

Information in English about coronavirus monitoring in sewage research:

<https://www.rivm.nl/en/covid-19/sewage>

Commissioned by the Ministry of Health, Welfare and Sport, RIVM examines sewage water samples from 274 measuring points all through the Netherlands. The regional water authorities take those samples at the various measuring points at least once a week.

1) Tracking the presence of the virus in wastewater is in your national dashboard : can you explain to me how did you do for pandemic's gestion ?

RIVM (National Institute for Public Health and the Environment) is conducting research on the presence of the coronavirus SARS-CoV-2 in sewage. The coronavirus enters the sewage system via human faeces. By examining the sewage, RIVM wants to map the spread of the coronavirus SARS-CoV-2 at an early stage.

Taking samples from sewage all across the Netherlands makes it possible to investigate the spread of the coronavirus. Coronavirus monitoring in sewage research is a way to detect the virus quickly and intervene.

How much treatment plant and laboratory for tracking the presence of the virus ?

RIVM is investigating sewage from all across the Netherlands. Sewage samples taken from all of the over 300 sewage treatment plants all over the country are sent to RIVM. For an overview of the measurement locations, see [Corona Dashboard](#).

Researchers at RIVM analyse the samples and figure out how many coronavirus particles they contain. Genetic material (RNA) from the coronavirus SARS-CoV-2 is isolated from the sewage sample. Different calculations are then performed, to obtain an overview of the number of virus particles in sewage per 100,000 inhabitants all across the Netherlands. It is also possible to see what the situation looks like in a specific municipality or region. The data is shown on the [Corona Dashboard](#) provided by the national government and updated every day.

Coronavirus monitoring in sewage takes place in close cooperation with the Union of Water Boards and the regional water boards.

How long did you do that ?

Sewage research is not new. RIVM is currently testing sewage to check for the coronavirus SARS-CoV-2, but also does similar testing for the poliovirus and for antibiotic-resistant bacteria. The research for coronavirus started at several locations in february/march 2020. Now it covers the Netherlands (17 million inhabitants).

2) What is your feedback ? What leverage effect and some curbs on epidemic gestion ?

RIVM is compiling data about the spread of the virus in the Netherlands. We are looking at how many virus particles are present in the sewage per 100,000 inhabitants in a specific area. This corresponds with the viruses from the faecal matter of people who use the toilets

in that area. These sewage measurements supplement the results of other studies carried out by RIVM to monitor the coronavirus SARS-CoV-2 – for example, how many people tested positive and in which area. At the same time, we hope that this research will enable us to detect a resurgence of the virus in parts of the Netherlands at an earlier stage. Early detection would enable the Municipal Public Health Service (GGD) and the security region to perform further investigations or to take measures. A protocol for this is being drawn up.

4) What is done at EU level ? Could you said more about the project you lead ? What is the purpose ?

Guidelines for wastewater operator it is the same to all country ?

Purpose:

RIVM is conducting sewage research to monitor the spread of the coronavirus SARS-CoV-2 among humans. Coronavirus monitoring in sewage research is a valuable tool for rapid detection of the virus and intervention. As a result, this research is a good supplement to the national COVID-19 surveillance, such as testing people who have symptoms.

5) Did-you alway see a early signal or in a few time, trend line are the same as epidemiological data, in the same time ?

It is plausible that an increase in the number of virus particles in sewage can be seen at an earlier stage than an increase in the number of people who tested positive for COVID-19 or hospitalisations. This is probably because the coronavirus SARS-CoV-2 is found in the faeces of some of the coronavirus patients before they develop symptoms. That has also been demonstrated previously in international research.