PROJECT FACTSHEET

OneHealthWatch

Enabling future implementation of One Health Surveillance systems through enhanced training program for urban wastewater watch

Establishment of training courses detailing the best practices to be adopted in wastewater surveillance to harmonise and standardise sampling and analysis methods at national and then European level.

INSPIRATION

Although considered dirty and disgusting by the general public, wastewater is a veritable goldmine of information. Everything we consume or are exposed to on a daily basis can end up in wastewater, from digested chemical compounds such as pharmaceuticals or drugs of abuse, to free environmental metabolites or pathogens. Wastewater is so a relevant instrument for the monitoring of global health status.

The use of wastewater as a source of information on the overall health status of a community is called wastewater-based epidemiology (WBE). WBE has especially been highlighted since the start of the Covid-19 pandemics. The measurement of SARS-CoV-2 in wastewater has made it possible to track the spread of the virus and its variants, and to provide an early warning system of the viral load in a given area served by wastewater.

The reduction of sanitary measures related to Covid-19, and therefore the reduction in direct monitoring of infected individuals, makes the important role of wastewater analysis in disease surveillance even more necessary. Climate change, unprecedented population growth and lifestyles that are often not in harmony with what is best for our environment point to the potential emergence of new pathogens and the acceleration of antimicrobial resistance. Monitoring the health fingerprinting of a community over time thanks to wastewater is so a powerful asset for public health.

Considering the very high potential of such a surveillance tool, the European Commission has adopted in March 2021, a recommendation encouraging member states to implement wastewater surveillance systems within their own structures.

However, to implement such wastewater surveillance systems at national scale or even more, there is a need for gathering and assessing experimented studies, to define the best practices to be implemented and spread. The current lack of standardisation and harmonisation of methodologies remains one of the major weaknesses of WBE that need to be filled.

INNOVATION

The main objective of the OneHealthWatch project is to develop a set of innovative training modules focusing on wastewater surveillance. Thanks to these trainings, this project aims to enable rapid implementation of safety measures and contingency procedures in case of alarming detection such as the Covid-19 pandemic, and to harmonise and standardise sampling and analysis methods at national and then European level.

The trainings are intended for a wide range of audiences, from professionals working in the field of wastewater to health professionals and the general public. The main challenge in developing such an e-learning platform is the ability to share and adapt scientific, reliable, accurate and up-to-date content in a didactic and entertaining way.

After years of working in wastewater surveillance to detect illegal drugs, pharmaceuticals, antibiotics or viruses, LIST is the best suited identity to set up these vocational trainings related to WBE. Recently, project CORONASTEP demonstrated LIST's expertise in this area with the monitoring of SARS-CoV-2 in wastewater treatment plants from Luxembourg, with thousands of samples analysed.

With the help of partners specialising in the transfer of knowledge through the design of online platforms or in the field of wastewater treatment plants, a complete multidisciplinary team is available to bring the project to fruition.

IMPACT

The key deliverable of the OneHealthWatch project is to provide an interactive online platform centralising specific training modules on wastewater surveillance and ensuring valuable communication between main WBE stakeholders. This efficient tool would contribute to the emergence of a One Health surveillance system through the promotion of standardized, informative, and educational contents for a very early detection of contaminants and specific indicators in wastewater.

Furthermore, there is a necessity to raise awareness among governments, municipalities and wastewater treatment-plant companies who need to understand the major role wastewater monitoring has to play in the future. This knowledge dissemination is an important key for reaching the ambitions of the EU Green Deal strategy and ensuring safe environment for EU Citizen and more.

Partners

Aquafin (BE) , Eurecat (ES)

Financial Support

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