



# R&D Pipeline for EBOLA

## DISEASE IMPACT<sup>1</sup>

The Ebola virus causes an acute, serious illness which is often fatal if untreated. Ebola is transmitted to humans through close contact with the blood, secretions, organs, or other bodily fluids of infected animals found ill or dead. First symptoms are the sudden fever, fatigue, muscle pain, headache, and sore throat. This is followed by vomiting, diarrhoea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding. Laboratory findings include low white blood cell and platelet counts, and elevated liver enzymes. People remain infectious as long as their blood contains the virus. Community engagement is the key to successfully controlling outbreaks. Early supportive care with rehydration and symptomatic treatment vastly improves survival.

## KEY FACTS<sup>2, 3</sup>

- The incubation period is 2 to 21 days.
- The average Ebola virus disease (EVD) case fatality rate is around 50%. Case fatality rates have varied from 25% to 90% in past outbreaks.
- In June 2016, a total of 28,616 Ebola cases have been reported in Guinea, Liberia, and Sierra Leone, with 11,310 deaths.

## ACCESS/CAPACITY BUILDING

AstraZeneca, Bayer, Bristol-Myers Squibb, GlaxoSmithKline, Janssen (Johnson & Johnson), Merck, MSD, Novartis, Pfizer, and Roche.

## CURRENT R&D PROJECTS

COMPANY	PARTNERS	PROJECT	PHASE	TYPE
<b>MedImmune (AstraZeneca)</b>	The Wistar Institute, Vanderbilt University, Inovio, The US Institutes of Health's Vaccine Research Center (VRC), Humabs BioMed	Manufacture of clinical grade mABs	Preclinical	Medicine
<b>GlaxoSmithKline</b>	National Institutes of Health (NIH), Wellcome Trust, Medical Research Council (MRC), UK Government, European Commission, Bill & Melinda Gates Foundation	Development of Ebola vaccine candidate	Phase II	Vaccine
<b>Janssen (J&amp;J)</b>	Bavarian Nordic, National Institute of Allergy and Infectious Diseases (NIAID)	Prime-boost Ebola vaccine regimen	Phase I	Vaccine
<b>MSD</b>	NewLink, Walter Reed Army Institute of Research (WRAIR), National Institute of Allergy and Infectious Diseases (NIAID), Public Health Agency of Canada (PHAC), Biomedical Advanced Research and Development Authority (BARDA), WHO Vaccine for Ebola Consortium, US Army Medical Research Institute of Infectious Diseases (USAMRIID), Defense Threat Reduction Agency (DTRA), Joint Vaccine Acquisition Program (JVAP), Wellcome Trust	rVSV-ZEBOV vaccine	Phase III (+ preclinical, safety assessment, BioProcess, MMD)	Vaccine
	NewLink, Defense Threat Reduction Agency (DTRA)	rVSV filovirus vaccine (Ebola Zaire, Ebola Sudan, Marburg)	PCC	Vaccine
	US Army Medical Research Institute of Infectious Diseases (USAMRIID)	Targeted compound screening	Lead identification	Medicine
<b>Novartis</b>	National Institute of Allergy and Infectious Diseases (NIAID)	Inhibitor of replication	Research of drug candidates from library	Medicine

**Total R&D projects for Ebola: 7**