

University of Nebraska at Omaha
Department of Mathematics

Master of Science Project Proposal Form

This form should be completed prior to or shortly after first enrolling in the project course.

Student Name: Brian Detweiler

Student NUID Number: 48548493

Faculty Advisor: Dora Matache, PhD

External Advisor

Name: Renuga Vivekanandan, M.D.

Organization: Creighton University Medical Center

Position: Infectious Disease Fellow

Phone: 402-717-0759

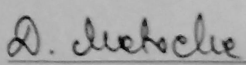
E-Mail: rvivekanandan@hotmail.com

Project Description:

Clostridium Difficile Infection (CDI) is a highly contagious endospore forming bacterium that is transferred through physical contact with an infected surface. Symptoms range from diarrhea to life-threatening colitis. Elderly patients in hospitals and nursing homes receiving antimicrobial treatment are at the highest risk of infection, and roughly one in nine patients over 65 will die within 30 days of diagnosis. In this paper, we seek to model the risk of contracting CDI in both hospital and nursing home settings given patient-to-patient or patient-to-healthcare provider contact. We then provide recommendations for minimizing the risk and controlling the spread of CDI.

Signatures

Student:  Date: 11/27/17

Faculty Advisor:  Date: 11/27/17

External Advisor:  Date: 11/26/2017

Completed form must be submitted to Mathematics Graduate Program Chair