1163-92-1027   **Christina Edholm*** (`cedholm@scrippscollege.edu`). *A Mathematical Model of Contact Tracing During the 2014-2016 West African Ebola Outbreak.*

The 2014-2016 West African outbreak of Ebola Virus Disease (EVD) was the largest and most deadly to date. Contact tracing, following up those who may have been infected through contact with an infected individual to prevent secondary spread, plays a vital role in controlling such outbreaks. However, there were many complications and challenges to contact tracing efforts during the 2014-2016 outbreak. We present a system of ordinary differential equations to model contact tracing in Sierra Leone during the outbreak. Using data on cumulative cases and deaths we estimate most of the parameters in our model. We include the novel features of counting the total number of people being traced and tying this directly to the number of tracers doing this work. Some parameters change over time as a result of changing behaviors in the population. We explore the role contact tracing played in eventually ending the outbreak and examine the potential impact of improved contact tracing on the death toll. (Received September 14, 2020)