

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.

The article titled "An Optimal Control for Ebola Virus Disease with a Convex Incidence Rate: Imputing from the Outbreak in Uganda" focuses on modeling and optimal control of Ebola virus disease. It is very interesting work. I have a few questions to better understand the document. I will also suggest some actions that could improve the quality of the paper.

- 1. Could you check and correct the typos?
- 2. Is the title "Organization of the manuscript" necessary?
- 3. Could you avoid long titles?
- 4. Is there a a relation between EBV and EBD?
- 5. Is the condition f(S,I,0,D) = f(S,I,T,0) = 0 suitable in the hypothesis H2?
- 6. What is S* in equation (2.2) ?
- 7. Is N=Q in equation (2.3)?
- 8. It seems there is a double use of F and V in equation (2.4). Could you adopt new notations?
- 9. Equation (3.1) and (3.2) were not yet defined when called in page 9.
- 10. Could you number individually the equations?
- 11. It seems there is a double use of d 0 and d 1. Could you adopt new notations?
- 12. I do not understand why tracing an infected makes him become infectious.
- 13. I also do not understand why treating an infected persons involves a transfert from the treated compartment to the recovered compartment instead a transfert from the infectious compartment to the treated compartment
- 14. The section "Existence of an optimal control" is empty and there is no discussion about the uniqueness.
- 15. At page 10, could you better justify the choice of a quadratic objective functional?



- 16. At page 12, could you briefly recall the procedure given in the reference [39] ?
- 17. The authors should incorporate legend in Figures 3, 4, 5 and 6. What are the values of c_1 when not null ? Similar comments can be done for the other figures.

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