

1116-34-2356

**Yinlin Dai\*** (daiy@southwestern.edu) and **Emma Kathryn Groves**  
(grovese@southwestern.edu). *Math Modeling in the Time of Cholera.*

Cholera is an infectious disease that has been a global health issue, particularly for South Asia and Africa. We present several models. First, we create a simulation model specifically on Haiti, predicting how Cholera incidence rates will change in the near future. The predictions are based on Cholera data gathered from South American countries. Then we implement an SIR model with reservoir, which is a system of differential equations describing susceptible, infected, and recovered human populations as well as bacterial concentration in the water supply. (Received September 22, 2015)