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Quantifying the Contribution of Environmental Pathways to the Transmission of Clostridium difficile

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Quantifying the Contribution of Environmental Pathways to the Transmission of *Clostridium difficile*

Lindsey Fox

Abstract: *C. difficile* is one of the most common health-care associated infections and is typically contracted after antibiotic use. Colonized patients shed spores that can survive long periods on surfaces outside the host and are resistant to many disinfectants. This work adds an environmental component to a previous compartmental model of the transmission of *C. difficile*. We focus on the contribution of "high-touch frequency" and "low-touch frequency" surfaces in a hospital room to the transmission dynamics of the bacteria. Hospital and spore populations are simulated stochastically.