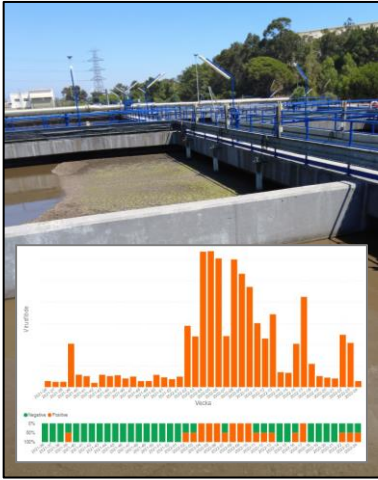




MONKEYPOX SURVEILLANCE

SGS



MONKEYPOX WASTEWATER SURVEILLANCE

The Monkeypox virus is contracted mainly through close physical contact and therefore is spreading at a much lower rate compared to COVID. However, Monkeypox's mutational ability is very different from that of the COVID virus and the health risk and spreading rate may change abruptly.

Wastewater surveillance allows for early insights and timely actions to adapt policy to deal with new variants and keeping outbreaks under control.

EARLY	NON-INVASIVE	COST EFFECTIVE
For many viral outbreaks, or new variants, the signal has been detected in wastewater several days before clinical cases were confirmed.	Human clinical testing can be seen as invasive (i.e. nasal swabs) limiting coverage. Wastewater based surveillance operates in silence.	With a single test an area with thousands of inhabitants can be collectively screened, lowering surveillance costs significantly.

WHY WASTEWATER?

During infection the virus multiplies in its host. Often even before symptoms are noticeable many viral particles are already expelled via urine, faeces, saliva, or washed from the skin during showering (in the case of Monkeypox). These viral particles end up in the sewer systems and, although they are heavily diluted, can be picked up by DNA tests.

Wastewater testing is not new and has been used for polio since 1989. Recently it proved to be crucial for broadening COVID surveillance and filling an important gap related to challenges around human testing and diagnosis. The methods and solutions used for measuring COVID in wastewater can also be used as early warning and monitoring tool for Monkeypox.

HOW DOES IT WORK?

All we need is a water sample collected at a specific site in the wastewater network. In our laboratory we will perform multiple steps to concentrate the sample and have a tailored workflow to extract the viral DNA. Next we run qPCR analysis to measure the total amount of DNA associated with the virus. On a case-by-case basis we assess if certain normalisation steps can be made to correct measured concentrations for impacting factors like variations in population density, human faecal matter, sampling location, rainfall inflow, etc.

BENEFITS OF MONKEYPOX WASTEWATER SURVEILLANCE AT SGS:

- SGS operates a Global Laboratory Network and offers consistent service where-ever, when-ever.
- We have optimized our workflows to be aligned with COVID surveillance allowing a single sample to be screened for multiple viruses.
- We have experience with wastewater sampling and various automatic water sampling equipment and can execute sampling or advise on the best strategy & methodology.
- SGS global presence and office network can deal with the logistics required to get the samples from almost any location to the most suitable nearby lab.
- Our analysis output can be visualised in our own (tailormade) dashboards or ported to almost any 3rd party monitoring platform.
- Technical expertise and consultancy is provided by SGS experts from the Global Biosciences Center.

	INDEPENDANT
	INNOVATION
	EXCELLENCE
	GLOBAL NETWORK

This service is supported by:

 **GLOBAL BIOSCIENCES CENTER**

CONTACT US:

 GBC@SGS.COM

 [GBC WEBSITE](#)

 WWW.SGS.COM

SGS

WHEN YOU NEED TO BE SURE