

Epidemic typhoid in Chile: Analysis by molecular and conventional methods of *Salmonella typhi* strain diversity in epidemic (1977 and 1981) and nonepidemic (1990) years

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From 1977 to 1986, Chile experienced an important typhoid fever epidemic, despite statistics that indicated apparently improving levels of sanitation of drinking water and sewage disposal. The lack of antibiotic resistance among the *Salmonella typhi* strains isolated during this period, the mild clinical presentation of the disease, and the initially low level of efficacy of the *S. typhi* Ty21a vaccine in the population exposed to the epidemic suggested that this epidemic might have resulted from the dissemination of *S. typhi* strains with unique characteristics. To investigate this hypothesis, we used conventional methods (bacteriophage typing and biotyping) and molecular methods (restriction fragment length polymorphism analysis, ribotyping, IS200 typing, and PCR amplification of the *fliC-d* gene) to study a population of 149 *S. typhi* isolates during 1977, 1981, and 1990, the years that included periods with low (when the disease was endemic) and high (when the disease was epidemic) morb