Newfoundland Labrador

COVID-19 Wastewater Surveillance Strategy
(September 9, 2021)

Background:

Wastewater monitoring for the surveillance of aggregate public health disease burden is an evolving field. Testing wastewater for SARS-CoV-2 has emerged as a useful surveillance and early warning tool for monitoring COVID-19 activity in the community. The early detection of SARS-CoV-2 in wastewater, as part of a comprehensive COVID-19 surveillance system, could help identify a new emergence of infection in a community including a possible outbreak, monitor trend in virus load levels, and provide timely information to inform response plans to curb transmission. This is being done in partnership with other government departments, municipalities, and universities in most jurisdictions across Canada including Newfoundland and Labrador. Testing approaches and strategies continue to evolve as we learn more about how to interpret and communicate results and how they can inform public health action.

Under the coordination and guidance of the provincial COVID-19 Wastewater Surveillance Sub-Group, the SARS-CoV-2 wastewater sampling and analysis conducted is consistent, public health interpretation of results and risk communication will be ensured, and data will be systematically shared with public health officials and other stakeholders as appropriate.

Purpose:
The overall purpose of the surveillance strategy is to rapidly detect SARS-CoV-2, the virus that causes COVID-19 disease, in specific communities across the province via wastewater testing, to inform appropriate public health response plans.

Objectives:
The two overarching objectives of the surveillance program include:
1. The establishment of comprehensive population coverage, both in place and time.
   - The monitoring network should include, if possible, samples that will cover more populated municipalities and communities that are transitory hubs across the entire province. Sample collection shall be focused at sewershed outfalls.
   - The sampling frequency per site should target a minimum of one sample per week.
   - To complement community surveillance, consideration should be given to targeted surveillance of sub-sewersheds, focusing on populations at higher risk for COVID-19 (e.g. correctional facilities, post-secondary institutions, care homes).

2. Data interpretation and reporting plan
   - Develop metrics for monitoring for the presence of infection and tracking trends in conjunction with case surveillance.
   - Develop a process for sharing interpreted results with public health officials and other relevant stakeholders.
   - For public communications, develop a publicly-available dashboard that provides interpreted results for all areas under community surveillance (eg. dashboard used in NWT).

Actions:

Short-term actions over the next six months will include:
- Developing criteria for selecting geographic locations and sewershed areas for testing.
- Developing sample collection and testing methodology.
- Establish partnerships with communities, academia, federal government and other stakeholders.
- Training on safe wastewater sample collection for partners.
- Interpreting and communicating results internally and to the public when appropriate.
- Linking with the National Microbiology Laboratory and other divisions of the Public Health Agency of Canada.
- Correlating COVID-19 wastewater test results with cases.
- Determining how trends in COVID-19 wastewater test results can inform public health action.
- Modelling of wastewater trends for possible predictions purposes.

Sampling Sites (Current and Planned- updated Sept 16, 2021)

Community	Sampling Site	Status	Collection Method	Targeted Sampling Frequency
St. John's	Wastewater Treatment Plant	Actively sampling	Autosampler	Twice per week
St. John's – Clark Pl	Manhole on Clark Pl	Actively sampling	Passive Sampler	Once per week
Paradise	Wastewater Treatment Plant	Actively sampling	Autosampler	Once per week
Conception Bay South	Wastewater Treatment Plant	Actively sampling	Passive Sampler	Once per week
Gander	Wastewater Treatment Plant	Actively sampling	Autosampler	Once per week
Deer Lake	Wastewater Treatment Plant	Planned	Passive Sampler	Once per week
Happy Valley-Goose Bay	Wastewater Treatment Plant	Actively sampling	Passive Sampler	Once per week
Torbay	Prior to Outfall	Actively sampling	Autosampler	Once per month
Corner Brook	Prior to Outfall	Planned	Passive Sampler	Once per week
Clarenville	Prior to Outfall	Planned	Passive Sampler	Once per week
Labrador City	Wastewater Treatment Plant	Planned	Passive Sampler	Once per week
Wabush	Wastewater Treatment Plant	Planned	Passive Sampler	Once per week
Grand Falls-Windsor	Wastewater Treatment Plant	Planned	Passive Sampler	Once per week
Stephenville	Wastewater Treatment Plant	Planned	Passive Sampler	Once per week