Impact of Insecurity on the Ebola Response in the DRC

8th Annual EASST Summit

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Background
Ebola Virus Disease in DRC

- The current EVD outbreak is the 2\textsuperscript{nd} of 2018 and the 10\textsuperscript{th} in history of DRC
- The first case of Ebola was declared in DRC in 1976
- The first EVD outbreak of 2018 started in May 2018 and was contained in 3 months
- The current outbreak started was declared in Aug 2018
- Last week the outbreak was declared as Public Health Emergency of International Concern (PHEIC)
Ebola Situation in DRC as of 20\textsuperscript{th} July 2019

- 2,578 Ebola cases (2484 confirmed and 94 Probable)
- 1,737 Total deaths (Case fatality rate of 67%)
- 729 people have recovered from Ebola
- 138 health workers have been affected with 41 deaths
- Over 169,976 individuals have been vaccinated
- 361 suspected cases under investigation
Trends of Ebola cases in DRC

Daily Confirmed EVD Cases in DRC
Attacks at Katwa and Butembo ETC (Feb 2019)
Challenges of Ebola Response in conflict zones
Methods
Trends of Ebola cases in DRC

Trends of Daily Confirmed EVD Cases in DRC

- Before Beni attack
- Elections period
- After Beni attack
- Before Butembo attack
- After Butembo attack
- Current trend
Ebola Virus Disease in DRC

- We followed confirmed EVD cases in DRC since the beginning of Ebola outbreak in DRC in August 2018
- We estimated the impact of insecurity and armed attacks on EVD cases
- Interrupted time series was used to estimate the impact
Time series model

- For intervention status $j$ at time $t$:

\[ \text{Outcome}_{jt} = \beta_0 + \beta_1 \text{time}_t + \beta_2 \text{level}_j + \beta_3 \text{trend}_j + \epsilon_{jt} \]
Results
Generalized least squares fit by maximum likelihood

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Std.Error</th>
<th>p-value</th>
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<td>Intercept</td>
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<td>time</td>
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<td>trend</td>
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Trends of Ebola cases in DRC
Impact of Insecurity on EVD Cases

<table>
<thead>
<tr>
<th></th>
<th>Absolute change</th>
<th>Relative change</th>
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</thead>
<tbody>
<tr>
<td>After 1 week</td>
<td>1.9</td>
<td>65%</td>
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<tr>
<td>After 3 weeks</td>
<td>6.1</td>
<td>290%</td>
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- In the 3\textsuperscript{rd} week after burning the ETC in Butembo and Katwa, the average daily number of cases was at least 6 EVD cases greater than would have been expected if the attack was not been there. This represented 290% increase.
Conclusion

- The increase in number of cases increases the burden of the overall outbreak response
- The number of contacts increases
- Movement of people increases the risk of spread
- More resources needed to contain the outbreak
- Threat of regional spread remains real