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Jin Wang* (jin-wang02@utc.edu). *Analyzing the within-host dynamics of cholera.*

We perform a study on the within-host dynamics of cholera using mathematical models based on differential equations. Our goal is to gain quantitative understanding of the evolution of the pathogens inside the human body and the potential impact on the disease transmission and spread at the population level. We focus our attention on the analysis of the within-host interaction among the pathogenic bacteria, viruses, and immune responses. Additionally, we present some numerical simulation results to demonstrate the analytical findings. (Received January 29, 2019)