

Risks from Ebola Discharge from Hospitals to Sewer Workers

Current World Health Organization and Centers for Disease Control and Prevention guidance for the disposal of liquid waste from patients undergoing treatment for Ebola virus disease at hospitals in the United States is to manage patient excreta as ordinary wastewater without pretreatment. The safety of non-disinfected disposal of Ebolavirus-contaminated liquid wastes and the efficacy of disinfection approaches are unknown, leading to concerns about the potential for Ebolavirus transmission to sewer workers. The goals of this research are twofold: 1) to assess a sewer worker's potential risk of developing Ebola virus disease from inhalation exposure when performing standard occupational activities in a sewer line serving a hospital receiving Ebola patients where there is no pretreatment of the waste prior to discharge, and 2) to conduct a review of inactivation of Ebola and other highly infectious agents by various disinfectants.



Results from the quantitative microbial risk assessment suggest that the potential risk that sewer workers face when operating in a wastewater collection system downstream from a hospital receiving Ebola patients warrants further attention, and that current authoritative guidance for Ebolavirus liquid waste disposal may be insufficiently protective of sewer worker safety. Results from the inactivation review suggest that the effectiveness of various disinfectants on inactivation of highly infectious agents potentially found in wastewater collection systems, especially enveloped viruses, is variable and requires further evaluation for disposal and disinfection recommendations.

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