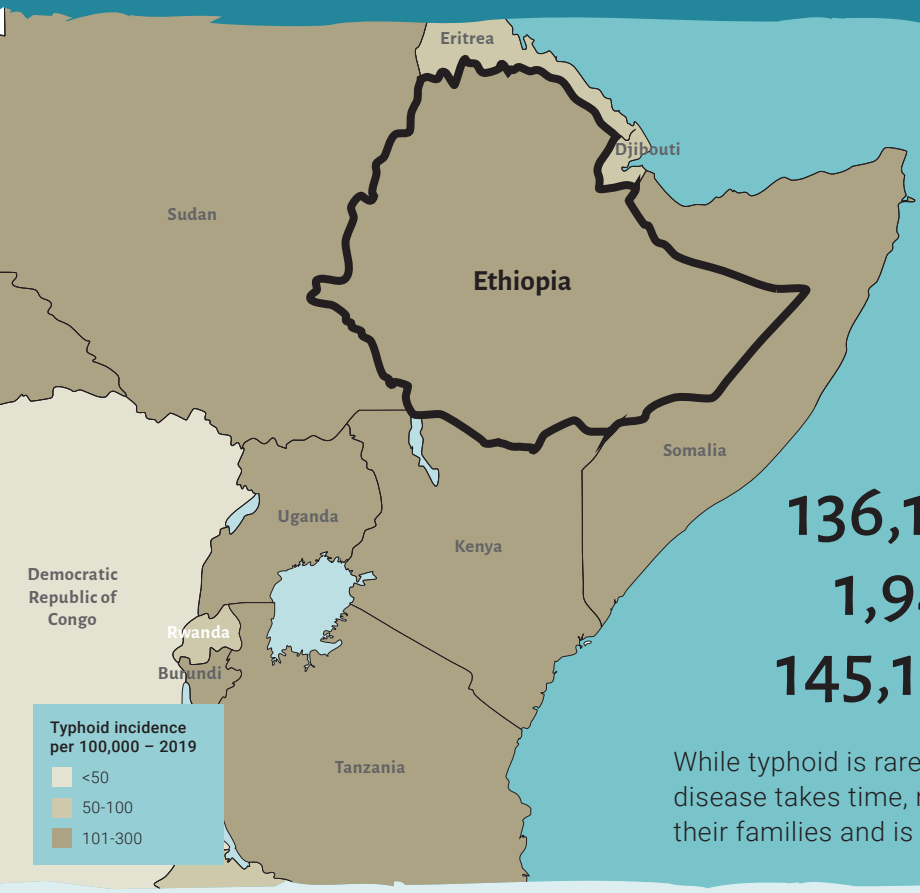


Burden of Typhoid in

Ethiopia

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

136,115 **typhoid cases** (127 cases per 100,000)

1,942 **typhoid deaths**

145,147 disability-adjusted **life-years lost** to typhoid[1]

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.

The risk of typhoid may be increasing in Ethiopia.

Typhoid is spread through contaminated food and water. **Half of the population does not have access to basic drinking water services** and **more than 90% do not have access to basic sanitation services**, increasing typhoid risk.[2]

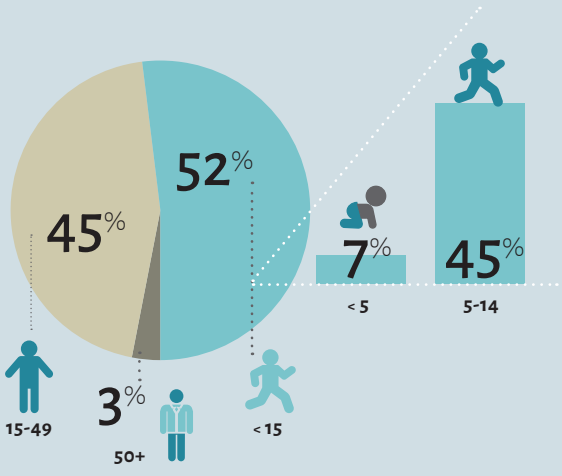
A recent analysis of data from Jimma Zone, Ethiopia, suggests that **the magnitude of typhoid fever rises at the start of wet months** (end of the dry season) as the highest burden was observed during March. The analysis posits that the end of the dry season is when the rural water supply is the lowest and people congregate at the source of water. At the same time, the rain helps spread water supplies that already contain the bacteria that causes typhoid.[3]

Global data show that **multidrug-resistant (MDR) typhoid prevalence has increased dramatically** since 1992.[4] A study in Adama, Ethiopia, found that 67% of typhoid samples were MDR.[5] A recent meta analysis also concluded that ***Salmonella* Typhi is resistant to most nationally recommended antibiotics in Ethiopia**.[6] Drug resistant typhoid is more difficult to treat and forces the use of more expensive and less readily available treatment options.

Another meta analysis of data from Ethiopia found higher levels of *Salmonella* Typhi isolates based on stool culture diagnosis as compared to blood culture. This may be an **indicator of high chronic carriers' status** of the participants.[7]

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

TYPHOID CASES IN ETHIOPIA BY AGE (2019)



Typhoid conjugate vaccines (TCVs) in Ethiopia

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.

Prequalified TCVs are highly effective and safe for children as young as 6 months of age. Recent data from Malawi show TCV is safe and 84% effective in preventing typhoid.[8] TCVs:

- Require **one dose**;
- Are **more effective and may be longer-lasting** than other typhoid vaccines; and
- Can be **co-administered with measles and meningococcal A vaccines.**[9]

Findings from an economic analysis predict that, even in the absense of a Gavi subsidy, **a catch-up campaign with TCV could be cost-effective in Ethiopia**.[10]

Let's Take on Typhoid in Ethiopia

- Typhoid is endemic in Ethiopia, with more than *136,000* cases per year.
- Ethiopia's burden of typhoid is most heavily borne by children *younger than 15* years of age.
- Data show that *extreme climate events may exacerbate the risk of typhoid* in Ethiopia and the African region.
- *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*.

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9. 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.
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TyVAC Typhoid Vaccine Acceleration Consortium
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