Geospatial world forum
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Geography for Health Early Warning Systems
Agenda

1. Team Panel

2. Introduction

3. Wastewater

4. Geospatial Intelligence
1. Team Panel

Mathilde Molendijk
Henk Scholten
2. Introduction
Introduction

- **Accurate and detailed** data are essential to understand the pandemic and to guide policies.¹

- One of the ways to monitor the spread of the coronavirus SARS-CoV-2 and other diseases, is by measuring the number of *virus pathogens in sewages*.²

- Wastewater-based surveillance is a promising approach for **proactive outbreak monitoring**. SARS-CoV-2 infects a large part of the population, which is often asymptomatic. Wastewater becomes an ideal system that detects even these cases².

- With **1.7bn passengers** worldwide³, **air transportation can accelerate global outbreaks** (especially airborne transmission viruses) and it is clear that the travel and tourism industry has a role to play in **preventing** such events⁴.

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Introduction

Wastewater Surveillance

In February 2022, CDC’s COVID Data Tracker released a Wastewater Surveillance tab, which tracks levels, changes, and detections of SARS-CoV-2 viral RNA in wastewater at more than 800 testing sites across the country. Because many people with COVID-19 shed the virus in their feces, wastewater testing can help us monitor COVID-19 in communities. Wastewater surveillance can provide an early warning of increasing COVID-19 cases and help communities prepare.

Currently, virus levels in wastewater are relatively low across the country. However, more than half of all sites reporting wastewater data are experiencing a modest increase in SARS-CoV-2 levels. These increases often reflect minor changes from very low levels to levels that are still low. It’s important to note that even a small increase when levels are low can appear like a dramatic increase in the percent change. For more information on how to use wastewater data, visit CDC’s website.

3. Wastewater
Wastewater Management – Use Case

Process Testing & Platform Visualization

1. COLLECTION

2. SAMPLE ANALYSIS & SCREENING

3. REAL-TIME RESULT PUBLICATION

Mobility Use Case

Community Use Case

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4. Geospatial Intelligence
What is the role of geography in Health?
GIS for healthcare: a case study
GIS for healthcare: a case study
GIS for healthcare: a case study
GIS for healthcare

Community
GIS for healthcare

Airport
Digital Twin of the whole of the Netherlands
Digital Twin Infrastructure

Personal Digital Twin

https://cmte.ieee.org/futuredirections/tag/eu-jrc/
Combining data from different geographical areas

- Covid-19 concentrations were measured at sewage treatment plants.
- Concentration data had to be reprocessed in order to be available for the administrative sectors.
- Decision making and elaboration of the dataset facilitation.
Thank you for your attention