EDITORIAL

e-ISSN 1643-3750
© Med Sci Monit, 2026; 32: e954627
DOI: 10.12659/MSM.954627

Received: 2026.06.26
Accepted: 2026.06.26
Available online: 2026.06.29
Published: 2026.07.XX

Editorial: The WHO Identifies Ebola Disease Due to Bundibugyo Virus as a Public Health Emergency of International Concern (PHEIC) as Vaccine Development Accelerates

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Conflict of interest: None declared

Abstract The Bundibugyo virus is one of the viruses in the genus *Orthoebolavirus* and was first identified in 2007 during an Ebola outbreak in the Bundibugyo District of western Uganda. In early May 2026, the World Health Organization (WHO) was alerted to an outbreak of Bundibugyo virus in the Ituri province of north-eastern Democratic Republic of Congo (DRC), with cases also reported in the nearby North Kivu and South Kivu provinces, and some imported cases with limited local transmission in Uganda. On May 17, 2026, the WHO declared the ongoing outbreak of Ebola disease caused by the Bundibugyo virus a Public Health Emergency of International Concern (PHEIC). The latest WHO data on June 19, 2026, showed that by June 17, 2026, the cumulative number of confirmed cases had risen to 896, including 232 deaths (a fatality rate of 26%), indicating that supportive treatments alone were not reducing mortality. Currently, there are no licensed vaccines with a specific indication for the prevention of Bundibugyo virus infection. On June 1st, 2026, the Coalition for Epidemic Preparedness Innovations (CEPI) announced its recommendations to urgently accelerate the development of three investigational vaccines targeting the Bundibugyo Ebola virus, including the candidate vaccine, ChAdOx1 BDBV. On June 3, 2026, the European Medicines Agency (EMA), the African Medicines Agency (AMA), and African regulatory authorities issued a joint response to the ongoing Ebola outbreak in the DRC and Uganda, drawing on expertise from the WHO-AFRO African Vaccines Regulatory Forum (AVAREF). This editorial provides background on the current acceleration in vaccine development and the urgency of this response.

Keywords: **Ebola, Bundibugyo Virus • Epidemic • Vaccine • Editorial**

In early May 2026, the World Health Organization (WHO) was alerted to an outbreak of Bundibugyo virus in the Ituri province of north-eastern Democratic Republic of Congo (DRC), with cases also reported in the nearby North Kivu and South Kivu provinces, and some imported cases with limited local transmission in Uganda [1]. Bundibugyo virus belongs to the same genus, *Orthoebolavirus, a*s Ebola virus, but is classified as a different species within the family of Filoviruses, which have a distinctive filamentous shape [1]. However, the Bundibugyo virus and the Ebola virus share molecular similarities that may be important for ongoing vaccine development [1].

On May 17, 2026, the WHO declared the ongoing outbreak of Ebola disease caused by the Bundibugyo virus a Public Health Emergency of International Concern (PHEIC) [2]. A PHEIC is a formal, high-level global alert declared by the WHO under the WHO International Health Regulations (IHR) to signal an extraordinary health event that poses a risk to other countries and requires a coordinated international response [2,3]. Since 2007, there have been nine WHO PHEIC declarations, including an ongoing declaration for poliovirus infection (since 2024), the 2009 swine flu (influenza H1N1) epidemic, and the 2016 Zika virus outbreak. the 2022-23 COVID-19 pandemic, and the 2024 mpox outbreak [3]. Previous PHEIC declarations have been for Ebola disease in West Africa (2013-2015) and in the DRC (2018-20) [3].

The Ebola virus was first identified in 1976 in South Sudan and what is now the DRC [4,5]. Since 1976, there have been several outbreaks of Ebola virus disease and sporadic cases in travelers in Europe and North America [6,7]. The main outbreaks associated with high infection and mortality rates included the West Africa 2013-2016 outbreaks in Sierra Leone, Liberia, and Guinea, as well as the 2018-2020 outbreak in the DRC [7,8]. Until this year, 2026, the most recent EVD outbreaks have been reported in Uganda (*Sudan Orthoebolavirus)*, Guinea (*Zaire Orthoebolavirus),* and the DRC (*Zaire Orthoebolavirus)*, all of which occurred in 2021 and 2022 [6,7]. Conflict and population displacement in north-eastern DRC's Ituri province, close to the borders with Uganda and South Sudan, are believed

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to be driving cases of Ebola and are raising concerns across Central and East Africa [9]. Cases in this recent outbreak are increasing in a region shaped by decades of social and political instability, conflict, and population displacement [9]. Since 2017, health facilities have been attacked, food insecurity has increased, and currently, an estimated one million people are displaced across the Ituri province [9].

