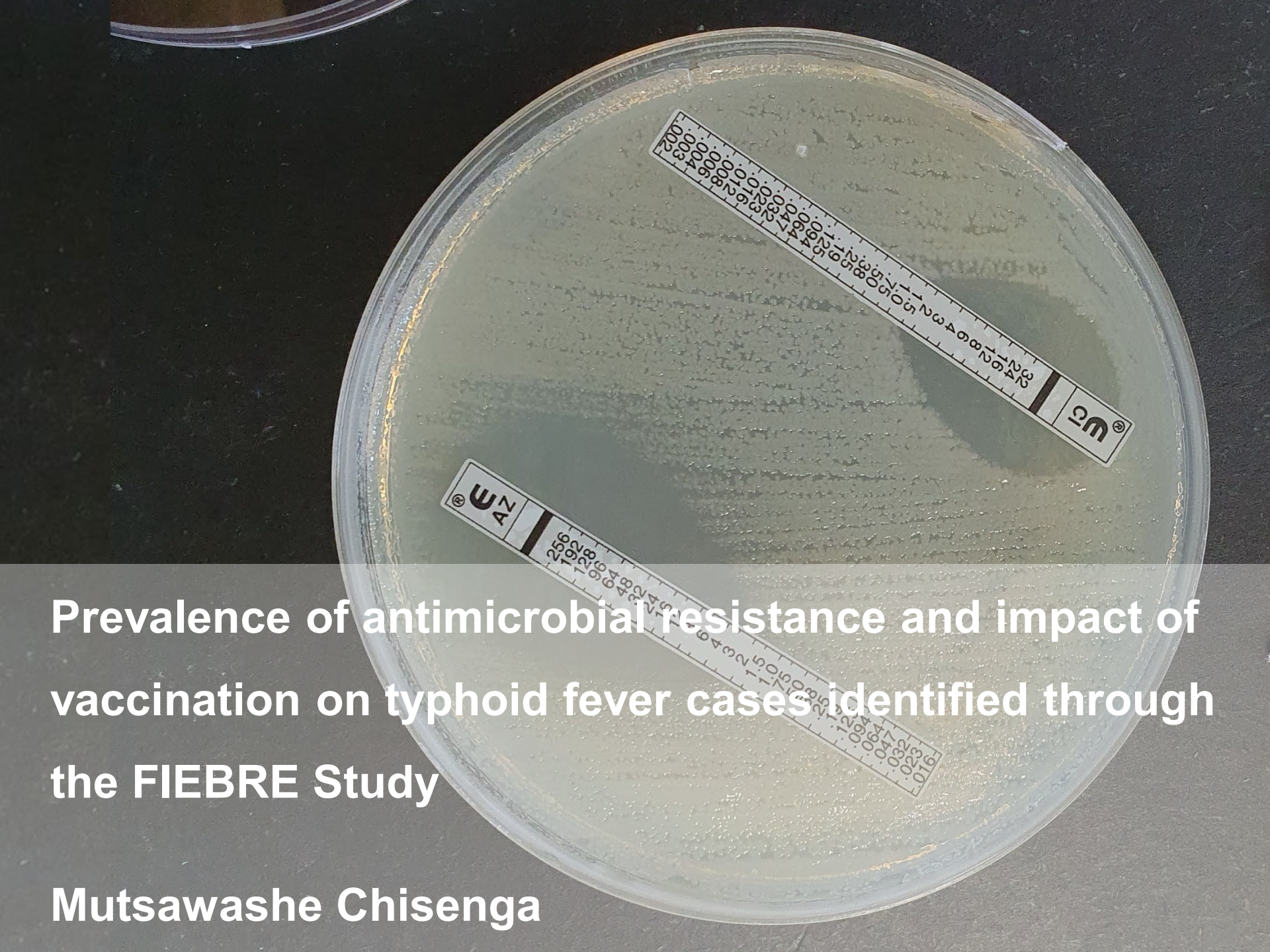


Prevalence of antimicrobial resistance and impact of vaccination on typhoid fever cases identified through the FIEBRE Study

Mutsawashe Chisenga

Laboratory methods

- 1x blood culture collected per patient
- Automated blood culture system (BacT/ALERT, Biomerieux)
- Identification of isolates using biochemical tests (API 20E, Biomerieux)
- Suspected *S.* Typhi isolates confirmed by serotyping at the National Microbiology Reference Laboratory
- Drug susceptibility testing: EUCAST standards
  - Disc-diffusion for ampicillin, chloramphenicol, co-trimoxazole, ceftriaxone
  - Pefloxacin discs were used to screen for fluoroquinolone resistance.
  - E-Tests were used for azithromycin and ciprofloxacin.

