



Monitoring sewage for early detection of COVID-19 outbreaks

People within a wastewater treatment catchment, or facility such as an aged care home, are exposed to SARS-CoV-2.



DAY 1

Samples are collected for analysis from wastewater entering pipe networks, pumping stations or wastewater treatment plants.



DAY 3-4

Detection and quantification of the virus genetic materials are reported to public health officials to support early intervention measures.



DAY 4-6

People who begin to show symptoms undergo a clinical nasal swab test.



DAY 5-14

DAY 2-3



Infected people begin shedding the virus in faeces, whether or not they show symptoms such as fever or a cough.

DAY 4



The wastewater sample is concentrated. Fragments of the virus's genetic code are then extracted and genetically analysed.

Genetic fragments of the SARS-CoV-2 virus that causes COVID-19 are found in the faeces of infected people.

These fragments, as RNA, can be collected from the wastewater to detect the virus even before symptoms appear.

Researchers are refining wastewater testing for sewage surveillance to support public health management of the pandemic.

This tool can be used in municipal wastewater treatment plants, and facilities such as aged care homes or cruise ships, to give an early warning of the disease through faeces flushed into wastewater systems.