

## Feds Launch COVID Wastewater Tracker; NJ Keeps Eyes On Its Sewage



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February 11, 2022 · 6 min read

NEW JERSEY — The Centers for Disease Control and Prevention (CDC) recently made a splash when it announced that it will be adding data collected from sewage samples around the country to its online COVID-19 Data Tracker. But although the federal monitoring program is new, the concept of checking people's feces and wastewater for signs of the coronavirus is nothing new in New Jersey.

The [National Wastewater Surveillance System](#) (NWWS) was created by the CDC to better track the presence of COVID-19 by analyzing wastewater samples. The surveillance system has been operating since September 2020, but the CDC [added it to the tracker last week](#) as another tool to compare virus trends across states, according to Amy Kirby, the doctor who is leading the effort.

Last week, Kirby told reporters that the CDC is supporting 37 states, four cities and two territories to help develop wastewater surveillance systems in their communities. More than 400 testing sites around the country have already begun their wastewater surveillance efforts.

What about the Garden State?

"New Jersey is not currently participating in National Wastewater Surveillance System, but enrollment is ongoing for wastewater testing sites and we are hopeful they will have testing sites soon," a CDC spokesperson said Thursday.

The New Jersey Department of Health told Patch that the agency is "playing a limited role" in wastewater sampling.

"The department's Communicable Disease Service received contact information for a list of wastewater treatment sites from DEP," a spokesperson said. "That information was given to the CDC National Wastewater Surveillance System representative and the contractor who is working to onboard New Jersey sites."

The concept of monitoring wastewater for signs of the coronavirus isn't new in New Jersey, however.

In September 2020, the New Jersey Institute of Technology (NJIT) in Newark quarantined hundreds of students after finding traces of the coronavirus in their fecal matter. The school had been running weekly tests on wastewater samples from each of its occupied dorm buildings.

#### **SEWERAGE COMMISSION: 'SUCCESSFUL AND RELIABLE'**

Recently, the Passaic Valley Sewerage Commission (PVSC) agreed to participate in the National Wastewater Surveillance System, giving it a sound endorsement.

"Wastewater epidemiology studies have proven successful and reliable in detecting the dispersion of the SARS-CoV-2 through both time and space, as well as in tracing the origin and development of variants of the virus," a spokesperson told Patch.

"Information obtained from such studies can be used by public health care and elected officials as a powerful tool for making important, often difficult decisions regarding the allocation of resources to combat the COVID-19 pandemic," he added.

The recent effort to work with the CDC isn't the first COVID-related partnership the PVSC has undertaken since the pandemic began.

"In March 2020, the PVSC partnered with Biobot Analytics, Inc. to engage in such testing," the agency said. "At the time, Biobot was in the beginning stages of starting a nationwide pro bono program to conduct wastewater epidemiology study in collaboration with researchers at MIT, Harvard University, and Brigham and Women's Hospital in Boston. The program analyzed sewage from wastewater treatment facilities across the United States to estimate the prevalence of COVID-19 infection."

The program eventually grew to include more than 100 treatment facilities in almost 25 states.

In July 2020, the PVSC made contact with the Department of Civil & Environmental Engineering at Rutgers University, which had also just started a study regarding the prevalence of the SARS-CoV-2 virus in wastewater. The PVSC participated in the Rutgers study through mid-2021, when funding for the study ended. Later, the PVSC joined with Rutgers in applying for a grant through the National Institute of Health to continue the study, but the grant wasn't approved.

The PVSC also pooled resources with Bergen County to conduct wastewater epidemiology testing in conjunction with a program through Columbia University in New York. That program has also ended.

## **CDC DATABASE: HOW DOES IT WORK?**

The new CDC surveillance database shows changes in the virus level in wastewater over the previous 15 days for each participating community. The tracker also provides the percentage of COVID-19 tests from the past 15 days that are positive.

Kirby said an estimated 40 percent to 80 percent of people infected with COVID-19 [shed viral RNA in their feces](#), “making wastewater and sewage an important opportunity for monitoring the spread of infection.”

The tool also can provide an early warning of outbreaks on the horizon.

“So what we see is shedding in feces starts very early after someone is infected,” Kirby said. “It’s in fact, one of the first signs that we see of infection, which is really important for this early warning capability for wastewater.

“We see those rates go up very, very high,” she said. “So lots of virus [is] shed into feces very early in the infection, and then it tails off.”

The surveillance system, which was started by researchers and a few public utilities, has become a nationwide system with more than 34,000 samples collected from approximately 53 million Americans.

At least 250 sites will come online in the next few weeks, she said.

Kirby said the “real power” of the surveillance system will be demonstrated when hundreds more testing sites begin submitting data. What makes it particularly powerful, Kirby said, is that it detects infections in people who may not have had a clinical test.

“These built-in advantages can inform important public health decisions, such as where to allocate mobile testing and vaccination sites,” Kirby said. “Public health agencies have also used wastewater data to forecast changes in hospital utilization, providing additional time to mobilize resources and preparation for increasing cases.”

This is the first U.S. government-sponsored use of wastewater surveillance, though it’s a commonly used public health tool in other countries, Kirby said.

“Wastewater surveillance has been used for many decades, actually, to track polio in communities, not in the U.S., but definitely overseas as part of the polio eradication efforts,” she said. “And they use it essentially the same way we do — so to look for

communities [where] polio is circulating and then use that as a trigger for additional clinical surveillance in those communities.”

The CDC is working to expand the National Wastewater Surveillance platform to gather data on other pathogens — including E. coli, salmonella, norovirus influenza and the emerging fungal pathogen Candida auris — perhaps as soon as the end of the year, Kirby said.

***This article contains reporting from the Patch national desk.***

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