Ebola DRC Modeling Coordination Call – September 11 from 11:00-12:00 ET

To join by zoom: https://jh.zoom.us/j/989430969
To join by phone: 646-876-9923 code 989430969#
To find a local phone number: https://zoom.us/u/aC0zRKLir

Co-hosted by the Fogarty Center, the Johns Hopkins Center for Health Security, the Walter Reed Army Institute of Research, and the Outbreak Science and Model Implementation Working Group

Context: The ongoing Ebola virus outbreak in the Democratic Republic of Congo was recently declared a Public Health Emergency of International Concern by the World Health Organization, underscoring the complex and challenging nature of the outbreak. During past outbreaks of Ebola and Zika, modeling coordination calls helped both modelers and public health partners to improve the utility of modeling and analytics in supporting public health decision making. The purpose of this meeting series is to resume those modeling coordination calls to support the DRC response.

Objectives:

1. Connect modelers and decision makers to ensure that models and analytics are available support the response;
2. Identify the most important and timely public health questions that modelers can help address;
3. Share the latest modeling results with academic colleagues and public health partners;
4. Reduce duplication of efforts (including potential sharing of computational code);
5. Identify and share relevant publicly-available resources like datasets (e.g case count data, mobility data, demographic data, vaccine coverage).

Anticipated Agenda:

11:00 – 11:05 Opening comments and roll call
11:05 – 11:25 **Rae Wannier** of University of California San Francisco, Proctor Foundation
11:25 – 11:35 **Dr. Trevor Bedford** of Fred Hutchinson Cancer Research Center
11:35 – 12:00 Stakeholders (modelers, public health professionals, others) invited to ask questions, make suggestions, and share ideas. Broader discussion of current challenges and open questions in directing the response are also welcome.

Invited participants: Participants range from academia (e.g. MIDAS members); the Federal Government (e.g. CDC, BARDA, DoD, USAID) and international organizations (e.g. MSF, WHO). There are no restrictions on who can participate.

*Participation and use of model output does not imply endorsement of any agency or institution and the accuracy of any model output is not guaranteed. Any discussion and modeling results are strictly for the internal discussion of this working group. Any dissemination of modeling results must be explicitly permitted by the presenting team.

Relevant Ebola DRC modeling resources inc. data, parameters, assumptions and other publications

- **Data (user owns risk):**
  - A spatial database of health facilities managed by the public health sector in sub Saharan Africa https://www.nature.com/articles/s41597-019-0142-2
  - High resolution global gridded data for use in population studies https://www.nature.com/articles/sdata20171
  - Worldpop built settlements DRC by 100m https://www.worldpop.org/geodata/summary?id=17101
  - Worldpop live births by square km, DRC https://www.worldpop.org/geodata/summary?id=752
  - Worldpop popn per 100 m, DRC https://www.worldpop.org/doi/10.5258/SOTON/WP00072
    Africa 1km scaled internal migration flows https://www.worldpop.org/geodata/summary?id=1281
  - Worldpop pregnancies per 100m, DRC https://www.worldpop.org/geodata/summary?id=987
  - Demographics and health metrics, Democratic Republic of the Congo | Institute for Health Metrics and Evaluation http://www.healthdata.org/democratic-republic-cong
  - Updated Population for the DRC gathered from Humanitarian Data Exchange: https://data.humdata.org/dataset/rdc-statistiques-des-populations
  - Update Health Zone maps via Humanitarian Data Exchange: https://data.humdata.org/dataset/democratic-republic-of-congo-health-boundaries
  - River Network and Road Networks via Digital Chart of the World (DCW): diva-gis.org
  - DRC Ministry of Health as curated by Sophie Meakin and Patrick Corbett: https://github.com/sophiemeakin/ebola_drc/, https://github.com/PatTCor/ebola_drc
  - Google maps https://maps.google.com/
  - OpenStreetMap https://wiki.openstreetmap.org/wiki/API

Relevant publications:

- Prelim vaccine effectiveness DRC estimates including CFR https://www.who.int/csr/resources/publications/ebola/ebola-ring-vaccination-results-12-april-2019.pdf
- https://www.ncbi.nlm.nih.gov/pubmed/28017403/ Efficacy and effectiveness of an rVSV-vectored vaccine in preventing Ebola virus disease: final results from the Guinea ring vaccination
- Interim WHO reccomendations, DRC https://www.who.int/immunization/interim_ebola_recommendations_feb_2019.pdf

- Early outbreak epidemiology in DRC, 2018. https://www.ncbi.nlm.nih.gov/pubmed/30047375/
- Equateur outbreak forecasting (inc vaccine effect) https://www.ncbi.nlm.nih.gov/pubmed/30845236/
- Assessing reporting delays and the effective reproduction number: The Ebola epidemic in DRC, May 2018-January 2019 https://www.ncbi.nlm.nih.gov/pubmed/30880169/
- Acceptability and patient satisfaction of vaccine, DRC 2018 https://www.ncbi.nlm.nih.gov/pubmed/30878249/
- Institutional trust and misinformation in the response to the 2018-19 Ebola outbreak in North Kivu, DR Congo: a population-based survey. https://www.ncbi.nlm.nih.gov/pubmed/30928435/
- NEJM 2019 summary the Ebola DRC outbreak https://www.nejm.org/doi/full/10.1056/NEJMsr1904253
- Control of Ebola virus disease outbreaks: Comparison of health care worker-targeted and community vaccination strategies https://www.ncbi.nlm.nih.gov/pubmed/30981563/
- 2018 Ebola virus disease outbreak in Equateur Province, Democratic Republic of the Congo: a retrospective genomic characterization https://www.ncbi.nlm.nih.gov/pubmed/31000465/
- Medical countermeasures during the 2018 Ebola virus disease outbreak in the North Kivu and Ituri Provinces of the Democratic Republic of the Congo https://www.ncbi.nlm.nih.gov/pubmed/31000464/
- Serologic Prevalence of Ebola Virus in Equatorial Africa https://www.ncbi.nlm.nih.gov/pubmed/31002071/
- Analyzing and forecasting the Ebola incidence in North Kivu, the Democratic Republic of the Congo from 2018-19 in real time https://www.ncbi.nlm.nih.gov/pubmed/31080016/
- Spread of yellow fever virus outbreak in Angola and the Democratic Republic of the Congo 2015–16: a modelling study https://www.thelancet.com/action/showPdf?pii=S1473-3099%2816%2930513-8
- Real-time predictions of the 2018-2019 Ebola virus disease outbreak in the Democratic Republic of the Congo using Hawkes point process models. https://www.ncbi.nlm.nih.gov/pubmed/31395373
- Estimating the impact of violent events on transmission in Ebola virus disease outbreak, Democratic Republic of the Congo, 2018-2019. https://www.ncbi.nlm.nih.gov/pubmed/31378584