



FAQs about typhoid

What is typhoid?

Typhoid is a disease caused by bacteria in contaminated food and water. The disease's main symptoms are prolonged fever, loss of appetite, weakness, stomach pain and constipation. In rare cases, it can cause complications that lead to damage to organs such as the intestine. Read more [here](#).

Which countries are at risk of typhoid?

The disease is a public health issue in countries with poor water and sanitation infrastructure, and low hygiene standards. It is most common in south Asia and sub-saharan Africa.

The World Health Organization estimates that there are 21 million cases of typhoid and 222,000 typhoid-related deaths around the world every year. Children are at the greatest risk of contracting the disease. Read more [here](#).

Is the disease contagious?

Yes. The bacteria that causes typhoid is present in contaminated food and water and can be transmitted through the oral-fecal route. Typhoid is common in areas with inadequate water and sanitation facilities where waste water mixes with drinking water. Read more [here](#)

Typhoid bacteria are shed present in the stool of typhoid patients as well as those who have recovered from the disease but continue to carry the organisms in their intestines (typhoid carriers). Typhoid bacteria can spread if a person drinks contaminated water and also if one consumes food or drinks prepared by food handlers with poor hygiene practices. For example: a person can contract the infection if s/he eats food handled by someone with typhoid fever who hasn't washed their hands carefully after using the toilet.

What is a conjugate vaccine?

There are four types of vaccines that aim to build immunity against certain disease. Read more [here](#).

Conjugate vaccines use a specific piece of the bacteria, such as its protein, to develop a targeted response by the body's immune system. The typhoid conjugate vaccine has been found to have improved immunological properties, to offer a longer duration of protection against germs, and to be more suitable for use in younger children.

Is the vaccine safe?

Yes. The vaccine has been pre-qualified by the World Health Organization and has been found to be safe in clinical trials on 112 adult volunteers conducted by Oxford University. Results of the trial which was funded by the Bill and Melinda Gates Foundation have been published in *The Lancet*. Read more [here](#).

An emergency vaccination campaign in Hyderabad in January 2018 by the Sindh health department, in collaboration with Aga Khan University, found the vaccine to be safe with no adverse events being noted in 99.7 per cent of children who received doses.

Why is Pakistan introducing a typhoid vaccine?

Typhoid can be treated through the use of antibiotics but Pakistan has seen a number of cases of the disease that are extremely-resistant to antibiotics.

Over 1,000 cases of extremely drug-resistant typhoid have been noted in Hyderabad alone in Pakistan's province of Sindh since 2016. The disease has now spread to other cities and rural areas in Sindh as well as areas in the provinces of Balochistan and Khyber Pakhtunkhwa. This is an alarming development since only six cases of drug-resistant typhoid were found in the whole of Pakistan over a five-year period between 2009 and 2014.

Since the disease has become resistant to five classes of antibiotics, vaccines represent a much better way to protect the population from the disease.

In April 2018, the [Expanded Programme for Immunization](#) (EPI) decided to introduce a typhoid conjugate vaccine through its routine immunization programme which immunizes children from ten preventable diseases.

What is AKU's role in the typhoid outbreak?

Detection: The Aga Khan University's laboratory network detected cases of typhoid fever in Hyderabad and informed the local government, the World Health Organization and the National Institutes of Health. Researchers at the University then worked with the UK's Wellcome Sanger Institute to explore the genetic make-up of the disease. Read more [here](#)

Partnering on a community intervention: The University then worked with the Sindh government to launch an emergency vaccination campaign in Hyderabad. The intervention proved that the vaccine was safe with no adverse events being noted in 99.7 per cent of children who received doses.

Doses of the vaccine were purchased through funding from the Bill and Melinda Gates Foundation's Emergency Response fund after AKU researchers presented data about the outbreak at an international summit in Uganda in April 2017. Read more [here](#).

Policy advocacy: Researchers from Aga Khan University presented data about new cases of the disease on April 18th at a meeting of the National Immunization Technical Advisory Group in Islamabad. The organization, which is chaired by key immunization officials and public health experts, decided to launch the vaccine through the country's routine immunization programme in light of the evidence presented at the meeting.

What is the process for introducing the vaccine?

GAVI, a global, public-private partnership committed to increasing access to vaccines, has pledged US\$ 85 million in funding to enable the global launch of the typhoid conjugate vaccine.

The Ministry of National Health Services, Regulations and Coordination will now submit an application to GAVI, a global vaccine alliance, to seek funding for the vaccination.

Who will be supplying the vaccine?

The typhoid conjugate vaccine has been pre-qualified by the World Health Organization. This step enables the procurement and supply of this life-saving vaccine to UNICEF, Pan-American Health Organization (PAHO) and GAVI-supported countries such as Pakistan. Pakistan will seek funding from GAVI for the vaccine which will then be supplied by the WHO. Read more [here](#).