The joint effects of efficacy and compliance: A study of household water treatment effectiveness against childhood diarrhea

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Wednesday, February 11, 2015, 4:30 – 5:30 PM
1670 Beyster Building (North Campus), University of Michigan

Abstract: The effectiveness of household water treatment (HWT) at reducing diarrheal disease is related to both the efficacy of the HWT method at removing pathogens and how people comply with HWT. Although many HWT methods are efficacious at removing or inactivating pathogens, their effectiveness within actual communities is decreased by imperfect compliance. In this presentation I examine the quantitative relationship between compliance and effectiveness by using a quantitative microbial risk assessment model that examines the relationship between log10 removal values (LRVs) and compliance with HWT. I will argue that compliance with HWT should be carefully measured during HWT field studies and HWT dissemination programs, and that guidelines are needed for measuring and promoting compliance with HWT.