

Wastewater study shows potential for early warning of infectious disease outbreaks in jails

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An Emory University study of samples of the Fulton County Jail's wastewater collected found a correlation between the percentage of positive COVID-19 tests among jail residents and the COVID-19 levels detected in the wastewater. Credit: Rollins School of Public Health

An innovative partnership between infectious disease researchers and the Fulton County Jail has produced insight that could help detect and track future disease outbreaks.

A study of samples of the jail's [wastewater](#) collected nearly every week between October 2021 and May 2022—led by researchers at Emory University's Rollins School of Public Health and recently [published](#) in *Emerging Infectious Diseases*—found a correlation between the percentage of positive COVID-19 tests among jail residents and the COVID-19 levels detected in the wastewater.

These results from the feasibility study show that wastewater-based surveillance could not only help detect and mitigate future COVID-19 outbreaks, but also serve as an indicator of other viral infection trends in jail settings.

"We knew the [technology](#) worked in college dormitories, but jails are settings that needed to be studied," says Anne Spaulding, MD, associate professor of epidemiology at Emory University's Rollins School of Public Health. "Because so many people pass through jails, protecting the health of detained individuals impacts the health of entire communities."

Taking weekly wastewater samples from four manhole sites outside of the jail buildings enabled the researchers to circumvent common barriers to infectious disease screenings within jail settings, such as access issues and hesitancy of [jail](#) residents.

"Being the largest pre-trial detention center in Georgia, we are hopeful that the data Emory collected during this study will provide valuable findings to benefit other facilities across the country," says Fulton County Sheriff Patrick "Pat" Labat. "We are committed to community partnerships and maintaining the health of those in our care and

custody."

More information: Lindsay B. Saber et al, Correlation of SARS-CoV-2 in Wastewater and Individual Testing Results in a Jail, Atlanta, Georgia, USA, *Emerging Infectious Diseases* (2024). [DOI: 10.3201/eid3013.230775](https://doi.org/10.3201/eid3013.230775)

Provided by Emory University

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