

Tens of thousands to test Ebola vaccines in affected countries: WHO (Update)

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A scanning electron micrograph of Ebola virus budding from a cell (African green monkey kidney epithelial cell line). Credit: NIAID

Human tests of two possible Ebola vaccines have proven safe and now tests to measure their efficiency will begin within weeks in the three west African countries ravaged by the deadly virus, the World Health Organization said Friday.

"These trials are about to begin for the two lead vaccines," WHO assistant director general Marie-Paule Kieny told reporters, adding that the vaccines would be tested on tens of thousands of people across Guinea, Liberia and Sierra Leone.

The Phase III testing to ensure the vaccines actually provide protection against the virus that has killed 8,259 people in the three African countries is set to begin in Liberia by the end of the month, she said.

Separate tests are scheduled to start in Sierra Leone and Guinea in February, she added.

There is no licensed treatment or vaccine for Ebola, and the WHO has endorsed rushing potential ones through trials in a bid to stem the epidemic.

The two potential vaccines that have been undergoing Phase 1 safety tests on humans are ChAd3, made by Britain's GlaxoSmithKline, and VSV-EBOV, manufactured by the Public Health Agency of Canada and developed by Merck.

Tests of the two potential vaccines have been conducted on volunteers in a range of countries, including Switzerland, Mali, Gabon, Britain, Germany, Canada and the United States.

Both have shown to have "an acceptable safety profile," Kieny said, relaying the findings of a high-level meeting of policy makers, researchers, regulators and vaccine developers in Geneva Thursday.

"That is really good news," she said, acknowledging that "the world is waiting for us to get these vaccines ready and out to the people with this virus raging through their communities."

Millions of doses

Millions of doses of the vaccines are expected to be available by the middle of the year, and tens of millions by 2016, Kieny said.

The three African countries struggling to stop Ebola have chosen radically different approaches to testing whether the vaccines will actually protect humans against the deadly virus.

Kieny said Liberia, where the outbreak has proven most fatal so far causing nearly 3,500 deaths, planned to test both vaccines against a third control vaccine, with around 9,000 people receiving each.

Guinea, meanwhile, aimed to test one of the vaccines using a so-called "ring study" approach that was used to eradicate smallpox, in which the entire village or community surrounding each infected person is vaccinated.

Kieny said that Guinea planned to offer 4,500 people immediate vaccination and another 4,500 later.

Sierra Leone plans to test one of the vaccines on around 6,000 people, who will receive their injections in a randomised order.

Before the trials can begin, Kieny said vaccine manufacturers would need to determine the best dosage, something that could take between two and four weeks.

While the global health community has been fast-tracking the development of the vaccines, she stressed that no steps were being skipped.

Phase II broadened safety and immunogenicity testing in people not

exposed to the virus, including tests on children and other special groups, would happen in nearby African countries in parallel with the efficacy tests, she said.

The duration of the phase III tests will depend on the speed of the epidemic in the areas the vaccines are tested, Kieny said.

One complicating factor could be that the vaccines being tested must be stored at super low temperatures of at least -80 degrees Celsius (-120 degrees Fahrenheit), but Kieny said special storage units were being set up in the three countries.

Humanity fights back

While they have come the furthest in tests, ChAd3 and VSV-EBOV are far from the only possible Ebola vaccines in the pipeline.

Johnson & Johnson said this week that human trials of its proposed vaccine had begun in Britain, and Kieny said the company also expected to soon be able to start efficacy tests.

And there are a range of others at different stages of development being made all over the world, including in the US, Russia and China, Kieny said.

"Clearly at this time last year, I would say the cupboard was empty ... but now the cupboard is clearly filling up rapidly," she said.

Describing 2014 as the year when "the Ebola virus challenged humanity," Kieny voiced confidence that this year would be remembered as the one when "humanity used our best scientific minds to fight back."

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