

Burden of Typhoid in **Uganda**

Uganda is a typhoid-endemic country. The Global Burden of Disease study estimated that, in 2017, there were at least:

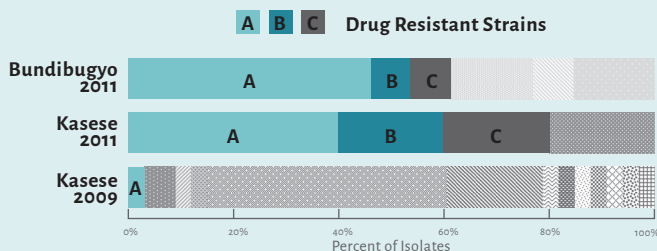
56,135 typhoid cases (144 cases per 100,000)
657 typhoid deaths
50,644 disability-adjusted **life-years lost** to typhoid¹

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.

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



During an outbreak in Bundibugyo and Kasese Districts from 2008 to 2011, multidrug-resistant strains increased from just 5% of isolates in 2009 to 83% of isolates in 2011.²



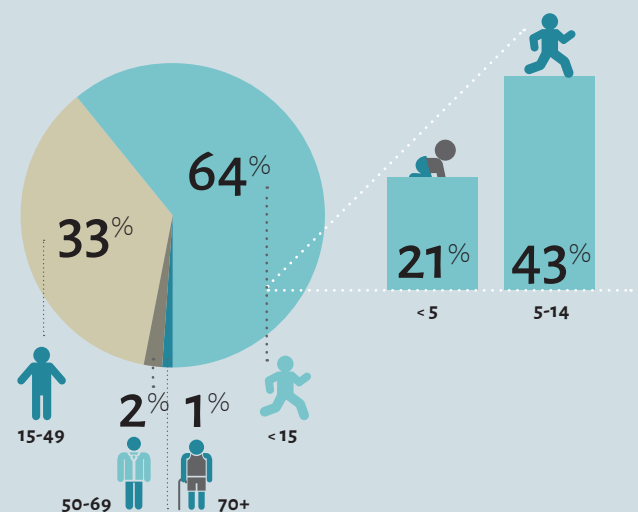
During the 2015 outbreak in Kampala, which caused over 10,000 suspected cases, one analysis found that 22.7% of isolates had multidrug resistance genes, and all showed reduced susceptibility to ciprofloxacin.³



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.

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

TYPHOID CASES IN UGANDA BY AGE (2017)



Typhoid conjugate vaccines in Uganda

Typhbar-TCV® is a newly licensed and World Health Organization (WHO)-prequalified and recommended tool for typhoid prevention in endemic areas. **Gavi, the Vaccine Alliance support for introduction is available now.**

Typhbar-TCV is highly effective and safe for children as young as 6 months of age,⁴ and:



Only requires **one dose**;



May be **more effective and longer-lasting** than other previous typhoid vaccines; and



Can be **co-administered with measles-containing** vaccine.

A recent modeling analysis shows that in Uganda, a catch-up campaign up to 15 years of age followed by routine immunization is the preferred strategy and likely cost effective with support from Gavi, the Vaccine Alliance.*⁵

*At a willingness to pay threshold of \$100 or more to avert one disability-adjusted life-year.

Let's Take on Typhoid in Uganda

- ✓ Typhoid is endemic in Uganda, with more than **56,000** cases per year.
- ✓ Uganda's burden of typhoid is most heavily borne by children **under 15** years of age.
- ✓ Data show an increase in **drug-resistant typhoid** in Uganda and globally.
- ✓ **A new TCV** is 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/Will Boase

1. Institute for Health Metrics and Evaluation. Global Burden of Disease. 2018. Accessed via: ghdx.healthdata.org/gbd-results-tool.
2. Walters MS, Routh J, Mikoleit M, et al. Shifts in geographic distribution and antimicrobial resistance during a prolonged typhoid fever outbreak – Bundibugyo and Kasese Districts, Uganda, 2009–2011. *PLOS Neglected Tropical Diseases*. 2014;8(3):e2726.
3. Nsimire J, Buule J, Hughes P, et al. Antimicrobial susceptibility and resistance patterns of *Salmonella* Typhi during the 2015 typhoid outbreak in Kampala Uganda. Presented at: 10th International Conference on Typhoid and Other Invasive Salmonellosis 2017.
4. Jin C, Gibani MM, Moore M, et al. Efficacy and immunogenicity of a Vi-tetanus toxoid conjugate vaccine in the prevention of typhoid fever using a controlled human infection model of *Salmonella* Typhi: a randomized control, phase 2b trial. *The Lancet*. 2017;390(10111):2472–2480.
5. Blicke J, Antillon M, Pieters Z, et al. Cost-effectiveness of routine and campaign use of typhoid Vi-conjugate vaccine in Gavi-eligible countries: A modelling study. *The Lancet Infectious Diseases*. 2019;19(7):728–739.