Results

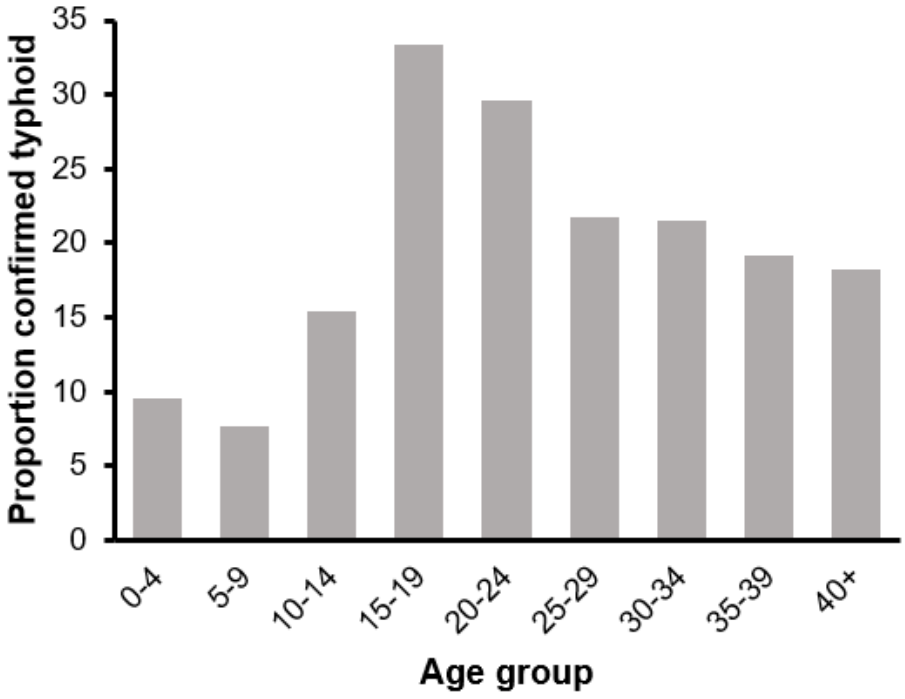
***Salmonella* Typhi cases:**

- Inpatients: 13
- Outpatients: 197 (most cases from Budiriro & Glen View)

Non-typhoid *Salmonella*: 8

OUTPATIENTS	Children (<15 years) N=525	Adults (≥15 years) N=605	Total N=1130
Positive blood culture for *S.* Typhi among outpatients	50 (9.5%)	147 (24.3%)	197 (17.4%)

