

Lassa Fever vaccine – follow the footsteps of Ebola

LONDON, UK----3rd July 2018----ExpertREACT. This month **VacZine Analytics** releases *MarketVIEW: Lassa fever vaccines*. Lassa Fever is a priority target for international stakeholders with significant sums of money already donated to develop a preventative vaccine. After apparent success with Ebola vaccine development, should the wider industry be interested in this new business model?

Lassa fever virus (CHIK) is an acute viral hemorrhagic illness caused by Lassa virus (LASV), a single-stranded RNA virus of the *Arenaviridae* family. The virus, first identified in Nigeria in 1969, is zoonotic and mainly transmitted from the host, *M.natalensis* (multimammate rat) to humans where it can cause symptoms ranging from fever, general malaise, weakness, and headache to the more serious outcomes of multi-organ failure or death. A significant cause of morbidity in survivors is deafness (which can be permanent) and occurs in approximately one-third of cases. Pregnant women are particularly at risk from LASV. Almost 100% of fetuses are lost in LASV infected pregnant women.

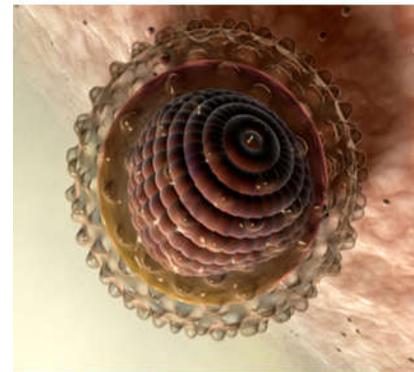
It is estimated that there are between **100,000** and **300,000** Lassa fever infections in West Africa per year, resulting in approximately **5,000** deaths (1), although estimates are outdated and impacted by a lack of routine surveillance. Intravenous ribavirin (if given early) can reduce mortality. There are a number of prophylactic Lassa fever vaccines in pre-clinical development supported by CEPI/WHO initiatives but none yet in clinical stages. Example, organisations with an interest in a Lassa Fever vaccine are: IAVI (rVSVdG/LVGPC), Themis (measles vector), GeoVax (GEO-LM01) and Inovio (INO-4500) (2).

Ebola, a similar hemorrhagic virus, has been recently tackled in the **Democratic Republic of Congo** by a newly developed vaccine (**VSV-EBOV**) which received significant GAVI funding and interest from major manufacturers. As of June 10th 2018, **2,295** people have been vaccinated in Wangata, Iboko and Bikoro areas (WHO statement). Those vaccinated include front-line health workers, along with people exposed to individuals with confirmed cases of Ebola, and their contacts. It is expected that a Lassa Fever vaccine will be deployed in a similar way to Ebola but it is of important note that incidence of LASV infection appears to be more sustained and of a higher magnitude therefore lending to a vaccination strategy that is more preventative.

This new **VacZine Analytics MarketVIEW** product is a comprehensive Executive Presentation (~100 slides, .pdf) and MS-Excel forecast model which investigates the commercial potential of a putative Lassa fever vaccine in all relevant target groups (preventative and emergency scenarios) in 2035. There is a detailed case study analysis of Ebola vaccine procurement/deployment to serve as guidance with all assumptions clearly outlined. A thorough review of current disease background/epidemiology and R&D competitive environment are also included.

References:

1. WHO- Lassa Fever factsheet. Available at: <http://www.who.int/mediacentre/factsheets/fs179/en/>
Accessed May 2018
2. **VacZine Analytics. MarketVIEW: Lassa fever vaccines** (CAT No: VAMV080, published July 2018)



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