INSEAD Humanitarian Research Group

Ebola in the DRC - the perverse effects of a focused vertical response[i]

On August 1, 2018, just a few days after the Ministry of Health declared the end of an Ebola outbreak in the Equator Province of the Democratic Republic of Congo (DRC), new cases were detected in North-Kivu, a war-torn region at the border with Uganda and Rwanda. Ebola is endemic to the DRC, but most outbreaks are contained and do not contaminate more than 350 people. This time things are different. At the moment of writing, the epidemic is the second deadliest in history. It has been raging on for more than a year with currently over 3,000 cases and 2,000 casualties. The virus is still spreading rapidly.

Ebola is a very infectious and highly deadly disease, especially in countries where hygiene conditions are bad and health care access is limited. When an outbreak spreads beyond expectations (i.e. when it turns into an epidemic), stakeholders strongly intensify their response to contain the disease. This often entails that other diseases, such as Malaria, Cholera and Measles, suffer a cut in resources and are pushed to the background. Under normal conditions these diseases already cause a heavy toll. In the DRC alone, Malaria is believed to have killed over 45,000 people in 2017[1] while Cholera and Measles make hundreds – sometimes thousands – of victims each year. Today, the intense focus on Ebola causes a lack of medical care towards these other diseases. The so-called indirect deaths caused by this shift in medical attention can easily be larger than those directly attributed to Ebola.

During the previous epidemic the indirect death toll was substantial

In December 2013, the largest Ebola epidemic in history started in Guinea and quickly spread to Liberia and Sierra Leone. Lasting for almost 2 years, more than 28,000 people were infected resulting in 11,310 deaths. This considerable death toll is presumed to double when one would include additional casualties caused by the reduction of access to regular health care during the Ebola crisis.[2]

During epidemics of such magnitude, the resilience of the health care systems in the stricken countries appears to be insufficient. In case of the previous epidemic, health care was inaccessible to part of the population. Due to fear for nosocomial contamination, mistrust of the health care system and hampered transportation, people simply refrained from going to hospitals.[3] The part of the population that did actively seek medical care was not guaranteed proper treatment as much needed health workers and resources had been redirected to the containment of the Ebola epidemic.

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[i] This case is part of a series of humanitarian operations vignettes written by the INSEAD Humanitarian Research Group called *Behind the Scenes of Humanitarian Operations*. It was written in August 2019 by Sarah Dewilde, Valentine Huré and Luk Van Wassenhove. For more information go to https://www.insead.edu/centres/humanitarian-research-group.

The failing system had implications on immunization efforts, especially for Measles. Measles and other childhood diseases became deadlier than usual as proper vaccination campaigns were no longer carried out.[4] These shortcomings also increased the risk of future epidemics, as exemplified by the 2017 Measles outbreak in Guinea.

The current epidemic is different but the response seems to be better prepared

The DRC 2018 Ebola outbreak strikes a region in the grip of many plagues such as war, hunger, Measles, Cholera and multiple other diseases. Responding to this requires simultaneous battles on many fronts. Even though the situation is complex due to violence and a severe lack of trust, the response seems better organized than during the previous epidemic. The numerous guidelines published since 2016 helped in setting up an organized and effective response.[5] Vaccines were ready for use from the beginning, and new cold chain technology was used to transport vaccines.

The risk of indirect deaths was also on the agenda of the response teams. Several UN branches are raising awareness that Ebola is just one of the problems in the DRC. Efforts are ongoing to ensure continuity in immunization by launching vaccination campaigns in North-Kivu and Ituri. WHO Director-General Dr. Tedros stresses the importance of these activities:

"Even as we focus on ending the [Ebola] outbreak, we must look beyond it. An outbreak of Measles in DRC has killed almost 2,000 children since January – more than Ebola in less time – and yet it gets little international attention." [6]

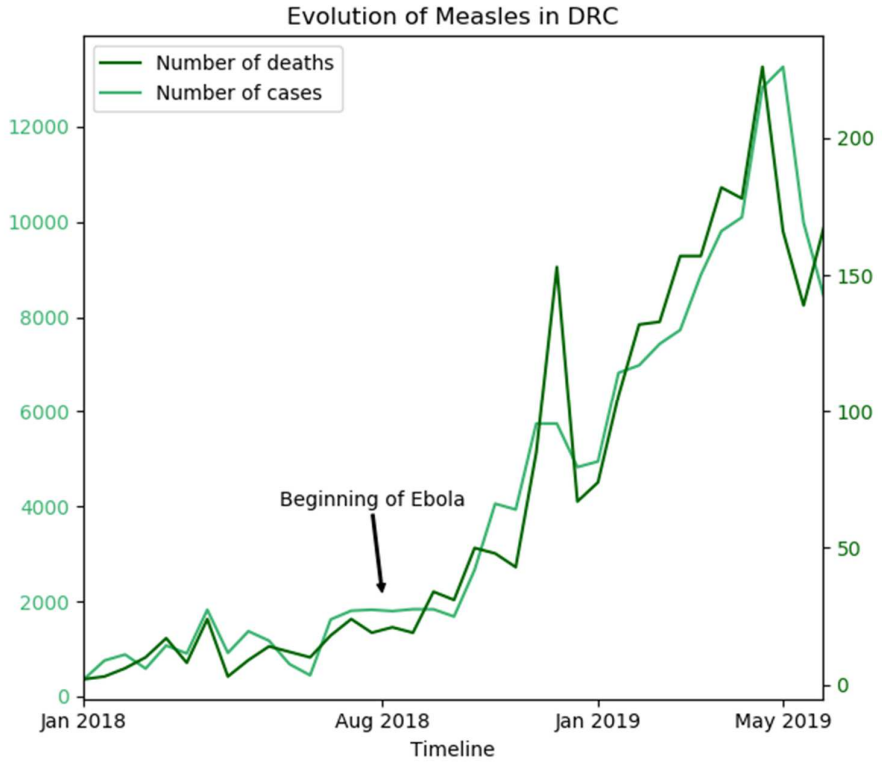

FIGURE 1. EVOLUTION OF MEASLES IN THE DRC.[7]

Nevertheless, numbers indicate this epidemic is taking a similar path

Despite efforts to strengthen the health care system, the number of cases and deaths due to Measles and Malaria increased since August 2018 (see Figures 1 and 2). Though the Ebola epidemic has so far been restrained to North-Kivu and Ituri, the increase of other diseases is nation-wide.

