“Point-of-Use Devices as Incubators of Halogenated-Phenol Mediated Antibiotic Resistant Bacteria”

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Recent studies show that chlorinated phenolic compounds such as some disinfection by-products and commercial sanitizers can activate antibiotic resistant phenotypes in bacteria. It is a potential concern that conditions in point-of-use (PoU) water filters, which are effective in adsorbing many chlorinated contaminants, may serve as incubators for the development of antibiotic resistance. Experiments are being conducted in this study to determine whether PoU water filters concentrate chlorophenols to a level that has been shown to promote expression of an antibiotic resistant phenotype of *Pseudomonas aeruginosa*. Special attention will be given to the challenges in optimizing a method to measure chlorinated phenols. Strategies for addressing other challenges to characterize bacterial exposure to phenols in Point of Use filters will also be discussed.