Participant characteristics



	Typhoid	Blood culture negative
Male	47%	47%
Age (median)	21	18
HIV+	3%	6%

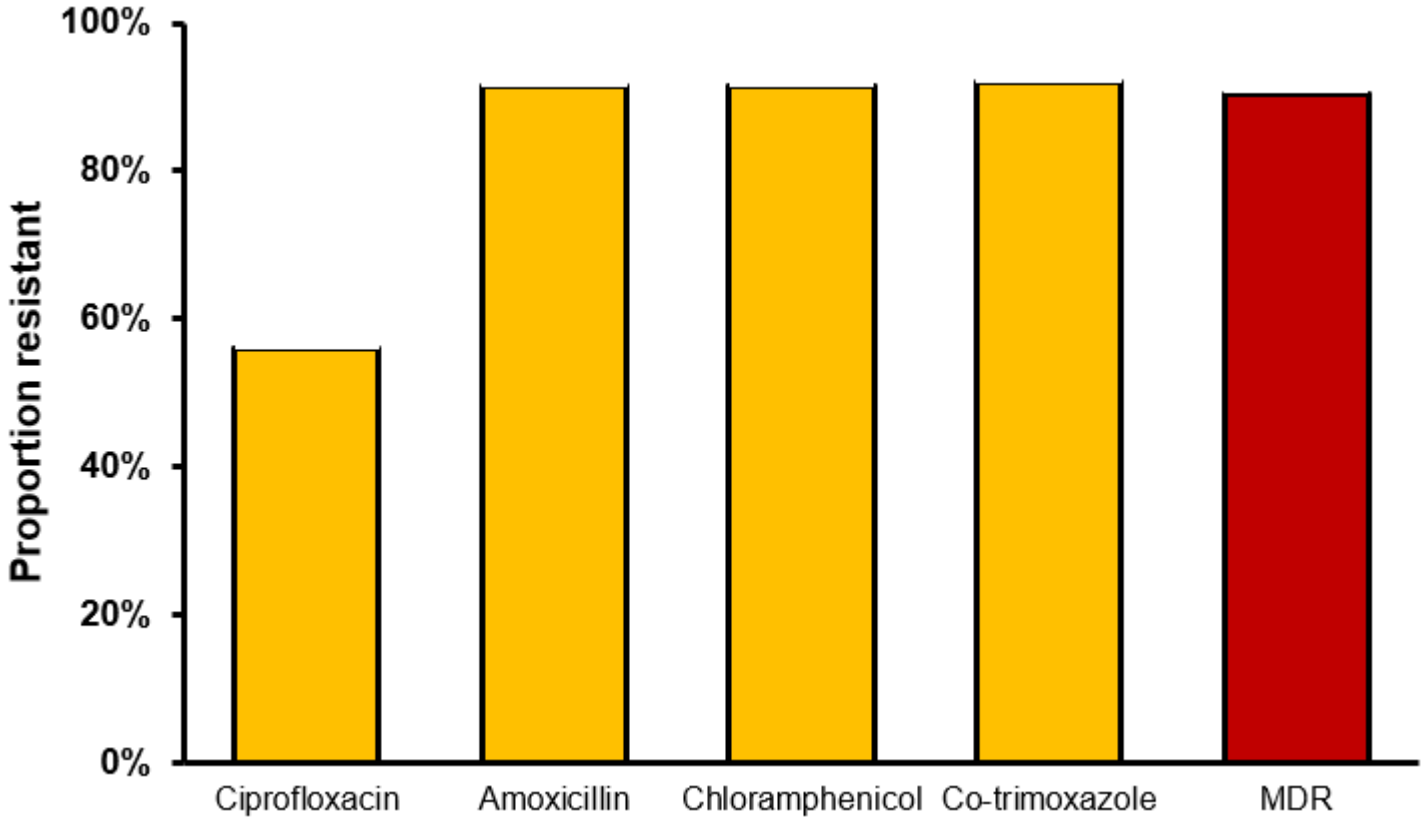
Symptoms

Headache 94%

Abdominal pain 73%

Vomiting 13%

Drug susceptibility testing



