8th EBOVAC2

e-newsletter

October 2020

Welcome to the EBOVAC2 e-newsletter!

EBOVAC2: Getting up to date

The EBOVAC2 project is one of 8 projects funded under the IMI Ebola+ program that was launched in response to the Ebola virus disease outbreak in West Africa in 2014-2016. Through several clinical trials conducted in Europe and Africa, the EBOVAC1 and EBOVAC2 projects will assess the safety, tolerability and immunogenicity of different schedules of a vaccination regimen against Ebola Virus Disease (EVD).

How? To expedite the development of a candidate heterologous 2-dose prophylactic vaccination regimen against EVD, several clinical studies have been carried out in parallel and are coordinated by separate teams: EBOVAC1 (Phase 1 and Phase 3 large scale safety and immunogenicity studies), EBOVAC2 (Phase 2 studies) and EBOVAC3 (Phase 2 and 3 studies).

What? In the Phase 2 studies, a heterologous 2-dose vaccination regimen of Ad26.ZEBOV developed by Janssen Vaccines & Prevention B.V., part of the Janssen Pharmaceutical Companies of Johnson & Johnson as the first dose, and MVA-BN®-Filo, developed by Bavarian Nordic and licensed to Janssen, as the second dose. The first dose is intended to elicit an initial immune response. The second dose is designed to stimulate the level of the body's immune response further.

Who? The EBOVAC2 consortium brings together industry and academic stakeholders: Janssen, as the regulatory sponsor and project lead, the French Institute of Health and Medical Research (Inserm) as coordinator, and the University of Oxford (UOXF), London School of Hygiene & Tropical Medicine (LSHTM), Centre MURAZ (CM) and Inserm Transfert (IT) as members.

Learn more information about EBOVAC2 on our website www.ebovac2.com.

Conducting clinical studies

In Africa (EBL2002 study)

The aim of the EBL2002 study in Africa (Ivory Coast, Burkina Faso, Kenya and Uganda) is to test the vaccine for safety and immunogenicity in a total of 1,056 study participants including healthy adults and population groups including the elderly, HIV-infected adults, adolescents and children. **In total, 1,885 participants have been screened and 1075 have been randomized** across cohort 1 (669 healthy adults), cohort 2A (142 HIV-infected individuals), cohort 2B (132 healthy adolescents aged 12 to 17 years) and cohort 3 (132 children aged 4 to 11 years) of which 1,017 have received the Dose 2 vaccination.

A booster dose (Ad26.ZEBOV) was given to 90 study participants to confirm the establishment of memory and development of an anamnestic response.

All study cohorts are now completed. Sample analyses are still ongoing on cohort 2B (132 healthy adolescents aged 12 to 17 years) and cohort 3 (132 children aged 4 to 11 years).

In Europe (EBL2001 study)

The EBL2001 trial in Europe (UK, France) has been completed. 423 study participants have been randomized (143 were randomized in reporting year 1 and 280 in reporting year 2), of which 290 have received the second dose vaccination. The site close-out visits have been performed. **Volunteers are now being followed for five years in a long-term safety follow-up study, EBL4001.**

Sample core analysis has been completed in the US for the main immune response. The focus is now on the additional immunogenicity testing conducted in France and in the UK.

Dynamics of the humoral immune response to a heterologous 2-dose vaccination regimen against EVD: quantification and sources of variation

The EBOVAC2 Consortium members in charge of modelling in the EBOVAC projects have modelled the immune response to the heterologous 2-dose vaccination regimen against EVD and these results are now published in the *Journal of Virology*.

Based on data from EBOVAC1 Phase 1 trials in East Africa and Europe (UK, Kenya, Tanzania and Uganda), we modeled the dynamics of the humoral immune response from 7 days after the second dose vaccination onwards to estimate the persistence of the response and understand its variability. The results suggest that antibody production is maintained by a population of long-lived cells. Estimation suggests that half of these cells might persist at least five years in humans.
These predictions are very encouraging. New data from EBOVAC1 and EBOVAC2 Phase 2 studies performed in Europe and Africa now available will help to verify model predictions.

