Review of: "An Optimal Control for Ebola Virus Disease with a Convex Incidence Rate: Imputing from the Outbreak in Uganda"

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Potential competing interests: No potential competing interests to declare.

This manuscript proposes and analyses a compartmental model for the diffusion of Ebola virus disease and complements it with an optimal control problem with the aim to reduce the number of affected people through measures like curfews and treatments.

The topic in itself is interesting but I would like to address some points, some of which has been raised also by other reviewers.

1. The SEITRD model involves six compartments and 20+ parameters. The significance of a model using this amount of degrees of freedom would need to be matched with its abilities to describe sophisticated trends for some compartments or to fit available data very well. Nevertheless, the authors do not perform any comparison with time-series data, nor they do focus on bifurcation analysis, periodical solutions or other involved theoretical analysis. Therefore I would appreciate some discussion more about the choice of the model.
2. In the same fashion, basic properties like existence, uniqueness and positivity of the solution of system (2.1)-(2.2) should be studied, at least in the case of constant coefficients.
3. "lebesque measurable" between equation (3.3) and (3.4).
4. Comparing costs of radically different strategies coming from the optimal control problem may be trickier than expected, especially when the coefficients k_i are not mentioned explicitly. It would be nice to see a graph of the different values of the control terms c_i through time, when they are not zero.
5. Is the optimal control unique?
6. It would be nice to have a retrospective analysis with the available data that shows the efficiency of the optimal strategy against what actually done in practice, since that would be a much more striking form of communication for policymakers.