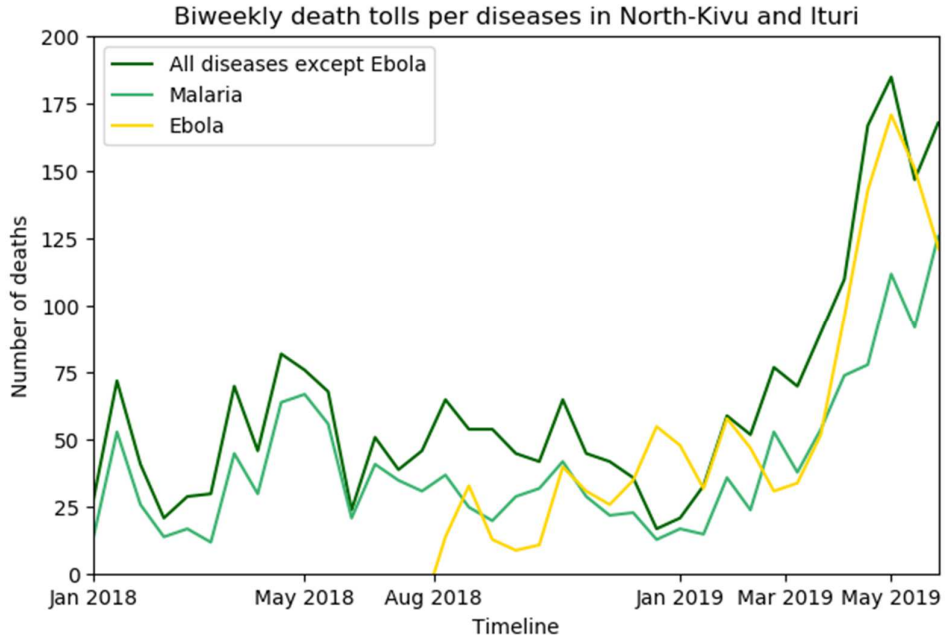

FIGURE 2. EVOLUTION OF CASUALTIES FOR DIFFERENT DISEASES IN NORTH-KIVU AND ITURI. [8]

Like in 2014, Ebola is devouring resources. Media coverage and increased pressure from the international community cause responders to shift their focus to Ebola[9] while conflict-fleeing populations are hit by unprecedented deadly rates of preventable diseases like Cholera and Measles. A systematic approach to consider the trade-off between the cases averted thanks to the intensified focus on Ebola and the increased disease burden of the other diseases seems to be lacking.

What would be required to significantly alter future Ebola response such that it does not create more collateral damage than the relief it brings?

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[1] World Malaria Report 2018. World Health Organization. 2018. https://apps.who.int/iris/bitstream/handle/10665/275867/9789241565653-eng.pdf.
[2] *Effects of Response to 2014–2015 Ebola Outbreak on Deaths from Malaria, HIV/AIDS, and Tuberculosis, West Africa*. Parpia, A. S., Ndeffo-Mbah, M. L., Wenzel, N. S., & Galvani, A. P. (2016). Emerging Infectious Diseases. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4766886/.
[3] *Health-Care Access during the Ebola Virus Epidemic in Liberia*. McQuilkin, P. A., Udhayashankar, K., Niescierenko, M., & Maranda, L. (2017). The American journal of tropical medicine and hygiene. http://www.ajtmh.org/content/journals/10.4269/ajtmh.16-0702.
[4] *Reduced vaccination and the risk of measles and other childhood infections post-Ebola*. S. Takahashi et al. (2015). Science. https://science.sciencemag.org/content/347/6227/1240.

[5] *Ebola's other unsung heroes: the planners who keep the response running*. STAT news. https://www.statnews.com/2018/12/20/ebola-unsung-heroes-logisticians-response/.
[6] *Beyond Ebola: DRC Battles Measles and Cholera.* https://www.outbreakobservatory.org/outbreakthursday-1/7/18/2019/beyond-ebola-drc-battles-measles-and-cholera.
[7] The data for this graph is from the Congolese Ministry of Health, https://data.humdata.org/dataset/383945db-762c-46e2-bec6-07adc41fbd16, for Ebola and from the Division Provinciale de la Santé, https://data.humdata.org/dataset/704f8f05-813e-4489-897d-527a93e1236a, for the other diseases. The data is aggregated in 2-week periods.
[8] The data for this graph is from the Congolese Ministry of Health, https://data.humdata.org/dataset/383945db-762c-46e2-bec6-07adc41fbd16, for Ebola and from the Division Provinciale de la Santé, https://data.humdata.org/dataset/704f8f05-813e-4489-897d-527a93e1236a, for the other diseases. The data is aggregated in 2-week periods.
[9] *Congo sees rise in deaths from malaria, measles, and cholera as Ebola outbreak swallows up resources*. (2019). BMJ. https://www.bmj.com/content/366/bmj.l4522.