

Burden of Typhoid in Guinea

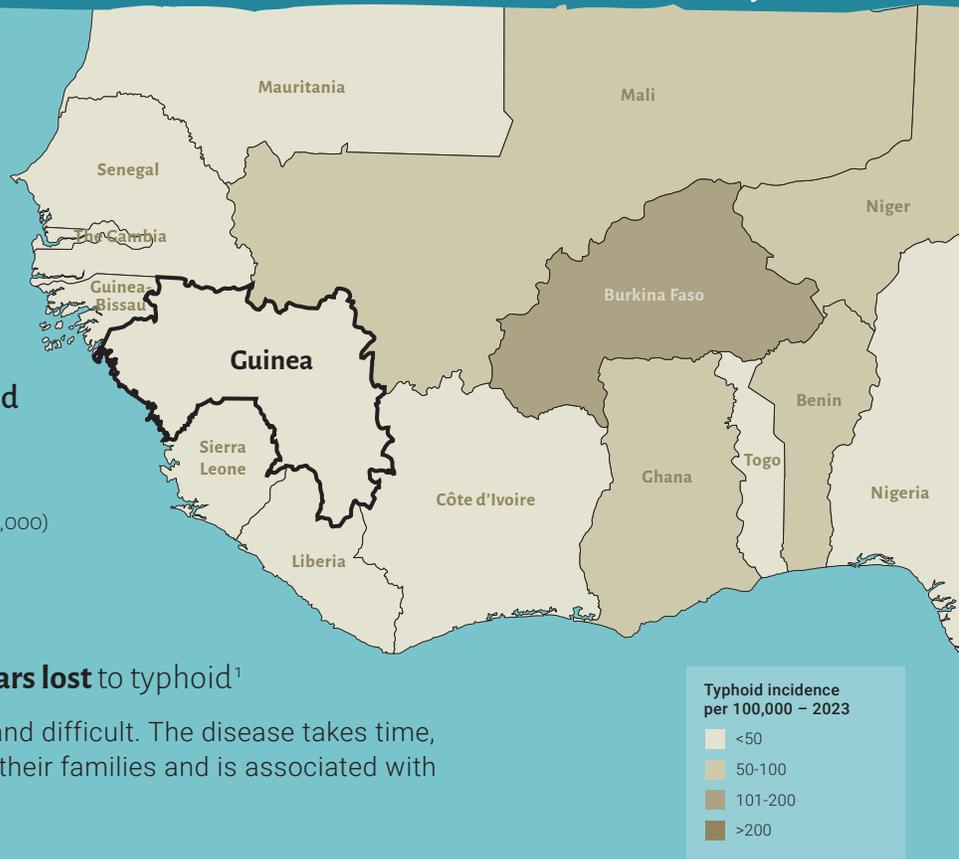
Guinea is a typhoid-endemic country. The Global Burden of Disease 2023 study estimated that Guinea experienced at least:

6,972 typhoid cases (49 cases per 100,000)

114 typhoid deaths

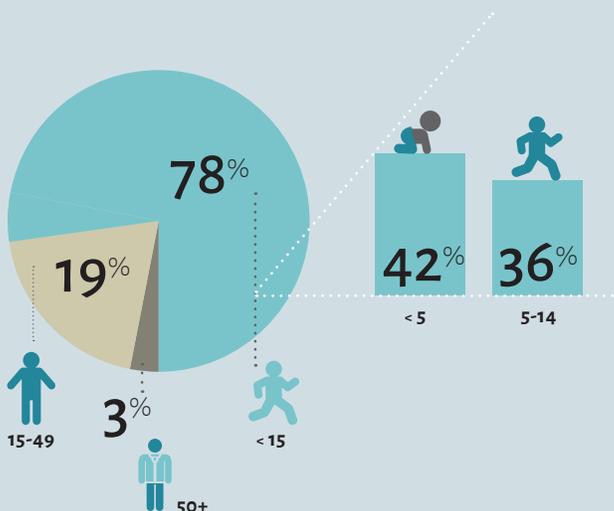
9,250 disability-adjusted **life-years lost** to typhoid¹

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 Guinea occur in children **younger than 15 years old**.

TYPHOID CASES IN GUINEA BY AGE (2023)



The risk of typhoid may be increasing in Guinea.



In Guinea, nearly a third of the population do not have access to basic drinking water services, and more than **68% lack access to basic sanitation services**.⁴ This drastically increases typhoid risks.



Natural disasters like droughts and floods have become **more frequent and severe in Guinea**³ due to climate change, risking displacement, further disruption to water and sanitation infrastructure, and increased infections, including typhoid.



Typhoid intestinal perforations (TIP) are a severe and life threatening complication of typhoid.

A study of TIP in Guinea found TIP patients as young as 4 years old.⁴ These cases have a more complicated recovery, are more expensive to treat, and have a higher mortality rate.



Global data show that multidrug-resistant (MDR) typhoid prevalence has **increased dramatically since 1992**.⁵ While **drug-resistant typhoid** has not been identified in Guinea, it has been found in other West African countries, including Ghana.⁶ These cases are more difficult to treat and force the use of more expensive and less readily available treatment options.

Typhoid conjugate vaccines (TCVs) in Guinea

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. Support for introduction from Gavi, the Vaccine Alliance 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;⁷



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



Can be **co-administered** with measles, meningococcal A, and yellow fever vaccines.^{8,9}

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 Guinea.¹⁰

Let's Take on Typhoid in Guinea

- ✓ Typhoid is endemic in Guinea, with more than **6,000** cases per year.
- ✓ Guinea's burden of typhoid is most heavily borne by children **younger than 15** years of age.
- ✓ **Increased climate-related weather events** like droughts and floods risk further disruption to water and sanitation services and increase typhoid risk.
- ✓ **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**.

1. Institute for Health Metrics and Evaluation. Global Burden of Disease. 2023. Accessed via: ghdx.healthdata.org/gbd-results-tool.
2. Sustainable Development Report. Guinea. 2022. Available at: <https://dashboards.sdgindex.org/profiles/guinea/indicators..>
3. IMF. Natural disasters and climate policies in Guinea. 2024. Available at: <https://www.elibrary.imf.org/view/journals/002/2024/131/article-A002-en.xml.4>.
4. Sukri L, Banza A, Shafer K, et al. Typhoid intestinal perforation in Francophone Africa, a scoping review. *PLOS Global Public Health*. 2024;4(3):e0003056.
5. Wong VK, Baker S, Pickard DJ, et al. Phylogeographical analysis of the dominant multidrug-resistant H58 clade of Salmonella Typhi identifies inter- and intracontinental transmission events. *Nature Genetics*. 2015;47(6):632-639.
6. Park SE, Pham DT, Boinett C, et al. The phylogeography and incidence of multi-drug resistant typhoid fever in sub-Saharan Africa. *Nature Communications*. 2018;9(1):5094.
7. 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.
8. Sirima SB, Ouedraogo A, Barry N, et al. Safety and immunogenicity of co-administration of meningococcal type A and measles-rubella vaccines with typhoid conjugate vaccine in children aged 15-23 months in Burkina Faso. *International Journal of Infectious Diseases*. 2021;102:517-526.
9. 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.
10. Bilcke J, Antillón M, Pieters Z, et al. Cost-effectiveness of routine and campaign use of typhoid Vi-conjugate vaccine in Gavi-eligible countries: A modelling study. *Lancet Infectious Disease*. 2019;19(7):728-739