Tulane public health professor helps to write the book on infectious disease outbreaks and water testing

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Our world is witnessing a wave of severe infectious outbreaks, not the least of which has been the notable spread of COVID-19. And within that context, the value of water testing continues to take on added significance.

Tiong Aw, associate professor in the Tulane School of Public Health and Tropical Medicine in the Environmental Health Sciences Department, has contributed to a new reference book that outlines the key considerations when addressing water

safety in light of infectious outbreaks

"The Water Professional's Guide to Infectious Disease Outbreaks" covers emerging issues related to infectious diseases, including disease-causing microbes (pathogens) in water and wastewater, microbial risk assessment, wastewater treatment practices, health and safety evaluation approaches, adaptations in facility management, communications, and wastewater surveillance.

As a member of the task force for the book and co-author of two chapters, Aw lent his considerable expertise to help provide what should be an important resource for water and wastewater treatment professionals, public and environmental health officials, and students in the infectious disease fields -- particularly as it relates to the planning for and responding to infectious disease outbreaks.

"In terms of wastewater testing, the recent global effort of testing wastewater for COVID-19 demonstrates the power of this science of taking what is found in wastewater and using that information to understand the community infection," Aw said. "This shows that continuous water and wastewater testing is part of the essential public health tools to ensure safe water and inform public health decisions in fighting infectious disease."

In addition to COVID-19, recent outbreaks of Ebola and Mpox as well as the reemergence of poliovirus have put a spotlight on the importance of active disease surveillance and preparedness.

What the new book does in addition to addressing those topics is to serve as a guidepost for wastewater professionals so that they can better protect themselves against the risk associated with exposure.

"Wastewater professionals provide an essential public service by cleaning, maintaining, and operating a sanitation technology at every step of the sanitation chain," Aw said. "They face occupational health and safety risks due to exposure to hazardous gases and biological and chemical agents in sewers, pumping stations, and treatment plants. Wastewater contains a broad spectrum of microbial pathogens."

Of course, the safety of the public at large needs to be a constant focus at the community and national levels.

“Although the U.S. tap water supplies are considered to be among the safest in the world, water contamination can still occur,” Aw said. “Regularly testing water quality is critical to identify any existing problems or any issues that could emerge in the future.”