



## Coronavirus and wastewater treatment

By Alison Torbitt

As the Center for Disease Control (CDC) continues to refine its plan to mitigate what it anticipates will be a pandemic outbreak of the respiratory illness COVID-19, a strain of coronavirus, wastewater sector professionals around the nation are also taking precautions, utilizing training developed by the Water Environment Federation (WEF) Disinfection and Public Health Committee (DPHC), available [here](#).

The COVID-19 virus was first detected in Wuhan, China, on Dec. 12, 2019. It is most likely transmitted person-to-person via sneezing and coughing. The virus has been identified in respiratory secretions and blood. The virus has also been detected in the feces of a small proportion of coronavirus-infected patients. While incubation is 2–14 days, “shedding” of the virus in secretions, blood, and, potentially, feces is currently believed to last from days to weeks from first transmission.

Because the virus was detected in feces, there is a potential for it to exist in wastewater. If the presence is confirmed, the next step will be to determine if exposure to sewage could be a transmission source. According to Mark Sobsey of the Gillings Schools of Global Public Health - UNC Chapel Hill, there has been only one alleged transmission from wastewater related to a broken toilet. Whether transmission via wastewater is occurring is awaiting scientific confirmation.

Other strains of coronavirus, including SARS and the “common cold,” are known to survive in sewage and water, so water sector professionals are taking precautions. Assuming COVID-19 can also survive in sewage and water, water sector professionals are utilizing disinfection chemicals effective against other strains of coronavirus, requiring workers in contact with fecal wastes to wear recommended personal protective equipment (PPE), and, as always, recommending that all personnel follow good hygiene practices (i.e., handwashing). Additional recommendations are being considered now by WEF’s DPHC based on knowledge gained from treating the Ebola virus, including the use of a sanitation safety plan and separate sanitation facilities where feasible. However, at this time, it is unclear if such measures are necessary. Overall, Mr. Sobsey has concluded that conventional wastewater treatment systems are effective in reducing the coronavirus.

Matt Arduino—Environmental Hygiene and Infection Prevention, Office of the Director, Division of Healthcare Quality Promotion-CDC—emphasized that coronaviruses are very susceptible to the same disinfection practices that kill other viruses, and can be disinfected with the same practices as other wastes, without any need for additional disinfection. Mr. Arduino assured wastewater treatment workers that there is no evidence that additional protections are needed, and he stated that there is no need to panic. Many may find [this chart](#), comparing COVID-19 to SARS and Ebola, interesting as they align their own best practices with existing knowledge from past viruses.

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