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Polio outbreaks in Africa caused by mutation of strain in vaccine

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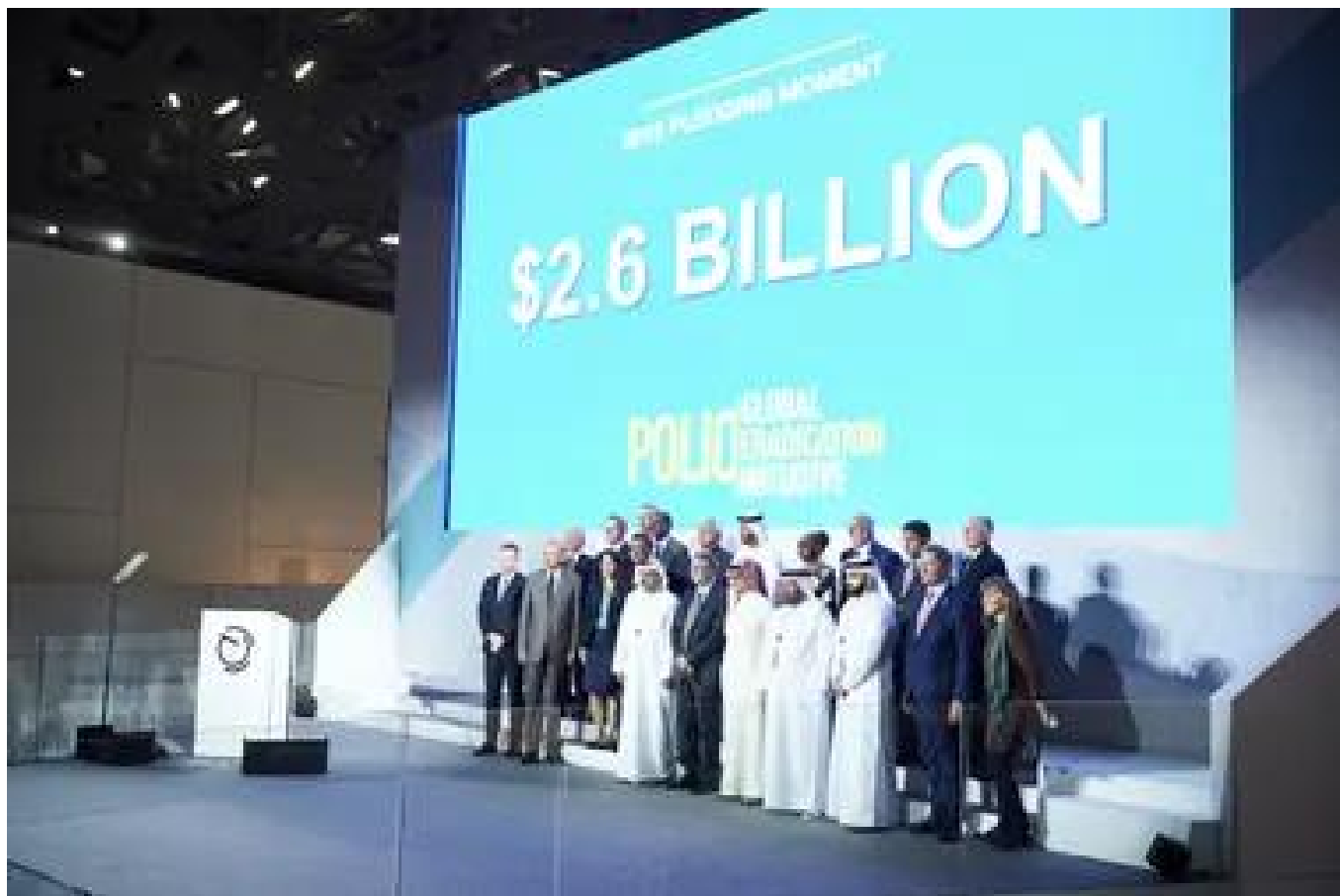
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New cases of polio linked to the oral vaccine have been reported in four African countries and more children are now being paralysed by vaccine-derived viruses than those infected by viruses in the wild, according to global health numbers.

The World Health Organization (WHO) and partners identified nine new cases caused by the vaccine in Nigeria, the Democratic Republic of the Congo, Central African Republic and Angola last week. Along with seven other African countries with outbreaks, cases have also been reported in Asia. In Afghanistan and Pakistan

polio remains endemic, and in Pakistan officials have been accused of covering up vaccine-related cases.



▲ \$2.6bn was recently pledged to renew efforts to eradicate polio. Photograph: Jonathan Gibbons/AP

Polio, a highly infectious disease that spreads through contaminated water or food, usually affects children under five, with around one in 200 infections resulting in paralysis. Of those paralysed 5-10% die due to crippled breathing muscles.

The WHO reports that as long as a single child remains infected, all children are at risk of contracting the disease. More than 95% of the population needs to be immunised for polio to fully be eradicated.

In developing countries the oral vaccine is used due to its low cost and accessibility, needing only two drops per dose. In western countries, a more expensive, injectable version of the vaccine - which contains an inactivated virus incapable of causing the disease - is used as a preventative.

The onset has been caused by a type 2 virus contained in the vaccine. Type 2 is a wild virus that was eliminated years ago, but in rare cases the live virus in oral polio vaccines can mutate into a form capable of igniting new outbreaks of the disease.

Just last week donors pledged \$2.6 bn (£2bn) to combat polio as part of the Global Polio Eradication Initiative (GPEI), which formed in 1988 with the goal of eradicating the disease by 2000. According to the WHO, wild poliovirus cases have fallen by more than 99% since 1988, from 350,000 in more than 125 endemic

countries to 33 reported cases in 2018. But despite this progress, numerous deadlines have been missed since the 1988 pledge.

A [report](#) released earlier this month by the Independent Monitoring Board, which independently assesses the GPEI's work and progress toward polio eradication, claimed that the vaccine-derived virus was causing an uncontrolled outbreak in west Africa. The report found “the strategy is already failing badly on the goal of reducing, and ultimately eliminating, vaccine-derived polioviruses” and argued that new strategies are needed to tackle the polio epidemic.

Dr Pascal Mkanda, head of the WHO's [Polio](#) Eradication Programme, said the latest outbreak was directly linked to low vaccination rates. The rise in vaccine-derived polio cases is caused by a mutated form of the disease found in faecal matter that targets children who have not been vaccinated, he said.



▲ Pakistani health authorities started a vaccination campaign after new cases were reported in November. Photograph: Fareed Khan/AP

“What we must do is extend the coverage of immunisation so that polio can no longer continue to survive,” said Mkanda.

Dr Edward Parker at the London School of Hygiene and Tropical Medicine said efforts to develop more stable polio vaccines by scientists were progressing.

“If they prove to be safe and effective in regions still affected by polio, these vaccines could be a key breakthrough in finally consigning this disease to the history books.”

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