Scientific publication: Dynamics of the Humoral Immune Response to a Prime-Boost Ebola Vaccine: Quantification and Sources of Variation
Chloé Pasin, Irene Balelli, Thierry Van Effelterre, Viki Bockstal, Laura Solforosi, Mélanie Prague, Macaya Douoguih, Rodolphe Thiébaut DOI: 10.1128/JVI.00579-19

Vaccine against Ebola: Commission grants new market authorisations

From European commission - 01 July 2020

On 1 July 2020, the European Commission adopted the decision granting marketing authorisations to the company Janssen, a Johnson & Johnson company, for a vaccine against Ebola. The authorisation was granted in one month, reducing the decision-making process timing in half, further demonstrating the Commission's commitment in placing the protection of public health as a priority.

The new Ebola vaccine, which consists of two components, called Zabdeno and Mvabea, had been in development with the support of the Commission. This decision follows a recommendation from the European Medicines Agency (EMA), which has assessed the benefits and risks of the vaccine.

As explained by EMA when it recommended the approval last February, the ability of the immune system to respond to the virus after vaccination with Zabdeno and Mvabea was studied in a total of 3,367 adults, adolescents and children who participated in five clinical studies conducted in Europe, Africa and the US.

The development of the vaccine is the result of rigorous work by several projects funded with just over €130 million through the Innovative Medicines Initiative (IMI), which is partly supported by the EU's research and innovation programme, Horizon 2020. Following a comprehensive approach, the EBOVAC 1, 2 & 3, projects assessed the safety and tolerability of the Ebola vaccine regimen through clinical trials in Europe and Africa. The EBODAC project developed a communication strategy and tools to promote the acceptance and uptake of new Ebola vaccines. Finally, the EBOMAN project focused on accelerating the development and manufacture of the vaccine.

For the full article see here.

Ebola outbreak: situation reports in the Democratic Republic of the Congo

End of 10th Ebola outbreak in North Kivu, Ituri and South Kivu Provinces declared