Until 2025, four Orthoebolavirus species were known to cause Ebola disease, including the Ebola virus (*Orthoebolavirus zairense*) and the Sudan virus (*Orthoebolavirus sudanense*), both of which are zoonotic viruses that cause Ebola disease, which is viral hemorrhagic fever in humans and nonhuman primates, and which were responsible for most outbreaks and cases [10,11]. The Bundibugyo virus is one of the recognized virus species within the genus *Orthoebolavirus* and was first identified in 2007 during an Ebola outbreak in the Bundibugyo District of western Uganda [10]. In 2007, an Ebola outbreak due to the Bundibugyo virus resulted in 149 reported cases and 37 deaths (a fatality rate of 25%) [12]. A second major outbreak of Ebola disease due to the Bundibugyo virus occurred in 2012 in the DRC, resulting in 57 cases and 29 deaths (a fatality rate of 51%) [12]. Ebola disease due to Bundibugyo virus (or Bundibugyo virus disease) is a severe and often fatal form of Ebola disease caused by the Bundibugyo virus, one of the *Orthoebolavirus* species. Ebola is a zoonotic disease, and although the natural reservoir remains to be confirmed, it is likely to be fruit bats [12]. Human infection occurs through close contact with blood or secretions from infected wildlife, through person-to-person transmission via direct contact with the blood or other bodily fluids of infected individuals, and through spread by contaminated surfaces (fomites) [12]. The incubation period has been reported to be from 2 to 21 days, and individuals transmit the virus when symptomatic [12]. Symptoms begin with fever, myalgia, and headache that then progress to gastrointestinal (GI) symptoms, hemorrhage, and organ dysfunction [12].

During the past two outbreaks of Bundibugyo virus infection in DRC and Uganda in 2007 and 2012, the WHO reported case fatality rates of 30% and 50%, respectively [12]. Recent concerns about the rapid spread of infection are illustrated by WHO monitoring reports dated June 13 and June 19, 2026 [12,13]. On June 13, 2026, the WHO reported that the Bundibugyo virus outbreak in the DRC was rapidly increasing in both incidence and geographic spread, with 676 confirmed cases and 136 deaths (a fatality rate > 20%) [12]. Also, as of June 11, 2026, Uganda has reported 19 confirmed cases and two deaths (a fatality rate > 10%), including imported infections and secondary transmission from contacts and healthcare workers [12]. Only six days on, the latest data from the WHO on June 19, 2026, showed that by June 17, 2026, the cumulative number of confirmed cases had risen to 896, including 232 deaths (a fatality rate of 26%), indicating that supportive treatments alone are not reducing the death rate [13]. However, the Ebola outbreak remains confined to the Ituri Province, where more than 90% of confirmed cases are located [13].

The WHO has noted that not all cases have been officially reported and that the severity of the outbreak is underestimated [12,13]. Also, the nonspecific initial symptoms can lead to delayed diagnosis due to the difficulty in differentiating this type of Ebola from endemic febrile illnesses, including malaria, and because diagnostic laboratory facilities may be unavailable [12,13]. An important consideration in Ebola disease is the potential for vertical transmission from mother to fetus and infant, as the virus has been identified in amniotic fluid and the placenta [11,14,15]. A further concern is that in the current outbreak in DRC and Uganda, children account for nearly a fifth of the confirmed cases of Ebola disease (17-25%) [12]. Because of these findings, the WHO and partners are implementing guidance for response measures across the African Region [12]. Currently, there are no licensed vaccines with a specific indication for the prevention of Bundibugyo virus infection [2,10,11]. Until safe and effective vaccines and treatments are available, infection control will rely on rapid case identification and isolation, contact tracing, supportive care, safe burials, and community information and engagement [12,16].

On May 28, 2026, the WHO published a status report and emergency guidance on the use of Ebola virus vaccines, both licensed and in development during Bundibugyo virus disease outbreaks [10,11]. Currently, there is one Ebola virus vaccine available called Ervebo® (Merck Sharp & Dohme LLC, Rahway, NJ, USA), which is a live, recombinant vesicular stomatitis virus (rVSV)-based vaccine licensed for the prevention of Ebola disease caused by *Orthoebolavirus zairense* [10,11]. Ervebo® was approved by the US Food and Drug Administration (FDA) in November 2019 [10]. While awaiting the availability of vaccines that are specific to Bundibugyo virus, the current emergency guidance from the WHO has evaluated the preclinical and clinical evidence, and the ethical and practical considerations regarding potential cross-protection conferred by Ervebo® against Bundibugyo virus and concluded that the available evidence is still insufficient to determine any cross-protection against Bundibugyo virus and has recommended that this vaccine should not be used either in response to the current Bundibugyo virus outbreak or outside research settings [10]. Also, although several approaches are being considered for vaccine development and candidate products for post-exposure prophylaxis are in the pipeline, the WHO recommends accelerating investment in developing specific, effective, and safe vaccines to prevent Ebola disease caused by the Bundibugyo virus [10,16]. Until safe and effective vaccines are available, Ebola disease outbreak responses and infection prevention and containment through public health measures [10].

