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Typhoid conjugate vaccine gets WHO prequalification

On Jan 3, 2018, WHO announced the prequalification of a typhoid conjugate vaccine (TCV) manufactured by the Indian firm Bharat Biotech. The decision was expected after last year's endorsement by WHO's Strategic Advisory Group of Experts (SAGE) on immunisation, which recommended that the TCV be introduced for infants and children older than 6 months in typhoid-endemic countries.

SAGE suggested that places with high burdens of disease or high rates of drug-resistant bacteria should be prioritised. Soon afterwards, the Gavi Alliance stated that it would make US\$85 million available for eligible countries who wished to introduce the TCV. Worldwide, there are estimated 12 million cases of typhoid fever every year and around 128 000 deaths.

The vaccine, Typhar-TCV, has been licenced for use in India and Nepal as

a single intramuscular injection. The company is able to supply 50 million doses of the vaccine per year, but there are plans to raise its capacity to around 200 million doses. Other manufacturers are also developing TCVs. These vaccines are expected to become available over the next few years.

Andrew Pollard (Oxford University, Oxford, UK) led the research team that assessed the TCV. In the phase 2b human challenge study, the vaccine showed an efficacy of 54%. But that was under extremely stringent conditions. Pollard reckons that in the field, efficacy could be as high as 87%. "In places where there is poor water and sanitation, the roll-out of the TCV will lead to a huge reduction in typhoid fever", Pollard told *The Lancet Infectious Diseases*. "But we have to do this as quickly as possible because drug resistance is a real threat to some

of these populations". The emergence of cephalosporin-resistant *Salmonella* Typhi in south Asia is particularly concerning.

Denise Garrett, director of the Coalition against Typhoid (Washington DC, USA), welcomed the prequalification. "To finally have a vaccine that we can use on children under the age of 2 years is fantastic news", she said. "The idea now is to start advocacy campaigns in the endemic countries and to encourage policy makers to adopt the vaccine". Ongoing trials in Bangladesh, Malawi, and Nepal will eventually result in the vaccination of approximately 85 000 children. "We will follow them over the next few years to really get a measure of the potential population impact of the TCV", concluded Pollard.

Talha Burki

Infectious disease surveillance update

For more on **listeriosis in South Africa** see http://www.un.org/apps/news/story.asp?NewsID=58414#WnJPQahl_IX

For more on the **source of the listeriosis outbreak** see <https://www.foodqualitynews.com/Article/2018/01/29/False-reports-circulate-in-South-African-Listeria-outbreak>

For more on **yellow fever virus infection in Brazil** see <http://outbreaknewstoday.com/brazil-yellow-fever-deaths-rise-81-since-july-24148/>

For more on the **MERS-CoV in Saudi Arabia** see <http://www.who.int/csr/don/26-january-2018-mers-saudi-arabia/en/>

For more on **influenza in North Korea** see <https://reliefweb.int/report/democratic-peoples-republic-korea/dpr-korea-influenza-outbreak-information-bulletin>

Listeriosis in South Africa

820 confirmed cases of listeriosis have been reported in South Africa since an outbreak was declared on Dec 5, 2017—the largest outbreak of the disease. As of Jan 29, 82 deaths have been reported. Most of the reported cases were from Gauteng province (59%), which includes Pretoria and Johannesburg, Western Cape province (13%), and KwaZulu-Natal province (7%). Infants are the most affected group with 40% of cases occurring in newborns; cases have been reported across all socioeconomic backgrounds. The 3-week incubation period of the bacteria has made identifying the source of the infection challenging. Genetic testing indicates that most infections have been caused by the same strain (type 6); however, this strain has not been found in samples tested from processing factories, food from patients' homes, or abattoirs.

Yellow fever virus in Brazil

Between July 1, 2017, and Jan 30, 2018, 233 cases of yellow fever were reported in Brazil, including 81 deaths. On Jan 25, Brazilian health authorities began a campaign with the aim of vaccinating 23·8 million people across the states of Rio de Janeiro, São Paulo, and Bahia using a dose fractionation strategy.

Middle East respiratory syndrome coronavirus in Saudi Arabia

From Dec 9, to Jan 17, 20 additional cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection have been reported in Saudi Arabia, including nine deaths. These cases are from 11 areas of the country with ages ranging from 28 to 89 years. Five of the patients reported having contact with dromedary camels. Globally,

2143 cases of MERS-CoV infection have been reported to WHO, including 750 deaths.

Influenza H1N1 in North Korea

Between Dec 1, 2017, and Jan 16, 2018, 126 574 cases of suspected influenza have been reported by the Ministry of Public Health in North Korea. 81 640 have been confirmed as H1N1 and four deaths have been reported. The outbreak has spread across the country; 28·7% of the cases have been reported from Pyongyang. 25% of the suspected cases were among children aged 0–7 years, 23% were in those aged 8–16 years, and 53% were in people aged 17 years and older. The Ministry of Health has requested influenza vaccine for those at the highest risk of complications and oseltamivir for health-care workers.

Ruth Zwizwai