How Data Support Public Health Action

CDC's National Wastewater Surveillance System allows anyone, from clinicians to members of the public, to understand disease levels in their community. Wastewater monitoring (surveillance) rapidly provides community-level data that, when combined with other public health data, can provide helpful information about infectious diseases in a community. Wastewater surveillance can be quickly expanded to test for infections of concern. This information can be used to help guide prevention efforts.

Wastewater data is used for public health actions, such as:

- Alerting people when illnesses might be spreading or increasing in their community.
- Updating health care providers about disease trends that help determine testing and treatment plans.
- Helping determine placement of vaccination or tesing locations.
- Helping hospitals plan for surges.

95% of adults would take public health action if they saw wastewater data showing high viral activity levels in their community.

Investment in a National Wastewater Surveillance System

CDC invests in state, local, territorial, and some tribal health departments to support wastewater monitoring to **identify changes in disease trends, detect outbreaks early, and help guide prevention activities.** More than $500M in COVID-19 supplemental funding for wastewater surveillance has built testing capacity in public health laboratories, six wastewater Centers of Excellence, an expert workforce, and data analysis and visualization tools.

Pre-Pandemic: $0

Prior to the COVID-19 pandemic, there was **no national wastewater surveillance network** in the U.S.

2021-2024
$500M+ Investment

CDC established a **robust and nimble national wastewater monitoring system** for infectious disease threats, such as COVID-19, Mpox, Flu, and RSV.

Post-Pandemic:
$20M FY25 Request

Annual funding is critical to sustain a focused, scalable program to respond to emerging infectious disease threats.

Wastewater Data Supports Public Health Action Nationwide

West Virginia

In 2023, West Virginia created a mobile wastewater surveillance laboratory to gather data daily for both COVID-19 and norovirus while hosting the National Scout Jamboree event. Wastewater testing offered an efficient approach to daily testing of more than 15,000 individuals. **Wastewater testing resulted in an event that everyone could enjoy while remaining healthy.**

Wisconsin

Wisconsin shares community-level data on COVID-19 and its variants on public dashboards to alert communities and clinicians to potential outbreaks. Wastewater data allows Wisconsin to track the emergence and spread of new variants statewide, in some cases ahead of clinical data. These public data **allow people to make informed decisions to protect their health and can warn** hospitals of potential spikes in cases.

California

When the mpox outbreak began in 2022, California and academic partners were able to **rapidly implement wastewater monitoring to track mpox throughout the state, including in communities where patient testing was limited.** The detection of mpox in wastewater, including in communities without any reported cases, helped health departments decide where to provide additional vaccines, testing, and community outreach.

Colorado

Public health officials in Colorado use their wastewater surveillance system to monitor enterovirus D68 (EV-D68), a virus that typically causes respiratory illness, ranging from mild (like a common cold) to severe. Retrospective testing on wastewater samples from the 2022 season detected increasing trends of the virus up to a month before clinical and syndromic signals showed similar trends. Future real-time wastewater surveillance for EV-D68 will help **healthcare facilities prepare for a potential surge during the respiratory virus season.**

Houston

Citywide wastewater monitoring helped track COVID-19, influenza, and RSV infections in the Houston area, including in K-12 schools. When the influenza virus was consistently identified in wastewater at the schools, the health department **offered community vaccination clinics.** These clinics also offered opportunities for families to catch up on other routine vaccinations.

Wastewater Monitoring Fast Facts

1500 **Communities** representing 150 million people **(45% of the US population)** are covered by wastewater monitoring.

$500M+ Awarded to health departments in all **50 states, 7 local jurisdictions, 7 territories,** and some **tribal communities** for wastewater monitoring activities.

6 **Wastewater Centers of Excellence** advance wastewater monitoring across the US through partnerships between public health departments and academic institutions in the **City of Houston, California, Colorado, New York, North Carolina, and Wisconsin.**

For more information, visit www.cdc.gov/wastewater