

Sewage as Sentinel

Monitoring for COVID-19, Flu, RSV, and Other Diseases in Your Community

Researchers based at Stanford University partnered with communities in 2020 for a project called SCAN to monitor their wastewater for SARS-CoV-2, the virus that causes COVID-19. Their work demonstrated that the concentration of SARS-CoV-2 in wastewater closely tracks with the number of cases in a community, which has been shown to be true for influenza, RSV, and other diseases. Through philanthropic funding, the effort has expanded nationally as WastewaterSCAN, offering more communities access to wastewater monitoring and support in interpreting the results. WastewaterSCAN's approach is:

- **RELIABLE** – Wastewater monitoring provides an accurate, population-level view of infections. At the height of the pandemic, when clinical testing for SARS-CoV-2 was widespread, SCAN's results tracked case counts closely. Since then, our rigorous scientific studies have shown that wastewater monitoring of mpox, influenza A & B, RSV A & B, parainfluenza, metapneumovirus, rhinovirus, and seasonal coronaviruses also tracks closely with clinical testing data.
- **SENSITIVE** – Using solids in wastewater either suspended in influent or collected from the primary clarifier, which carry about 1,000 times more viral genetic material than liquid sewage for many viruses, this method can identify a handful of infections per 100,000 people served by a wastewater system from a pea-sized sample.
- **REPRESENTATIVE** – No one served by the sewage system is left out. Analyzing

wastewater does not require individuals to be tested in health care settings or to report home tests. This ensures that the results from populations and neighborhoods historically underserved by the health care system are included in monitoring.

- **COMPARABLE** – Our research suggests that measurements from wastewater solids can be directly compared from place to place and over time to provide insight into relative disease occurrence rates between and within communities.
- **OPEN SOURCE** – Our data and methods are open and available, and methods for testing of each pathogen and controls to manage variations in samples are published in detail for use by other scientists, public health officials, and wastewater monitoring practitioners.

Expanding nationally at no cost to communities

- Communities across the United States can monitor their wastewater using the same reliable, sensitive, representative, and comparable method through WastewaterSCAN; it is free and simple to implement.
- WastewaterSCAN aims to complement local and state pathogen surveillance systems by providing data from a national cohort of sites monitoring wastewater for infectious diseases. Results are reported to the CDC's National Wastewater Surveillance System (NWSS) (when applicable) and on the WastewaterSCAN public website.

Learn more at

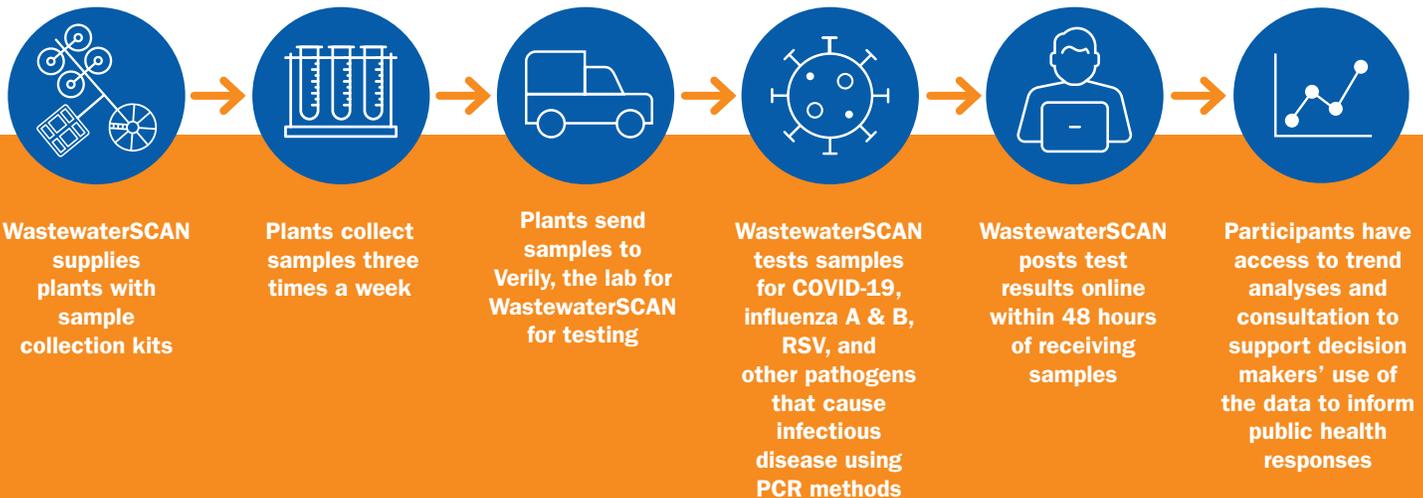
www.wastewaterscan.org



WastewaterSCAN

HOW IT WORKS

- WastewaterSCAN sends sampling kits to participating treatment plants to collect samples and send them for lab analysis three times a week; the sampling materials and shipping are provided free of charge.
- The treatment plant ships the samples (using the packaging and postage provided) as quickly as possible to preserve their quality.
- WastewaterSCAN provides a small stipend to participating treatment plants for each sample sent in for analysis to offset some of the associated labor costs.
- WastewaterSCAN uses digital droplet PCR methods to detect concentrations of SARS-CoV-2 and specific variants, influenza A & B, RSV, human metapneumovirus, mpox, and norovirus.
- WastewaterSCAN notifies designated local officials and posts test results on a public dashboard within 48 hours of receiving a sample.
- WastewaterSCAN is committed to collaborating with local, state, and national public health officials. The program uploads data to the CDC NWSS program in real time, conducts trend analyses, and convenes stakeholder meetings to support the translation of results by decision makers.
- Learn more at: wastewaterscan.org/national-monitoring/



Have questions or want to learn more? Contact us at
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