

Finding Coronavirus in Poop

The Washington State Department of Health (DOH) is planning on sampling and analyzing wastewater or surface water affected by wastewater (yep, there's poop in there!) from various sites across the state. Therefore, one of the newest projects at the Public Health Laboratories is to onboard wastewater testing to detect SARS-CoV-2 as well as variants.

This modality of testing is already in use at the University of Washington where Dr. Scott Meschke's laboratory has been testing wastewater for this purpose since early in the pandemic and is now collaborating with DOH. The Public Health Laboratories will rely on droplet digital PCR and whole genome sequencing techniques for this project.

The idea of wastewater surveillance — testing sewage for specific diseases — isn't a new way to gather data for public health response; it has been in use since the 1930s to detect polio. However, the idea that we can test sewage to measure the extent of COVID-19 infection in a community is quite novel. It is based on scientific studies showing that a person infected with COVID-19 sheds the virus in their feces before the onset of symptoms — even if they never develop symptoms.

The Centers for Disease Control and Prevention (CDC) started a National Wastewater Surveillance System (NWSS) to help public health agencies understand and use wastewater surveillance to gauge the extent of COVID-19 infection in their communities.

CDC awarded a grant to DOH to:

- Establish the capacity in the Public Health Laboratories to test wastewater for SARS-CoV-2.

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- Reach out to utilities and communities testing wastewater for SARS-CoV-2 in Washington.
- Help utilities and communities upload data into the NWSS portal.
- Encourage wider use of wastewater surveillance.

"Our goal is to provide a forum for wastewater utilities and health officials to learn about wastewater surveillance and evaluate whether it can be a beneficial tool for them," said Dotti Ramey, project lead and an environmental engineer with the Large Onsite Sewage System (LOSS) Program. "If we, as health officials and wastewater utilities, decide it can be beneficial, then our goals will evolve to include ways to make it a reality across the state."

Wastewater surveillance presents great promise as an early warning for SARS-CoV-2 outbreaks. It's too late to sound the alarm for the current outbreak, but it certainly could be used to monitor recurrence after widespread vaccination is a reality, to monitor rural communities and agricultural workers with reduced access to clinical testing, and to monitor target populations such as schools and long-term

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Practice Guidelines

The following practice guidelines have been developed by the Clinical Laboratory Advisory Council. They can be accessed at the [LQA website](#).

Acute Diarrhea	Lipid Screening
Anemia	PAP Smear Referral
ANA	Point-of-Care Testing
Bioterrorism Event Mgmt	PSA
Bleeding Disorders	Rash Illness
Chlamydia	Red Cell Transfusion
Diabetes	Renal Disease
Group A Strep Pharyngitis	STD
Group B Streptococcus	Thyroid
Hepatitis	Tuberculosis
HIV	Urinalysis
Infectious Diarrhea	Wellness
Intestinal Parasites	

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care facilities in urban areas for recurrence.

Several universities, utilities, research organizations, and EPA are working to establish best practices for sample collection and analysis. “Although the science is progressing rapidly, it’s still new,” said Ramey. “We need to educate ourselves and then collaborate to develop a cohesive approach to testing and a uniform guide to public health response to wastewater surveillance data.”

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Website access:

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See the latest COVID-19 Pandemic Information at the following link:

<https://www.doh.wa.gov/Emergencies/COVID19>

This website is updated regularly so check back again for the latest information.

Calendar of Events

Training Classes:

2021 Joint Spring Seminar

Sponsored by ASCLS-WA, ASCLS-OR, ASCLS-AK
April 21-23 Virtual Event

2021 Northwest Medical Laboratory Symposium

October 6-9 Virtual Event



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