

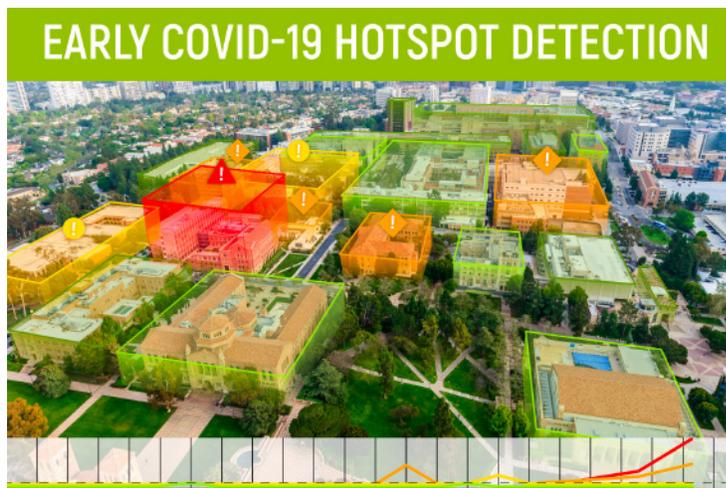
MONITORING WASTEWATER FOR SARS-COV-2

ENVIRONMENT

Wastewater testing has been used successfully to prevent past outbreaks of other infectious diseases, including polio. Now, researchers and epidemiologists are looking at wastewater as a method for predicting areas that may experience a spike in COVID-19 cases.

However, testing alone simply indicates the presence of COVID-19 in wastewater, which today is fairly ubiquitous. Monitoring wastewater for changes in the level of RNA from the SARS-CoV-2 virus over time, delivers more quantitative, actionable data that can help you:

- Anticipate areas where a COVID-19 outbreak may occur
- Allow healthcare providers and first responders to prepare for increased cases
- Isolate areas to curtail spreading and keep more people safe



Pace provides clients quantitative data that can be used to trend for infection hotspots.

THE WASTEWATER ADVANTAGE

Wastewater testing falls into the surveillance testing category in that it doesn't detect an infection in a specific individual, but it can help determine if additional testing or precautionary measures are needed. Wastewater testing also has several advantages over other testing programs:

Less intrusive

The most common forms of testing, the nasal and throat swabs, are not painful, but many people find them uncomfortable. Wastewater testing doesn't require people to submit to anything. In fact, the average person often remains unaware of tests being done on wastewater in their community unless there is evidence of a spike.

Asymptomatic people are included

Unless required by their employer or some other entity, asymptomatic people tend not to get tested. The research is still mixed on how infectious these individuals are, but we do know that they shed fragments of SARS-CoV-2 in their stool. Wastewater testing will catch a rise in both symptomatic and asymptomatic cases of COVID-19 infection.

Spot testing

As long as an isolated stream of wastewater is available, spot testing can be done. For example, a municipality may use wastewater testing in conjunction with an event center to predict an outbreak due to a recent activity such as a concert or sporting event. Likewise, a university can monitor results from individual dormitories, and an industrial plant may track specific buildings.

MONITORING WASTEWATER FOR SARS-COV-2

Privacy is inherent

One of the challenges with slowing the spread of COVID-19 has been compliance with privacy laws like HIPAA and FERPA. Wastewater testing is inherently private because tests can't be traced back to a specific individual.

Test more people

Wastewater testing can be used to monitor results from thousands of people at a time. While rising levels may indicate additional testing is needed, steady or droppings levels can help entities avoid the additional expense.

"There will be evidence of SARS-CoV-2 in wastewater every time you test. That's why it's so vital to get time-phased, quantitative data. Pass/fail testing doesn't tell you much of anything."

Johnny Mitchell

Vice President of Operations
Pace Analytical National Center for
Testing & Innovation

WHO CAN BENEFIT?

While there is still a lot to learn about the disease from the data gathered, testing and monitoring wastewater for COVID-19 is not a theoretical exercise. There are many different types of entities that have already begun monitoring programs.

Universities

While researchers in the biology department may be studying the data, campus administrators are already using it to determine whether to keep the campus open and when additional precautions are needed.

Municipalities

An estimated 80% of wastewater in the U.S. runs through municipal wastewater systems. Wastewater testing and monitoring allows city officials to identify outbreaks down to specific areas of the city to help slow community spread.

Institutions

We've all seen how quickly COVID-19 can burn through communal living facilities like nursing homes, long-term care facilities, and prisons. Wastewater testing and monitoring may be able to identify an increase in infections and mitigate spread.

Businesses

As states begin opening up, the one thing business leaders fear most is becoming the next hotspot. Wastewater testing can help them take pre-emptive action.

"Not all universities and colleges have the resources to test wastewater for evidence of COVID-19 infection themselves. We're helping many smaller institutions develop programs that make sense for their campus."

Danny Ramsey

Vice-President Sales, Western U.S.
Pace Analytical



MONITORING WASTEWATER FOR SARS-COV-2

PACE ANALYTICAL SARS-COV-2 WASTEWATER TESTING AND MONITORING PROCESSES

The Pace Analytical Environmental Services team has been performing wastewater testing for a variety of contaminants for decades. Now, we've teamed with our Life Sciences division to help universities and other institutions develop an effective method for testing and monitoring wastewater for the presence of SARS-CoV-2.

Pace Analytical offers testing and monitoring of wastewater by real time, quantitative Polymerase Chain Reaction (RT-qPCR) for SARS-CoV-2. The qPCR test detects RNA, the genetic signature of SARS-CoV-2, in wastewater. This is done by quantifying viral RNA using Real Time (RT) reverse transcription Polymerase Chain Reaction (qPCR). The cycle threshold (CT) values obtained will be used to quantify the copies of RNA of two variants of SARS-CoV-2 (SARS-CoV-2 N1 and SARS-CoV-2 N2) in wastewater samples. The results are reported as copies of viral RNA/mL.

If you'd like to [learn more](#) about our services or discuss a program for monitoring wastewater in your organization, we invite you to [schedule a briefing](#) with one of our experts.



Pace Analytical® Services, LLC makes the world a safer, healthier place. For decades, we have been the trusted source for quality environmental and life sciences lab testing and analysis and the resource for scientific lab staffing services. Our work is done in partnership with our clients by providing the science and the data they need to make critical decisions that benefit us all. Pace delivers science better to businesses, industries, consulting firms, government agencies and more through the largest, American-owned and nationally certified laboratory network. More at PACELABS.com