Together We Can
Take on Typhoid

Typhoid + Water, Sanitation, and Hygiene

Key Messages

- **Transmission of typhoid is directly linked** to unsafe water, inadequate sanitation, and lack of appropriate hygiene.
- **Improving WASH infrastructure is a proven way to reduce the burden of typhoid** in communities but may take capitol investments and long-term implementation; vaccines can have a much more immediate health impact.
- **WASH interventions are a key part of the integrated package of solutions** required to take on typhoid alongside typhoid conjugate vaccines (TCVs).

Safe water, sanitation, and hygiene (WASH) are critical to preventing the spread of typhoid.

Typhoid is transmitted via the fecal-oral route, which means that the typhoid-causing bacteria can pass into people's mouths through food, water, hands, or objects that have been contaminated with fecal matter. Solutions such as water treatment, sanitation, and proper handwashing and food-handling practices can save lives and protect people from typhoid infection. WASH solutions should be integrated into all efforts to take on typhoid.

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Photo: TyVAC/Kudzai Tingo

Typhoid

Typhoid is a serious and potentially life-threatening enteric fever spread through contaminated food and water.

While largely eliminated in industrialized countries, it remains a substantial public health issue that disproportionately affects children and adolescents in low- and middle-income countries. The Global Burden of Disease study estimates that in 2023 there were **more than 6 million cases and more than 71,000 deaths due to typhoid worldwide**. However, the burden is likely underestimated due to difficulties with surveillance and diagnostics.

Research shows that the burden of typhoid goes beyond physical illness and mortality. Even with prompt treatment with antibiotics, **typhoid infections can force children to miss school for weeks**, impacting attendance and performance. **A child's illness has catastrophic economic impacts on the family** due to medical and transport expenses, and time lost from work to care for a sick child.

Improved water quality, sanitation, and hygiene are the major ways to break the typhoid transmission cycle in the long term. However, until these investments can be made in all countries, vaccination with TCV is an important and effective way to prevent typhoid.

Expanded use of TCVs through routine immunization will allow children to remain healthy, stay in school, and for families to continue to work and prosper, preventing the socioeconomic burden from typhoid. It also has the potential to reduce the need for antibiotics and slow further emergence of drug-resistant typhoid.

WASH

A sustainable supply of clean water for drinking, bathing, and cooking is a necessity for all people to live a full, healthy life. Yet in 2025, 2.1 billion people—1 in 4 worldwide—lacked access to safe drinking water.

An even greater 3.4 billion did not have safe sanitation services, and 1.7 billion lacked basic handwashing facilities. When fecal matter is not handled safely, the pathogens contaminate food and water supplies, ultimately being ingested by people. Communities without access to properly managed water and sanitation are therefore at higher risk for waterborne diseases, including typhoid.

One way to stop these cycles is to interrupt the pathway of infection—through filtering and purifying water supplies; installing and maintaining pipes, sewers, toilets, and other sanitation and fecal sludge management systems; and encouraging hygiene behaviors such as handwashing and safe food handling. These efforts are collectively referred to as WASH.

Repeated infections within families and communities leads to cycles of disease and poverty and increases the use and misuse of antibiotics, which can in turn foster drug-resistant infections.

Safely separating waste from water sources and ensuring that water is treated and free of contamination can help prevent the spread of typhoid along with many other waterborne diseases.

This progress has happened in high-income countries, where the burden of typhoid dropped significantly after the implementation of water and sanitation systems. Because typhoid bacteria can also spread from fecal matter to hands and get into food, **proper food-handling and hygiene practices—including handwashing with soap and water at key times, and boiling or treating food and beverages—play a large role in the prevention of typhoid**. Improving WASH can also help prevent the development and spread of drug-resistant typhoid, which has become a global concern.

Improving WASH infrastructure, however, is complicated, expensive, and time-intensive. This has led many typhoid control experts to support a readily available and effective solution: vaccines. Momentum for typhoid vaccination has accelerated with the availability of a World Health Organization-prequalified TCV, which can be safely administered to young children through routine immunization. **Given the significant burden of typhoid among hard-to-reach, high-risk populations where WASH progress may be slow, the role of preventive vaccines alongside WASH interventions becomes even more critical.**

Comprehensive typhoid prevention and control should include both vaccines and improvements in WASH integrated together. **While vaccination can save and improve lives now, long-term investments in WASH infrastructure can create a future where typhoid and other diseases are removed from the water altogether.**

In Kampala, Uganda, a 2015 outbreak of typhoid caused by contaminated water and passion fruit juice sold in public markets stopped when the government implemented water treatment products and educated consumers to avoid untreated beverages.

Photo: PATH/Asim Hafeez

Typhoid + WASH

Take Action Now!

- **Advocates, experts, and decision-makers in the WASH and vaccination sectors should collaborate** to advance, implement, and evaluate integrated solutions for typhoid and other waterborne diseases.
- **Raise awareness of typhoid and the need for integrated solutions** across and within WASH and health advocacy and policy communities.
- **Integrate evidence-based WASH interventions with typhoid vaccination, treatment, and surveillance** in comprehensive typhoid prevention and control policies and strategies.

Additional Resources

- **Take on Typhoid**
- **WaterAid case study: Hygiene promotion through immunization**

Typhoid +

Visit www.takeontyphoid.org for the complete series, which includes information about:

- Climate Change
- Drug Resistance
- Forced Migration
- Universal health coverage (UHC) and the Sustainable Development Goals (SDGs)
- Urbanization
- Water, Sanitation, and Hygiene

TyVAC Typhoid Vaccine Acceleration Consortium
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