Ebola: calls for second experimental vaccine in DRC after WHO declares emergency

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Experts and aid agencies are calling for a second experimental vaccine to be used now that the World Health Organization has declared the rapidly expanding outbreak of Ebola in the Democratic Republic of Congo (DRC) to be a public health emergency of international concern (PHEIC).

Almost a year after the outbreak began, “the disease is not under control and we need a change of gear,” said Joanne Liu, international president of Médecins Sans Frontières.

Traditional methods of controlling the disease have not worked and “a large scale approach is needed for prevention, this means better access to vaccination for the population to reduce transmission,” said Liu.

WHO announced a PHEIC, the highest level of global health alarm, on Wednesday¹ after Ebola reached the major transport hub of Goma, on the border with Rwanda. After months of struggling without sufficient funds (donors have failed to deliver the required \$54m (£43m; €48m)) WHO hopes the move will now trigger an increase of funding and political support.

“It is time for the world to take notice and redouble our efforts,” said Tedros Adhanom Ghebreyesus, WHO director general, announcing the health emergency in Geneva.

But many experts said the decision should trigger a change of strategy as well as a major cash injection to stop the disease which has killed over 1600 people.

Until now, efforts to contain the disease have used the ring vaccination method which involves tracing the contacts of those infected and vaccinating them as well as health workers. The experimental vaccine—produced by Merck and approved for use in emergencies by WHO based on trials conducted during the 2014–2016 Ebola epidemic in West Africa—has been highly effective, protecting 93% of those treated. But because of an armed conflict, deep mistrust of foreign aid workers, and a lack of funding, some patients with Ebola have not come forward and around 10% of contacts, and contacts of contacts, have not been traced, according to WHO figures.

Derek Gatherer, lecturer in the division of biomedical and life sciences at Lancaster University, said: “We may need to consider moving to a mass vaccination programme, especially in places like Goma.”

“That will mean millions of doses of vaccine need to come off the assembly lines, and if the PHEIC galvanises government opinion to subsidise this, then it may achieve something positive in the very short term.”

But the DRC government firmly rejected the idea, saying it would cause confusion and more mistrust in the community. Those pushing for it have “no respect for ethics,” health minister Oly Olunga said.²

Merck’s single dose vaccine is suitable for at-risk communities. Johnson and Johnson’s vaccine, which has not been tested as much as Merck’s, is designed for protecting populations not immediately at risk and requires two doses two months apart. Because of the nature of the disease, Ebola vaccines can only be tested when there is an outbreak.

Josie Golding, epidemics lead at the Wellcome Trust, said there was a “pressing need to introduce a second vaccine, by Johnson and Johnson, in the DRC—to protect communities outside of the current outbreak zone who are likely to be affected next.”

Peter Piot, director of the London School of Hygiene and Tropical Medicine, said: “Facing this exceptionally complex epidemic, we must use all the tools and approaches at our disposal, including the coordinated use of both the Merck and Johnson and Johnson vaccines. WHO has sounded the global alarm. Now, it is up to the world to act.”

With WHO reporting seven murders and over 50 serious injuries of healthcare workers since January 2019, the prospect of a major increase of international teams on the ground—as in the 2014–2016 West African Ebola epidemic which killed 11 310 people—is slim. Investing in more vaccines may be more appealing to western governments, Gatherer said.

1 WHO. Ebola outbreak in the Democratic Republic of the Congo declared a Public Health Emergency of International Concern. 2019. www.who.int/news-room/detail/17-07-2019-ebola-outbreak-in-the-democratic-republic-of-the-congo-declared-a-public-health-emergency-of-international-concern.

2 Branswell H. Debate over whether to test a second Ebola vaccine turns acrimonious. 2019. www.statnews.com/2019/07/17/debate-testing-second-ebola-vaccine.

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