

EBOLA OUTBREAK IN DRC (North Kivu):

I. Epidemiological situation (Sept 08, 2018):

- A total of 131 cases of haemorrhagic fever reported, 100 confirmed and 31 probable. Of the 100 confirmed: 58 died, 35 are cured, and 7 are hospitalized.
- 14 suspected cases are under investigation.
- 2 new cases confirmed in Beni.
- 1 confirmed case death in Beni.
- 2 new people healed in Mabalako

The outbreak appears to be slowing due to rapid response and vaccination, although the virus is now in an urban area (Butembo), which presents a high risk of further spread.

II. Response

A mobile lab was set up on 7 Sept in Butembo, in order to quickly confirm suspected cases of Ebola. This is the 4th mobile lab set up so far in response to this outbreak. Contact tracing appears to be moving forward well.

The last cases are linked to community resistance in Beni, where an unsecured burial of a probable case occurred and some families concealed potential Ebola cases among them and/or refused vaccination. Community leaders finally convinced the family to cooperate with the health authorities and agree to being vaccinated.

Vaccination

Since vaccination began on 8 Aug, 7069 people have been vaccinated.

Treatment

22 patients have been treated with mAb 114, remdesivir, or Zmapp (as of Sept 01). Of these 22 patients, 11 are cured, 4 have died and 7 are still hospitalized but have seen their condition improve. It is too early and too few treated patients, to draw any conclusions.

III. Scientific literature update

Virus

Genetic sequencing by the National Institute of Biomedical Research (INRB) confirmed that the strains of the virus responsible for the 2 epidemics declared this year in the DRC are different, although both belong to the species Ebola Zaire.

Antibodies

A study in *Cell Reports* describes the cryo-EM structure of a pan-EBOV neutralizing antibody (obtained from a survivor of EBOV Makona strain) and the GP fusion loop. It provides a basis for understanding how rare but potent antibodies target conserved filoviral fusion machinery. <https://www.ncbi.nlm.nih.gov/pubmed/30184505>

Vaccines

A paper in *Vaccine* reports that intranasal vaccination with the extracellular domain of EBOV GP (aminoacids 258-601) together with a mucosal adjuvant, protects mice against lethal challenge. <https://www.ncbi.nlm.nih.gov/pubmed/30195490>