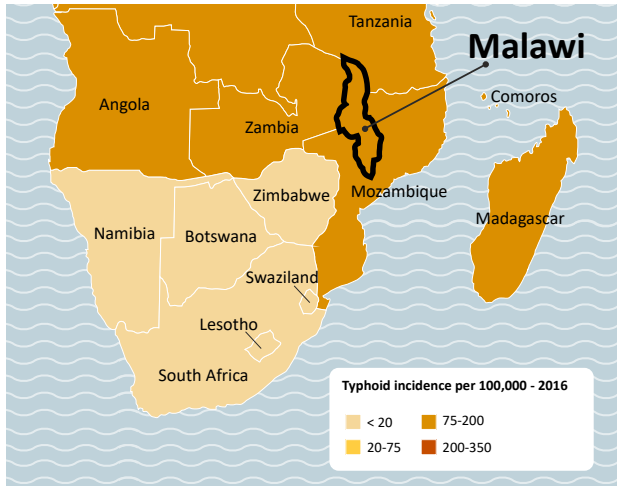
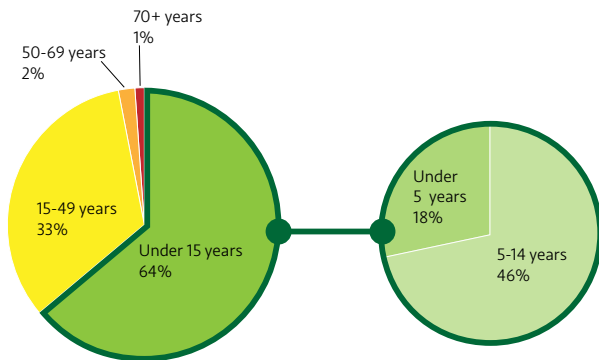


## Burden of typhoid in Malawi



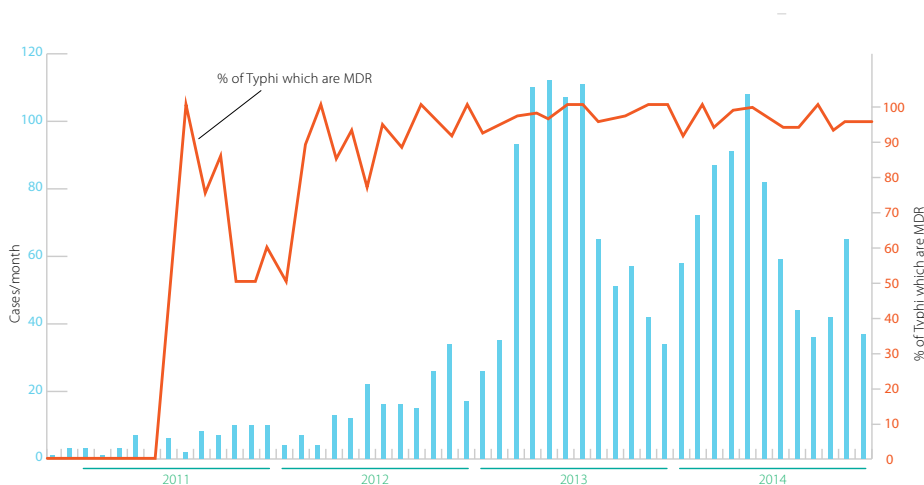
**Malawi is a typhoid-endemic country, with more than 16,000 cases estimated per year.<sup>1</sup>**

- 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.
  - » A typhoid cost-of-illness study to quantify these impacts is currently underway.
- It is estimated that, in 2016, there were at least:
  - » 16,144 typhoid cases (90 cases per 100,000);
  - » 227 typhoid deaths; and
  - » 16,733 disability-adjusted life-years lost to typhoid.<sup>1</sup>



**Most typhoid cases in Malawi occur in children under 15 years old.**

- An estimated 64% of typhoid cases and 67% of typhoid deaths occur in children under 15 years of age.<sup>1</sup>
- However, the burden in this age group may be even higher—in 2017, 97% of cases in Blantyre were in children under 15.



**Drug resistance has likely caused typhoid incidence in Malawi to increase rapidly over the past years.<sup>2,3</sup>**

- Data from Blantyre show that multidrug-resistant (MDR) typhoid strains became prominent in 2011.
- Starting in 2013, the incidence of typhoid has significantly increased.

1. Institute for Health Metrics and Evaluation. Global Burden of Disease. 2017. Accessed via: [ghdx.healthdata.org/gbd-results-tool](http://ghdx.healthdata.org/gbd-results-tool).  
 2. Feasey NA, Gaskell K, Wong V, et al. Rapid emergence of multidrug resistant, H58-lineage *Salmonella* Typhi in Blantyre, Malawi. *PLoS Neglected Tropical Diseases*. 2015;9(4):E0003748.  
 3. Feasey NA, Masesa C, Jassi C, et al. Three epidemics of invasive multidrug-resistant *Salmonella* bloodstream infection in Blantyre, Malawi, 1998-2014. *Clinical Infectious Diseases*. 2015;61(Suppl 4):S363-S371.

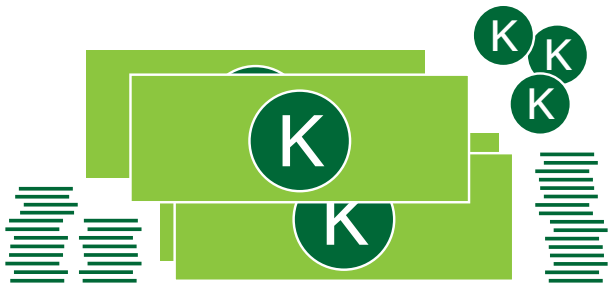
# Typhoid conjugate vaccines and Malawi

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



**Typbar-TCV, the first WHO-prequalified typhoid conjugate vaccine (TCV), is highly effective and safe for children as young as 6 months of age,<sup>4</sup> and:**

- Only requires one dose;
- May be more effective and longer-lasting than older typhoid vaccines; and
- Can be co-administered with measles vaccine.



**Preliminary findings from an economic analysis predict that, even in the absence of a Gavi subsidy, a catch-up campaign followed by routine immunization with TCV would be potentially cost-effective in Malawi.<sup>5</sup>**

## Let's take on typhoid in Malawi:

- Typhoid is endemic in Malawi, with more than 16,000 cases per year nationwide.
- Malawi's burden of typhoid is most heavily borne by children under 15 years of age.
- Data show a rise in cases following an increase in drug resistance.
- 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.

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. Bilcke J, et al. Setting global performance standards for a cost-effective typhoid conjugate vaccine strategy; modelling study. *In prep*.