

SEWAGE AS SENTINEL: Using Wastewater to Gain a Comprehensive View of COVID-19 in Your Community

For more than a year, the Sewer Coronavirus Alert Network (SCAN) and Verily Life Sciences have been closely monitoring wastewater in California cities and towns for SARS-CoV-2, the virus that causes COVID-19, to give public health officials rapid data on infections in their communities. In some instances, SCAN and Verily have seen virus spikes a week or more before they have appeared in clinical testing.

Researchers from Stanford, Emory, and University of Michigan who launched SCAN developed a method to test for genetic markers of the COVID virus in solids in wastewater that is:

- **Reliable** – SCAN's results track clinical test results closely
- **Sensitive** – Using solids, which carry about 1,000 times more virus RNA than liquid sewage, SCAN's method can identify 1-2 infections per 100,000 people served by a wastewater system from a sample that weighs a quarter of a gram
- **Representative** – Everyone served by a wastewater system is part of the samples collected and tested, so the data is a community-wide portrait. No one is left out, including residents and neighborhoods historically underserved by the health care system

- **Comparable** – Testing controls account for differences in samples' strength and the amount of RNA extracted from each sample, allowing results to be compared over time and from place to place
- **Actionable** – Because the SCAN method is reliable, sensitive, representative and comparable, it gives officials and the public understandable, useful results that can help guide how they respond to infections in their communities.

Expanding nationally and at no cost to communities

For the first time, more communities across the United States will be able to monitor their wastewater using the method developed by SCAN through **WastewaterScan powered by Verily**. Wastewater treatment systems nationally can take part in the new effort; it is **free** for one year and **simple** to implement.

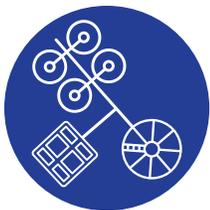
Verily aims to spark a common, national wastewater monitoring program. It will report results to the CDC's National Wastewater Surveillance System and on a public dashboard and will offer qualified researchers detailed data and gene sequencing results.

Learn more at wastewaterscan.org

WastewaterScan powered by Verily

HOW IT WORKS

- A wastewater treatment system asks to participate by signing up at wastewaterscan.org
- Verily sends participating facilities sampling kits that will allow each one to take samples and send them for lab analysis three times each week; the sampling materials and shipping will be provided free of charge
- A facility takes two 50-ml samples of wastewater grab or composite solids, preferably from a plant's primary clarifier. For facilities that can only sample liquid influent, Verily will provide sedimentation equipment to allow them to settle solids locally. Verily will process solids ONLY
- A facility ships the samples using the packaging and postage provided as quickly as possible to preserve the quality of the sample
- Verily uses testing that is more sensitive than other programs currently available to detect SARS-CoV-2 and specific variants (currently Delta and Omicron) as well as two other viral respiratory diseases – influenza and respiratory syncytial virus (RSV)
- Verily posts test results on a web dashboard with 48 hours of receiving a sample. Under these parameters, the analysis can identify 3-6 infections per 100,000 people served by the treatment plant



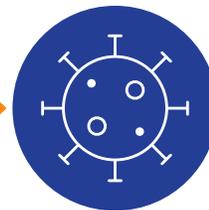
Verily supplies plants with collection kits



Plants collect solid samples three times a week



Plants send samples to Verily for testing



Verily tests samples for COVID-19 virus, flu, RSV



Verily posts test results online within 48 hours of receiving samples

Have questions or want to learn more?

Contact us at

publichealthteam@verily.com