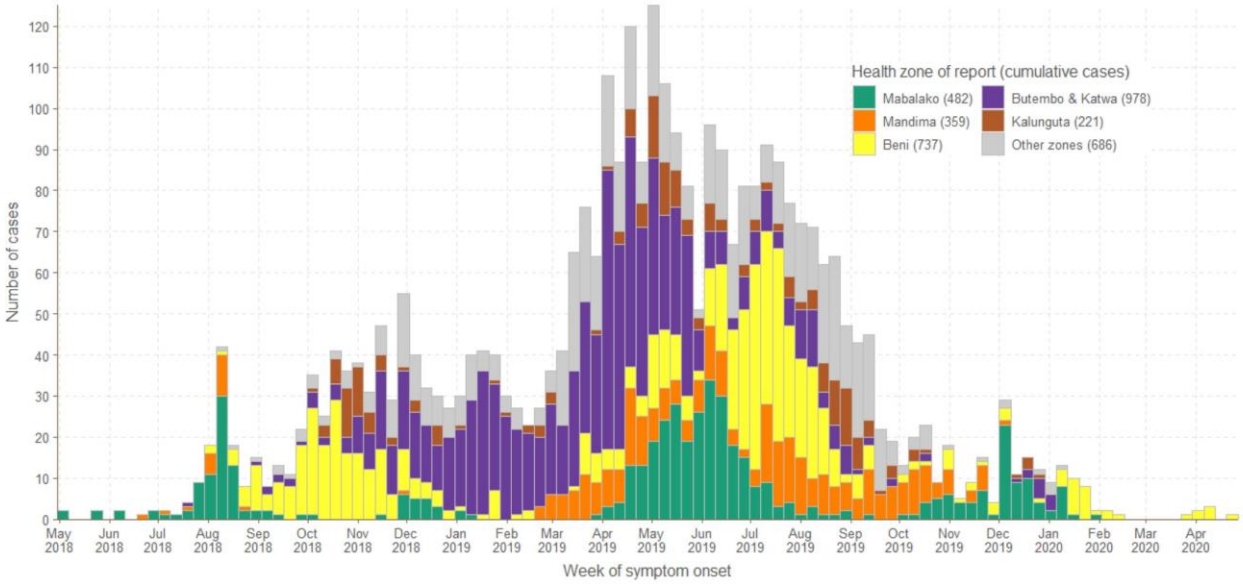
From WHO report – 26 June 2020

On 25 June 2020, the Minister of Health of the Democratic Republic of the Congo declared the end of the Ebola Virus Disease (EVD) outbreak in North Kivu, Ituri and South Kivu Provinces. In accordance with WHO recommendations, the declaration was made more than 42 days

after the last person who contracted EVD in this outbreak tested negative twice and was discharged from care.

The outbreak was declared on 1 August 2018 following investigations and laboratory confirmation of a cluster of EVD cases in North Kivu Province. Further investigations identified cases in Ituri and North Kivu Provinces with dates of symptom onset from May to August 2018. In 2019, the outbreak subsequently spread to South Kivu Province, and on 17 July 2019, the WHO Director-General declared the outbreak a Public Health Emergency of International Concern.

From 1 August 2018 to 25 June 2020, a total of 3470 EVD cases were reported from 29 health zones including 3317 confirmed cases and 153 probable cases. Of the total confirmed and probable cases, 57% (n=1974) were female, 29% (n=1006) were children aged less than 18 years and 5% (n=171) were health care workers.



On 25 June 2020, the Democratic Republic of the Congo entered a 90-day period of heightened surveillance. Although human-to-human transmission of Ebola virus has ended in North Kivu, Ituri and South Kivu Provinces and the outbreak has officially been declared over, the risk of re-emergence still exists. Therefore, there is a critical need to maintain response operations to rapidly detect and respond to any new cases and to prioritize ongoing support and care for people who recovered from EVD.

11th Ebola outbreak in Équateur Province.

From WHO and from WHO regional office for Africa - 25 July 2020

In the Democratic Republic of the Congo, 11 outbreaks have been recorded since the first recognized outbreak in 1976. The 10th EVD outbreak in North Kivu, Ituri and South Kivu Provinces was the country's longest EVD outbreak and the second largest in the world after the 2014–2016 EVD outbreak in West Africa.

The Democratic Republic of the Congo's 11th Ebola virus disease outbreak was announced on 1 June 2020 after a cluster of cases was detected in the Mbandaka area of Équateur Province. The WHO regional office for Africa reported on 25 July 2020, that there are a total of 67 cases (63 confirmed and four probable) including 31 deaths (case fatality ratio 46.3%).

Global consortium working with DRC Government to provide second Ebola vaccine

EBOVAC2 partner, LSHTM is sponsoring a large-scale clinical trial designed to prevent the spread of the epidemic beyond the affected areas in Eastern DRC. The trial has been gathering information on the safety of the vaccine to enhance preparedness in the case of future outbreaks.

The consortium is led by the DRC Ministry of Health (MOH) and Institut National de Recherche Biomédicale (INRB) and includes LSHTM, the Coalition for Epidemic Preparedness Innovations (CEPI); Médecins Sans Frontières (MSF) and Epicentre; with the Wellcome Trust contributing critical strategic guidance. Janssen Vaccines & Prevention B.V. is donating the vaccine regimen for the study undertaken by the consortium.

For more information, see here.

First REACTing Symposium

REACTing is a multi-disciplinary collaborative network of French research institutions working on emerging infectious diseases, which aims to optimise research capacity during epidemics & improve research preparedness in between epidemics through multi-disciplinary collaboration.
The first REACTing Symposium took place on November 21st at Institut Pasteur Paris with a full day dedicated to research in emerging infectious diseases. Program

EBOVAC2 Partners

Instituts thématiques Inserm Institut national de la santé et de la recherche médicale

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Janssen PHARMACEUTICAL COMPANIES OF Johnson&Johnson

EBOVAC2 Funding

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement no. 115861. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA. www.imi.europa.eu