Wastewater Surveillance | What's SARS-CoV-2 got to do with it?

Did You Know?

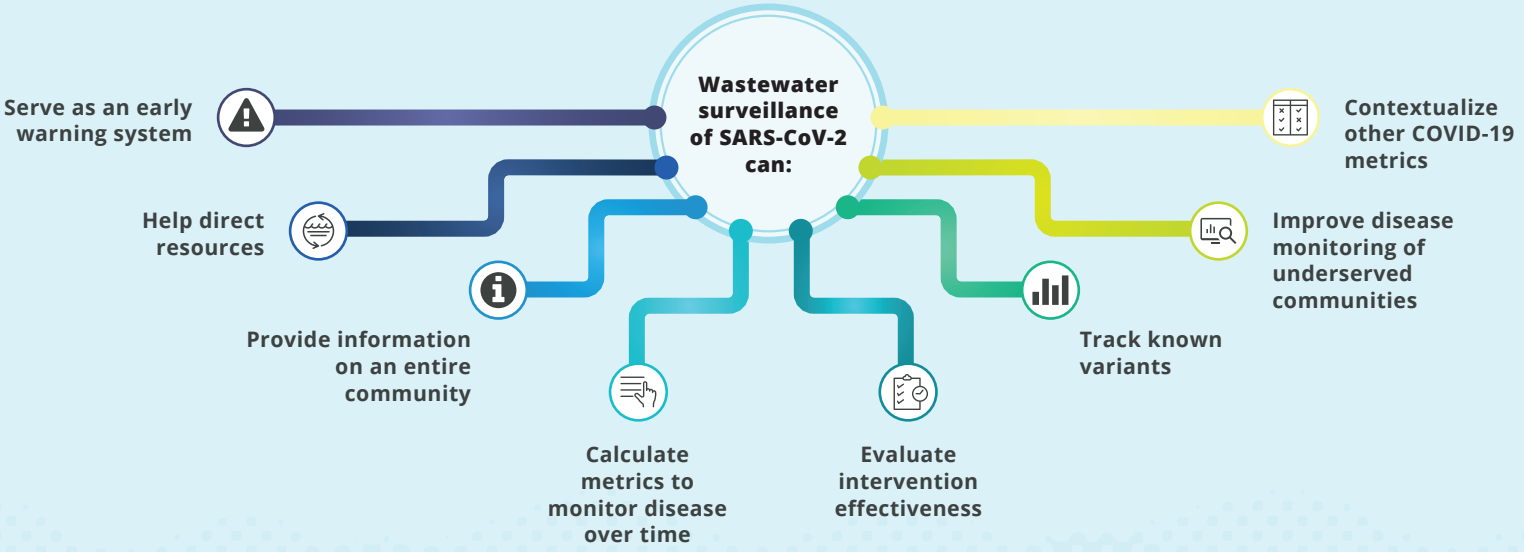
SARS-CoV-2, the virus that causes COVID-19, can be shed in the feces of both symptomatic and asymptomatic individuals.

Wastewater surveillance can be used as a tool to test for RNA from SARS-CoV-2.

There is no information to date that anyone has become sick with COVID-19 because of direct exposure to treated or untreated wastewater.

How it Works

Public Health Benefits



Advantages of SARS-CoV-2 Wastewater Surveillance

- Non-invasive
- Inexpensive
- Scalable
- Unbiased
- Large data pool of individuals
- Inclusive (both asymptomatic and symptomatic individuals)
- Data for communities where individual testing is underutilized or unavailable
- Indicator of changes in community-level infection
- Complements existing COVID-19 surveillance systems

Wastewater Surveillance Programs—Key Partnerships

Partnerships are key for a successful wastewater surveillance program.

- State, local, tribal, and territorial governments, particularly public health departments
- Wastewater utility companies
- Laboratories: Public health, environmental, academic, and/or commercial

Success in the Field—Spotlight on Tempe, AZ

2018 Began their wastewater surveillance program to collect data on local opioid use.

March 2020 Began monitoring for the SARS-CoV-2 virus.

The City of Tempe's water division collects wastewater samples and sends them to Arizona State University for processing.

The city analyzes the university's data and makes it publicly available in their Community Health Bio-Intel System.

Using wastewater data alongside equity and inclusion data has enabled the city to prioritize COVID-19 services.

Tempe is hoping to expand their existing program by breaking down collection basins into smaller, more localized areas, and expand biomarkers monitored through their wastewater surveillance program.

Steps to Get YOUR Health Department Involved!

1 Communication & Data Sharing

- Host open forums to address questions and concerns from the public.
- Provide regular updates via press releases, social media, etc.
- Make data publicly available and understandable to the general public.
- Connect with the CDC National Wastewater Surveillance System at NWSS@cdc.gov

2 Identify Public Health Data Needs

Based on the local disease status and other available health indicators, wastewater surveillance can help detect the presence of COVID-19 cases and monitor trends* within a sewershed.

**Wastewater surveillance cannot currently be used to determine the total number of infected persons or percent of the population that is infected.*

3 Assess Wastewater Sampling & Testing Capacity

- Identify and connect with local partners (e.g., laboratories, academic institutions) to assess sampling and testing capacity in your community.
- Convene stakeholders and share information on wastewater surveillance.

4 Develop a Sampling Plan

Make sure to address:

- Where to sample
- How often to sample
- What to sample
- How to sample
- How to safely collect, store, and ship samples

Based on CDC's National Wastewater Surveillance System

Resources

1. National Wastewater Surveillance System (CDC)
2. Detecting and Monitoring SARS-CoV-2 in Wastewater (EPA)
3. Recommendations from the Water Research Foundation

Contact Information

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NACCHO
National Association of County & City Health Officials

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