

The Economic Burden of Typhoid Fever in Africa: A Multi-Country Study

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Background: The economic burden of typhoid fever (TF) on the endemic population and health care settings of Africa is poorly recognized. The data on economic burden is essential for conducting economic evaluation needed for decision making on typhoid interventions such as new conjugate vaccine introduction. Here we describe the study design, methodology and updates of cost of illness (COI) studies to understand economic burden of typhoid fever in four African countries as part of the Severe Typhoid Fever in Africa (SETA) project.

Methods: The COI study primarily aims to estimate direct costs to individuals and health care system as well loss of productivity due to illness. The COI is measured among blood culture confirmed and clinically diagnosed but blood culture negative typhoid fever cases. The background health care utilization costs are measured among healthy neighborhood controls enrolled under SETA. The COI is also estimated for blood culture confirmed invasive non-typhoidal Salmonella (iNTS) and for *S. Paratyphi*. The COI measurement includes face-to-face participant serial surveys to measure out-of-pocket expenditures and productivity loss due to illness over time until recovery, and detailed estimation of service delivery costs at selected health facilities. The survey is administered as soon as diagnosis is confirmed (3-7 days), a week later (12-14 days), a month after (28-30 days) and after three months (90 days) from day of study enrolment if illness persists.

Results: Six months after commencement of the study, the preliminary results will be presented to provide early overview of the COI findings in four African countries. This will include deliberation of COI estimation model, and descriptive data on out of pocket expenditures and productivity loss.

Conclusions: The results from this study will provide new insights on economic burden of enteric fever in Africa, help in economic evaluation and decisions on typhoid vaccine introduction.