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At the onset of the COVID-19 pandemic caused by SARS-CoV-2, the urgent need for a vaccine led to the successful use of the Chimpanzee Adenovirus Oxford 1 (ChAdOx1) vector, developed by the Jenner Institute at the University of Oxford [17]. ChAdOx1 is a modified chimpanzee adenovirus that is non-replicating and used as a delivery system for a specific antigen, such as a viral protein, that instructs the host to produce the protein, which can then be targeted by the host's humoral and cellular immune systems [17]. This platform became the foundational technology behind the Oxford-AstraZeneca COVID-19 vaccine, which delivered the genetic code for the SARS-CoV-2 spike (S) protein [17]. Beyond COVID-19, the ChAdOx1 platform has been developed in vaccine research for other infectious diseases, including influenza, Zika, and Chikungunya viruses [18]. In 2025, Jenkin and colleagues reported findings from a phase 1, first-in-human dose-escalation clinical trial in 40 adults who received high- and low-dose non-replicating single-adenoviral vaccine (ChAdOx1 biEBOV) encoding both Ebola virus and Sudan virus glycoproteins (NCT05079750) [19].

On May 22, 2026, the Oxford Vaccine Group published a statement that, in response to the current Bundibugyo virus outbreak in the DRC, the Oxford Vaccine Group was combining with the Serum Institute of India Pvt. Ltd. (SIIPL) and the Oxford Clinical BioManufacturing Facility to rapidly produce and scale doses of the ChAdOx-based monovalent Bundibugyo Ebolavirus candidate vaccine, ChAdOx1 BDBV [20]. The Oxford Vaccine Group and the Jenner Institute had previously developed and tested vaccines in response to the 2013-2016 West African Ebola outbreak, including an expedited phase 2 clinical trial of an adenovirus/MVA Ebola vaccine regimen, which was approved by the EMA in 2020 [20]. The Oxford team has experience in developing vaccines against several Filoviruses [20]. On June 1st, 2026, the Coalition for Epidemic Preparedness Innovations (CEPI) announced its recommendations to urgently accelerate the development of three investigational vaccines targeting the Bundibugyo Ebola virus, including the candidate vaccine, ChAdOx1 BDBV [20].

On June 7, 2026, the WHO published a strategic research agenda for filovirus research and monitoring for 2021-2031 (WHO-AFIRM) [21]. Accelerated vaccine development initiatives are required, including vaccines for multiple filovirus strains (Zaire, Sudan, and Bundibugyo) and Bundibugyo strain-specific vaccines [21]. Lessons learned from the COVID-19 pandemic have enabled vaccine development approaches that incorporate messenger RNA (mRNA) technologies to design and fast-track preclinical testing and phase 1 clinical trials [22]. This mRNA vaccine technology has the advantages of rapid manufacturing and scaled-up vaccine production, as demonstrated during the COVID-19 pandemic [22].

On June 3, 2026, the European Medicines Agency (EMA), the African Medicines Agency (AMA), and African regulatory authorities issued a joint response to the ongoing Ebola outbreak in the DRC and Uganda, drawing on expertise from the WHO-AFRO African Vaccines Regulatory Forum (AVAREF) [23,24]. In this response, promising candidates for clinical trials have been identified for Bundibugyo virus: three possible vaccine candidates, including a recombinant vesicular stomatitis virus (rVSV)-based Bundibugyo vaccine, an mRNA vaccine, and a Bundibugyo virus vaccine using the Oxford ChAdOx1 modified adenovirus platform [23,24]. Also, three potential therapeutic candidates include MBP-134, a combination of two monoclonal antibodies active against different Ebola viruses (including Bundibugyo virus), the antiviral remdesivir, and the monoclonal antibody maftivimab [23]. A potential post-exposure antiviral prophylaxis includes obeldesivir [23]. As of June 3, 2026, the European Union (EU) and the European Centre for Disease Prevention and Control (ECDC) assessed the likelihood of infection for people living in Europe to be low [23].

Conclusions

The rapid spread of the Bundibugyo virus in the DRC over the past few weeks has highlighted the difficulties of containing a highly contagious infection with a high mortality rate with preventive and public health measures alone. Until vaccines become available, there is the risk that Ebola due to the Bundibugyo virus could spread beyond the DRC and Uganda. The next few months may bring some hope as ongoing vaccine developments are realized.

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