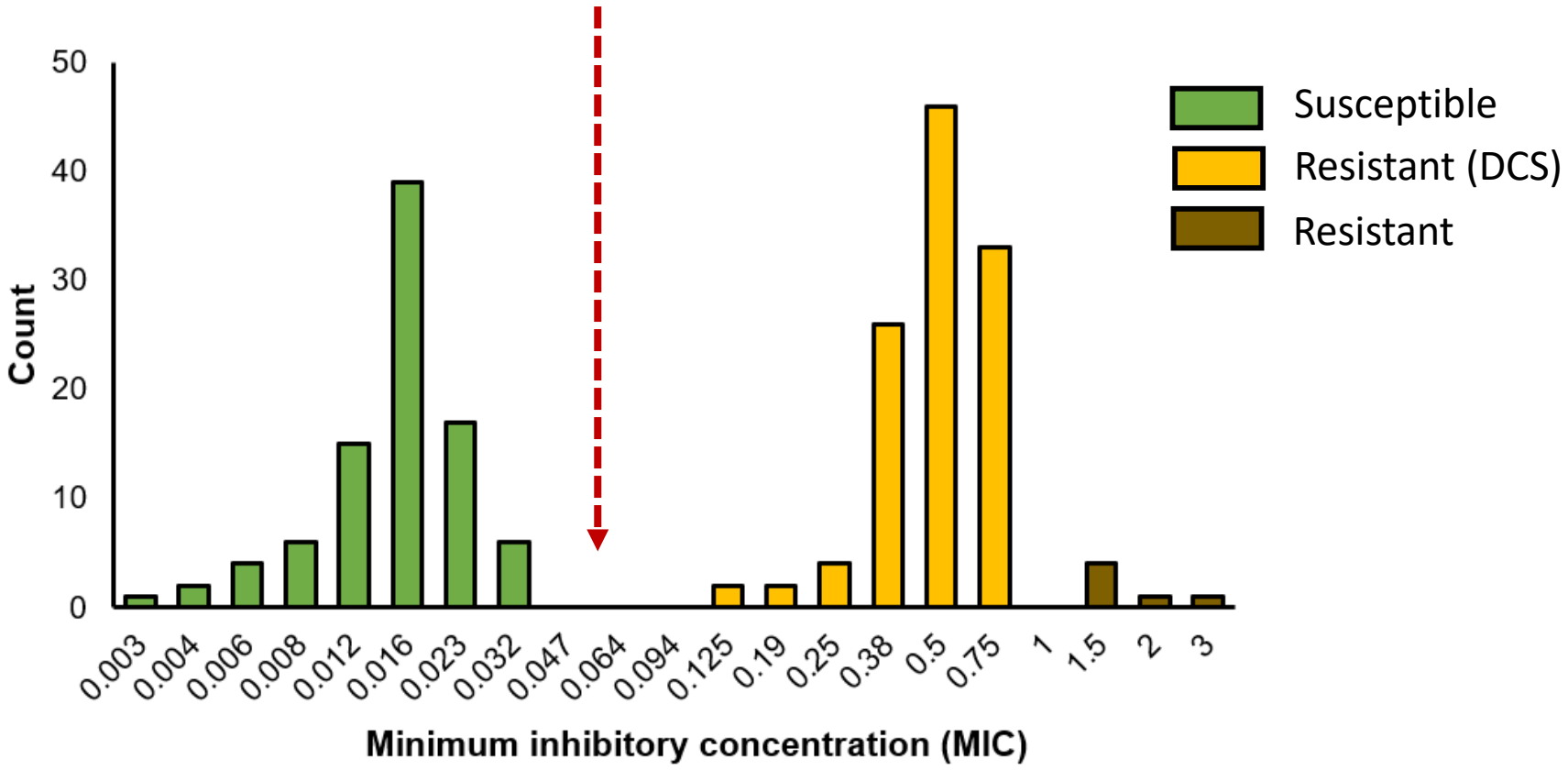
No *S*. Typhi isolates were resistant to ceftriaxone or azithromycin

MIC distribution for ciprofloxacin

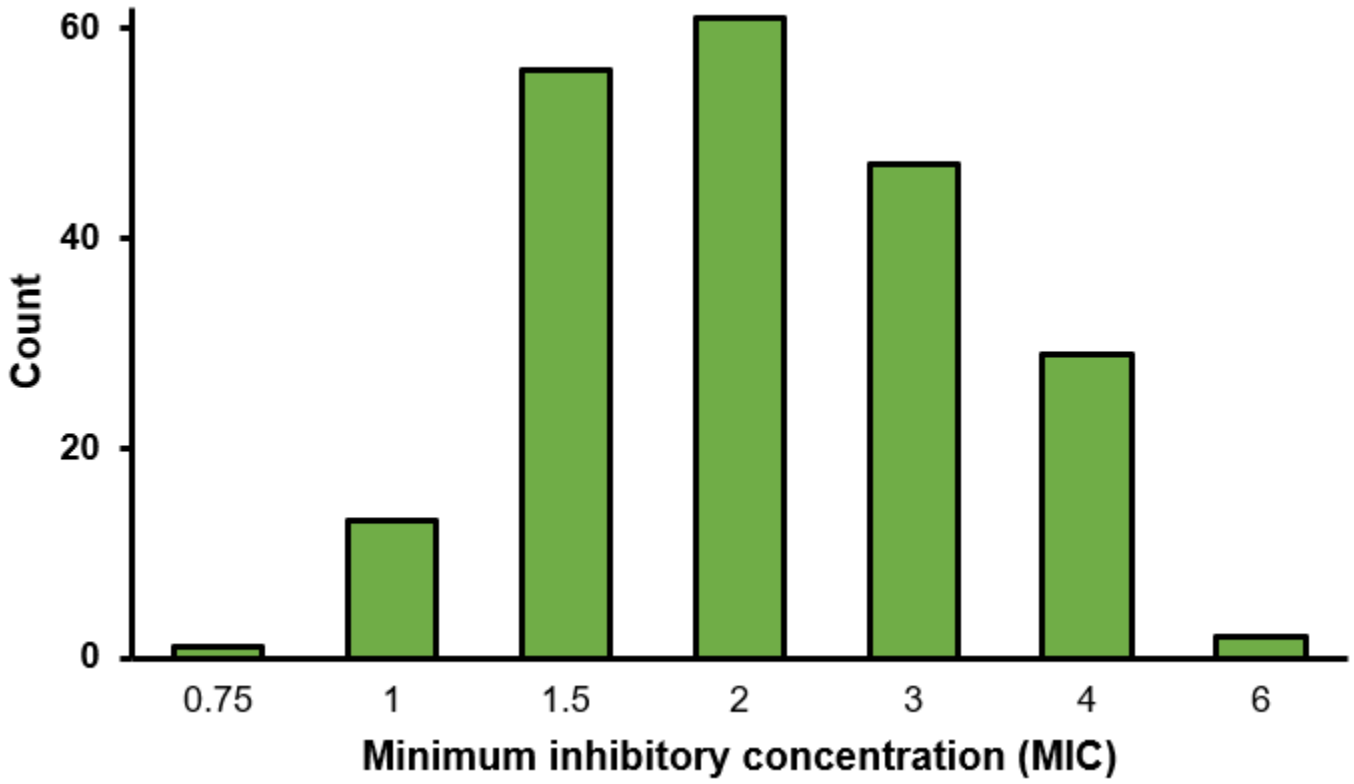
LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

