

Burden of Typhoid in Zambia

Zambia is a typhoid-endemic country. The Global Burden of Disease study estimated that, in 2019, there were at least:

17,860 typhoid cases (98 cases per 100,000)
333 typhoid deaths
25,428 disability-adjusted life-years lost to typhoid¹

While typhoid is rarely fatal, the recovery is long and difficult. The disease takes time, money, and productivity from those infected and their families and is associated with numerous long-term complications.

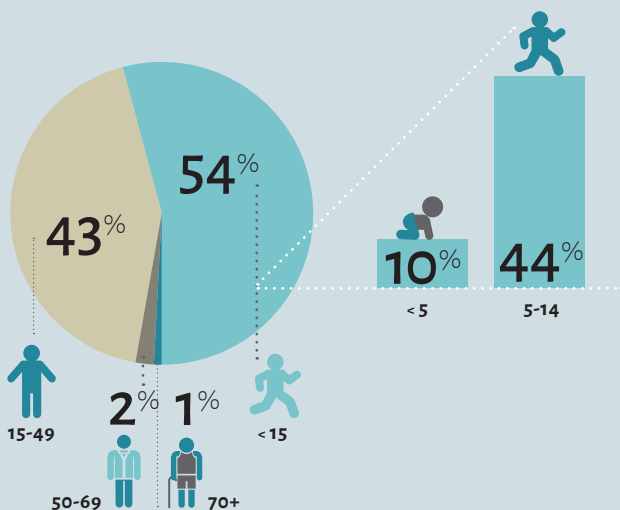


Most typhoid cases in Zambia occur in children **younger than 15 years old.**



Photo: PATH/Gabe Bienyzycki

TYPHOID CASES IN ZAMBIA BY AGE (2019)



Drug-resistant typhoid strains are a growing problem in Zambia, regionally, and across the globe.



Global data show that the multidrug-resistant (MDR) H58 typhoid strain prevalence has **increased dramatically since 1992.**²



An outbreak in Lusaka from 2010-2012 sickened 2,040 people, of which nearly 90% were children under 15 years old. Analysis of samples from the outbreak showed it was caused by a variant of the H58 typhoid strain.³



More than 80% of the isolates analyzed showed high levels of resistance to **5 of the core antimicrobials available** to treat typhoid. A few of the isolates also showed low-level resistance to ciprofloxacin, a common treatment for typhoid.³



As drug-resistant typhoid becomes more common, it will become more difficult to treat and **force the use of more expensive and less readily-available** treatment options.

Typhoid conjugate vaccines (TCVs) in Zambia

The World Health Organization (WHO) recommends the introduction of prequalified TCVs be prioritized in countries with a high burden of typhoid disease or a high burden of drug-resistant typhoid. Gavi, the Vaccine Alliance support for introduction is **available now**. TCVs:



Are highly effective and safe for children as young as **6 months** of age;



Require a **single dose** to prevent 79-85% of typhoid cases in children;⁴



Offer strong protection for **at least 4 years**; and



Can be **co-administered with measles-rubella** vaccine.⁵

Findings from an economic analysis predict that, even in the absence of a Gavi subsidy, a catch-up campaign with TCV could be cost-effective in Zambia.⁶



Let's Take on Typhoid in Zambia

- ✓ Typhoid is endemic in Zambia, with more than **17,000** cases per year.
- ✓ Zambia's burden of typhoid is most heavily borne by children **younger than 15** years of age.
- ✓ Data show an increase in **drug-resistant typhoid** in Zambia, regionally, and globally.
- ✓ **TCVs** are safe, effective, and WHO-recommended for routine immunization as part of a cost-effective, integrated approach to typhoid prevention and control alongside safe water, sanitation, and hygiene interventions.
- ✓ **Gavi support** for TCV introduction is available **now**.

Photo: PATH/Gabe Bienczynski

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3. Hendriksen RS, Leekitcharoenphon P, Lukjancenko O, et al. Genomic signature of multidrug-resistant *Salmonella enterica* serovar Typhi isolates related to a massive outbreak in Zambia between 2010 and 2012. *Journal of Clinical Microbiology*. 2015;53:262-272.
4. Patel PD, Patel P, Liang Y, et al. Safety and efficacy of a typhoid conjugate vaccine in Malawian children. *New England Journal of Medicine*. 2021;385(12):1104-1115.
5. Sirima SB, Ouedraogo A, Barry N, et al. Safety and immunogenicity of Vi-typhoid conjugate vaccine co-administration with routine 9-month vaccination in Burkina Faso: A randomized controlled phase 2 trial. *International Journal of Infectious Diseases*. 2021;108:465-472.
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