



Wastewater Surveillance for Covid-19

Why in News?

Recently, a study has been carried out in Hyderabad and Bengaluru to check **waste-water based surveillance for Covid-19** as an efficient and foolproof way of collecting information about the virus.

What do we need to know about the Study?

- The aim of this study was to **develop a protocol and standard operating procedures** for doing this, which the researchers hope to hand over to the industry, who can then act as service providers.
- The study in Hyderabad was carried out for a period of about a year and obtained data on a **population** size of about 2.5 lakh.
 - The researchers were able to spot the **temporal dynamics in the viral load in drainage water**, which was consistently high from July to November 2020.
 - A slight increase in February 2021 hinted at the **second wave** which set on in March 2021.
 - Samples were collected from Drain:
 - After observation, **the researchers found that most of the virus comes from faecal samples.**
- The group has also studied wastewater samples in Bengaluru.
 - They sampled the water from 28 **Sewage Treatment Plants (STPs)** dotted across the city.
 - In an STP, the water is collected throughout the day, treated and let out again. **So it has to be sampled before treatment.**

What are the Advantages of Wastewater Surveillance?

- **Trends of increasing or decreasing viral load** can be gauged well before the waves take off.
- In **RT-PCR** on a single person's sample (where the test result can come quickly), it takes a couple of weeks to do the sequence analysis of the sample.
 - In wastewater surveillance, you are sequencing thousands of individuals' virus contributions.
- **New variants can be spotted** in advance, as can different viruses, such as those that cause **Dengue, Zika, or TB.**
 - This would help the **health department to be prepared** to deal with **epidemics.**
 - Studies can monitor **antimicrobial resistance** genes and point out to civic authorities as to which **antibiotics** are failing.
- Unlike other types of Covid-19 surveillance, wastewater surveillance does not depend on people having access to healthcare, people seeking healthcare when sick, or availability of Covid-19 testing.

[Source: TH](#)