EUCAST EUROPEAN COMMITTEE ON ANTIMICROBIAL SUSCEPTIBILITY TESTING
European Society of Clinical Microbiology and Infectious Diseases

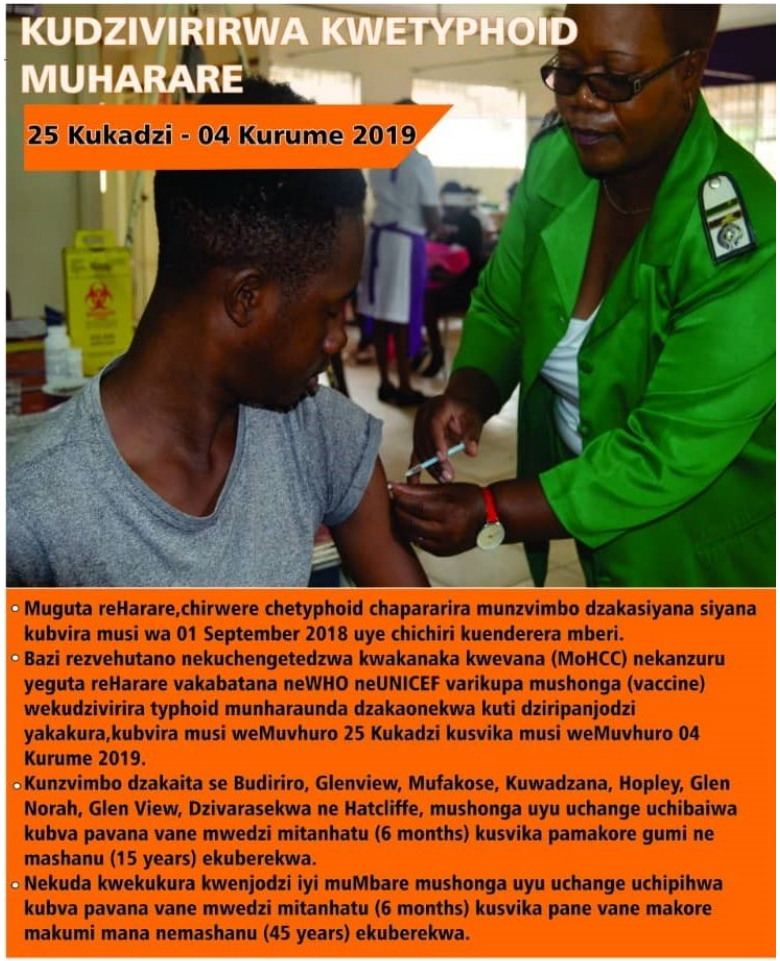
Decreased susceptibility to ciprofloxacin (DCS) if MIC >0.06 (poor treatment response)



