

COVID-19 UK Variant Detected in Southeast Michigan Using Sewage Surveillance

A Sewage Surveillance program installed at the City of Warren and Oakland University housing has detected the UK variant of COVID-19. Aquasight's CEWS program, which partners with the City of Warren detected a sample of sewage from February 22nd, 2021 and a similar variant was also detected at Oakland University housing on March 11, 2021. The variant is del 69-70 and N501Y mutations, which are markers found in the UK variant.

Mayor James Fouts said the presence of the B.1.1.7. COVID strain in Warren's wastewater shows residents must continue to be diligent. "Warren residents can't let their guard down," said Fouts. "We must continue with social distancing, masking, and avoiding large social gatherings."

In the fall of 2020, the United Kingdom identified the COVID-19 variant called B.1.1.7. The UK variant spreads more easily than other variants, but might be less deadly, according to the U.S. Centers for Disease Control and Prevention. The UK variant has already taken over in countries including Israel, where it is now responsible for 80% of COVID-19 cases. Some researchers are warning that if the UK variant takes hold in the U.S., it could become the dominant form by March.

Bryan Clor, Division Head of Wastewater in Warren, said he shares testing results with the Macomb County Health Department and as of last week, with the State of Michigan's health department. The speed with which sample results can be analyzed can show the presence of COVID several days before people experience symptoms or an outbreak occurs.

"We had a small spike at one of the senior centers and the Macomb County Health Department was able to respond right away," said Clor. "People are getting vaccinated, but we still have to be careful. It is going to take all of us working together to get a handle on this."

"Public health officials need as much data and information as possible to continue to develop public health responses and policies that will protect communities from the spread of infectious diseases. Wastewater programs, such as the City of Warren's, are an important part of that process," said Dr. Susan Peters, Waterborne Disease Epidemiologist with the Michigan Department of Health and Human Services.

A similar Aquasight program has been installed at Oakland university housing and has been tracking the growth and decline throughout the campus. On March 11th at one of the housing buildings, the UK strain was detected on March 11.

Ora Hirsch Pescovitz, M.D., President of Oakland University, said that Oakland University has been using sewage surveillance to monitor six locations around campus, including residence halls. On March 11, 2021, a moderate signal of the UK variant was detected in one sewage sample. The university is in the process of validating this test to determine if it can be replicated and to determine if other spikes appear in testing.

Pescovitz added, "We will continue to remind our campus community of all of the important safety measures they should take. Those including continuing diligent social distancing, wearing masks, practicing hand hygiene, doing our daily screening and COVID testing. We also encourage all of our

community members to get vaccinated when they can. These actions will ensure the safest possible campus community environment.”

How the UK Variant Was Detected

Aquasight’s CEWS program tests show that wastewater contains infectious biomarkers, such as COVID-19 RNA, and the increase or decrease of these markers in a community can be tracked over time in the CEWS program. Genetic material from the virus can be present in human waste, even when the person has no symptoms. Also, some people can be infected with COVID-19 for several days before they start to show symptoms. However, the virus could be detected in their waste during this time, which help with early identification of new or worsening outbreaks. New test methods and targets are being utilized to specifically understand the presence and quantification of del 69-70 and N501Y mutations, which represent the UK variant which once detected helps us to determine the % of COVID-19 sewer signal attributed to the variant.

“US clinical testing is not ready yet at commercial scale and speed to distinguish various variants and its impact on the surge of cases. Aquasight’s CEWS program presents a unique opportunity to not only get advanced and early warning intelligence on COVID-19 spread underground but also correlate if this surges are driven by variant. By being able to identify variants in places like the City of Warren and Oakland University, the city mayor, the county public health department, and county health departments can act quickly in their efforts to protect the citizens of Southeastern Michigan,” said Mahesh Lunani, CEO and Founder of Aquasight.

About Aquasight

Aquasight has built a single artificial intelligence digital infrastructure for the entire water cycle. The common infrastructure is being used by 100+ CVT sites (cities, villages, townships) large and small with six plug and play solutions and can scale to any community. For utilities Aquasight is providing great economies of scale without needing to invest in digital infrastructure, resources, algorithms and technology which are pre-built with over 100 capabilities. Aquasight’s common real-time platform has solutions that cover pump health and operations, smart water distribution system, collection system intelligence, efficient wastewater treatment, asset management and capital planning and infectious disease monitoring

Media Contact:
Vito Curcuru
vito@aquasight.io