

# Worldwide analysis of drug-resistant typhoid in Nature Genetics

ITM contributes to worldwide analysis of drug-resistant typhoid in Nature Genetics

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Dit is de omschrijving

**The antibiotic-resistant strain of *Salmonella Typhi*, the primary cause of typhoid, emerged within the last 30 years and may represent an ongoing, previously unrecognised epidemic in Africa, according to a study published online this week in Nature Genetics. Prof. Jan Jacobs of the Institute of Tropical Medicine in Antwerp (ITM) took part in this truly international effort involving researchers from around the world.**

Typhoid affects 20-30 million people globally each year. Symptoms include nausea, fever and abdominal pain. Some people infected with the bacteria show no symptoms, and yet they are still able to transmit the disease. Vaccination and antibiotics can be used to effectively treat many cases of typhoid, but strains of *Salmonella Typhi* that are resistant to antibiotics have emerged since the 1970s.

The researchers sequenced the genomes of 1,832 samples of *Salmonella Typhi* that were collected from 63 countries between 1992 and 2013. They found that 47% belonged to a single strain known as H58, which is resistant to multiple antibiotics.

The geographic pattern of antibiotic resistance found in this study reflects the usage of antibiotic drugs in those regions. The researchers found that H58 emerged in South Asia 25-30 years ago and spread to Southeast Asia, Western Asia, East and South Africa, and Fiji. They also found evidence of a recent and unreported wave of H58 transmission in multiple countries in Africa, which may represent an ongoing epidemic.

Co-authors Prof. Jan Jacobs and Prof. Octavie Lunguya, of ITM's Congolese partner organisation Institut National de Recherche Biomédicale (INRB), collected the isolates for the Democratic Republic of the Congo (DRC). ITM has a unique collection of *Salmonella Typhi* strains and is actively involved in antibiotic resistance surveillance in DRC. The Institute recently launched "[Bacterial Infections in the Tropics](#)", a multidisciplinary project into the biological, clinical and anthropological aspects of, and solutions for, antibiotic resistance in the tropics.

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- [The paper - Phylogeographical analysis of the dominant multidrug-resistant H58 clade of \*Salmonella Typhi\* identifies inter- and intracontinental transmission events](#)