Ontario regions: North West, North East, and Central East, excluding the greater Toronto area.

Wastewater surveillance serves as an effective and timely method for monitoring viral activity in populations when the sampling schedule and test turnaround time are sufficient. Knowing that wastewater surveillance can identify increased regional viral activity 12 days earlier than clinical

data is not helpful if decision makers receive test results the same day they get the clinical data. Ontario-based researchers studying the predictive value of the MECP wastewater surveillance have found that sampling at least five times per week is necessary to be able to discard spurious results and calculate a wastewater signal of sufficient quality to inform public health and clinical decision making. For wastewater surveillance data to be useful and actionable, analysts require frequent samples (at least five per week) with a 24-hour test turnaround time.

Finally, regional differences exist, and being able to monitor wastewater across various objectively different regions is important for timely implementation of public health and clinical measures. Recent research on respiratory syncytial virus (RSV), influenza, and COVID-19 wastewater surveillance demonstrates regional variability in viral activity across the province (Lawal et al., 2002, Mercier et al., 2022, and Mercier et al., 2023). Mercier et al. (2023) noted clinically important regional differences in the start of the RSV season between Ottawa, Hamilton, and the provincially-determined start date. Therefore, having sufficiently representative wastewater surveillance sites across Ontario is essential for meaningful regional coverage and public health action. Such coverage would allow designating regional start dates for the RSV season supporting clinicians in administering immunoprophylaxis in a timely manner to prevent hospitalizations and deaths among children under two years at highest risk for severe disease. This measure alone has the potential to save approximately \$3.5 million in pediatric health care spending at a cost of about \$0.50/child (Thampia et al, 2024). Prior to the announcement of the provincial program closure, there were hopes of timely monitoring of regional differences in influenza, COVID-19, mpox, and other pathogens of public health significance. This data would have informed regional and local public health and clinical decision making.

The currently proposed changes are disappointing and will result in a loss of this timely and valuable data source which has enhanced our ability to anticipate and proactively respond to local disease activity.

APHEO's Executive Committee would welcome the opportunity to engage in further discussion regarding this request.

Kind Regards,



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cc: Dr. Kieran Moore, Chief Medical Officer of Ontario

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