

Modeling the Impact of Hospitalization on the Death Rate of an Ebola Outbreak

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The 2014 Ebola virus outbreak of West Africa was the beginning of a global pandemic, which led to around 29,000 cases and around 11,000 deaths worldwide. Countries with more advanced medical technologies and greater hospital access tended to have fewer cases than those without such access. We used an agent-based model with an underlying social network to simulate an Ebola virus outbreak and quantify the impact of hospitalization on the number of Ebola deaths under the assumption that hospitalization reduced the probability of death due to Ebola. Although the number of cases was relatively unchanged by hospitalization, we did find that hospitalization led to 45.25–60.67% reduction in Ebola deaths.