BioSpectrum the business of Bio & Health Sciences

Zika vaccine race overlooks need for global strategy to combat mosquito-borne diseases

17 June 2016 | Features | By BioSpectrum Bureau

Zika vaccine race overlooks need for global strategy to combat mosquito-borne diseases

The development of a protective vaccine against the Zika virus represents only one step in providing a long-term solution to the disease, and should be viewed in the context of tackling all mosquito-borne diseases, according to research and consulting firm GlobalData.

The company's latest analysis covering the endemic states that the uncertainty around the Zika virus, which is transmitted by the Aedes aegypti species of mosquito, has brought Flaviviruses to the world's attention and should be used not only to develop a vaccine specifically protecting against the Zika virus, but to formulate a global strategy against mosquito-borne diseases.

Dr Mirco Junker, GlobalData's Analyst covering Infectious Diseases, says: "The Zika virus is a member of the genus Flavivirus, a group of single-stranded RNA viruses that also includes dengue, West Nile, yellow fever, Japanese encephalitis, and chikungunya virus, all of which are transmitted by mosquitoes.

"Approaches to combatting the vector instead of the virus include the prevention of vector reproduction through limiting the breeding ground, insecticides, direct genetic manipulation, or the usage of bacteria ultimately leading to the demise of the mosquitoes."

In terms of potential vaccines, the vast majority of Zika vaccine products are currently in early preclinical trials, indicating that it will take many years until one of them receives market approval.

However, for pharmaceutical companies, developing vaccines is a difficult and resource-intensive process.

Dr Junker continues: "The majority of companies that have entered the race are smaller biotech companies with limited resources, while the large pharmaceutical companies, including GlaxoSmithKline, Johnson & Johnson, Merck, Pfizer, Sanofi, and Takeda, are currently only evaluating how their abilities and experiences can help in the fight against Zika.

"Vaccines are based on biological agents that require stringent establishment of lot-to-lot consistency and stability, and from a scientific perspective, it is also not yet clear which vaccine strategy will ultimately lead to a protective vaccine.

"These complicating factors highlight the need for more collaboration between the companies themselves, as well as support from governmental organizations in identifying the most promising vaccine candidates and bringing them to the market."