**2022-2023 Harvard/University of Global Health Equity**
**Mathematical Modeling for Infectious Disease Planning**
**Critical appraisal of mathematical modeling studies**

**Time:** 1 hour **(**40 minutes work on questions, and 20 minutes discussion)

**Title of paper**: Incorporating equity in infectious disease modeling: Case study of a distributional impact framework for measles transmission

**Authors:** Tigist Ferede Menkir, Abdulrahman Jbaily, Stéphane Verguet

| | **Item** | **Yes** | **No** | **Can't tell** |
|---|---|---|---|---|
| **Introduction** | The current evidence of the topic is summarized | | | |
| | The gaps and limitations of current knowledge are identified | | | |
| | The objective of the study is clearly defined | | | |
| | The research question is clear and appropriate | | | |
| **Methods** | | | | |
| | The authors provide enough details of the model structure including equations and diagrams. | | | |
| | The basic assumptions of the model are identifiable | | | |
| | Contact patterns are accounted for in the model | | | |
| | Uncertainty of parameter values was studied | | | |
| | The model reflects a specific geographic setting | | | |
| | The codes for the analysis are available in text, supplementary materials, as a link or authors indicate they are available upon request. | | | |
| **Results** | | | | |
| | The findings of the study are presented logically and accurately | | | |
| | The presented results correspond with the methods and objectives | | | |
| | The narrative of results is consisted with tables and figures | | | |
| **Discussion and conclusion** | | | | |
| | The findings are logically explained | | | |
| | The findings of the study are situated with current knowledge | | | |
| | The conclusions are supported by the data presented | | | |
| | The limitations of the study are discussed | | | |
| **Implementation** | | | | |
| | Implications for public health practice are presented | | | |
| | The methods are of suitable interest for this training | | | |

- Bonus:
    - What are the assumptions of the model?
    - What were the sources of data?
    - What were the outcomes of interest?
    - In your own words, what are the strengths and weaknesses of the study?

**Additional resource**

https://editorresources.taylorandfrancis.com/reviewer-guidelines/review-checklist/