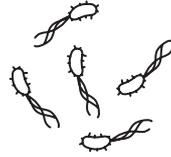


Typhoid Fever (or Enteric Fever)



A **food & water borne disease** mostly transmitted through **contaminated food or water**¹



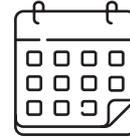
Caused by highly virulent and invasive **enteric bacterium *Salmonella Typhi*** (S. Typhi)²



An estimated **9 million infections** and **110 000 deaths** occurred in 2019 worldwide³



Transmission risk increased when **lacking access to safe water, adequate sanitation or poor hygiene among food handlers**²



Incubation period from 7 to 14 days²

From exposure to outcomes:



10-15% of hospitalized patients **develop complications**²



Complications include intestinal haemorrhage, intestinal perforation and encephalopathy²



Fatality rates range from:

- **1-4%** if **adequate therapy** is undertaken²
- **10-20%** if **untreated or treated with inappropriate antibiotics**²



2-5% of cases develop into **chronic carriers**²



Typhoid fever treatment



The treatment of typhoid fever consists of antibiotics^{2,4}

Only 1-4% of suspected typhoid cases are **culture-confirmed**⁴

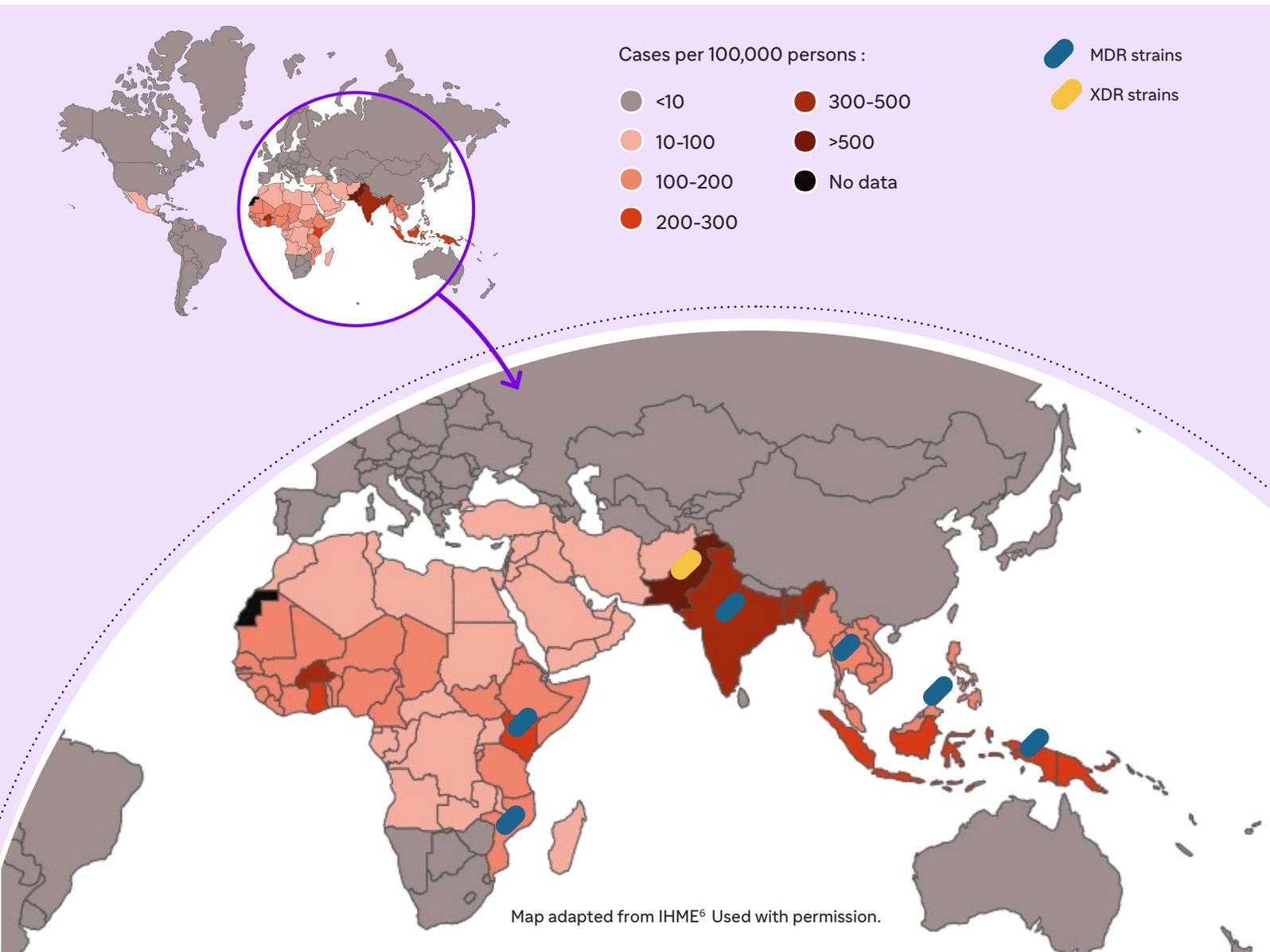
Antibiotics administered before diagnosis confirmation => **emergence of drug-resistant *S. Typhi* strains**⁵



In recent decades, resistant *S. Typhi* strains have emerged:

- **MDR***, resistant to **first-line antibiotics** and spread into South Asia and Africa⁴
- **XDR****, MDR + resistance to **fluoroquinolones + ceftriaxone**, have emerged to Pakistan⁴

Typhoid Fever incidence and drug-resistant strains (2019)^{4, 6-7}

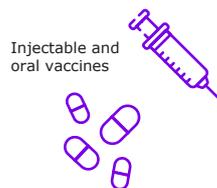


Risk of Typhoid Fever associated with travel



- 70- 85% of reported cases in Europe and North America are travel-related^{1,8}
- Travel-risk of being infected (per month of stay):
 - 30 cases /100 000 travelers to South Asia⁹
 - 1-5 cases /100 000 travelers to Africa or Latin America⁹
- Travelers visiting friends and relatives in their country of origin are more at risk¹⁰

Hygienic measures, safe eating and drinking habits remain essential when traveling to areas where the risk of typhoid fever is high¹¹



Due to increased drug-resistance, *typhoid fever vaccination* should be considered as preventive measure in addition to behavioral precautions^{4,10}

References

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