MIC distribution for azithromycin



Typhoid fever cases according to age

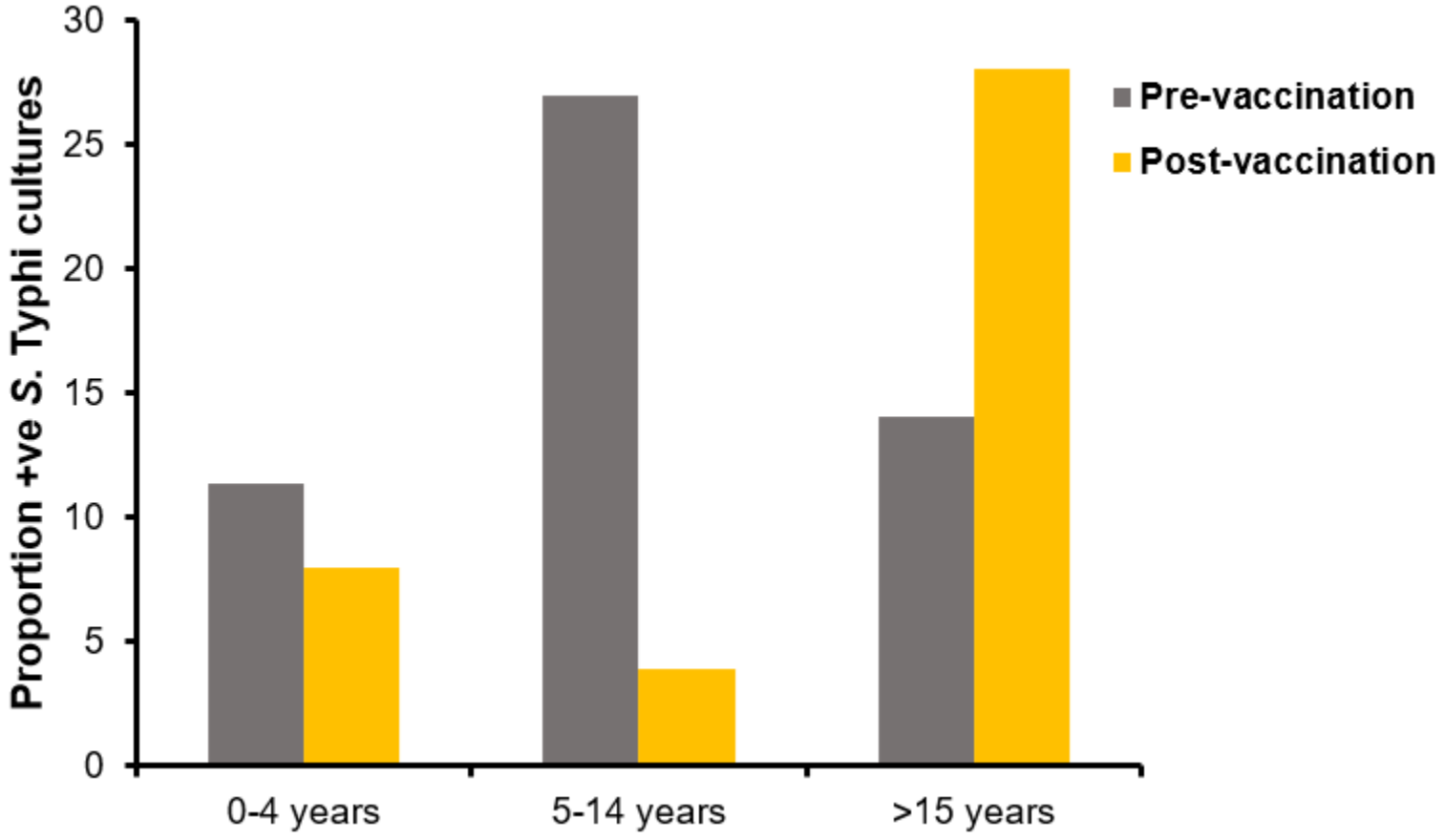


Mass vaccination campaign of children <15 years with the typhoid conjugate vaccine (TCV) in March 2019

Vaccination coverage:

- 72% in pre-school children
- 97% in school going children

Impact of vaccination with TCV on typhoid cases



Conclusion

- High prevalence of resistance to multiple drugs including ciprofloxacin
- No resistance to azithromycin and ceftriaxone
- Vaccination led to a reduction of typhoid fever cases among children presenting to primary healthcare
- High number of cases identified post-vaccination campaign (mostly adults)

Acknowledgements

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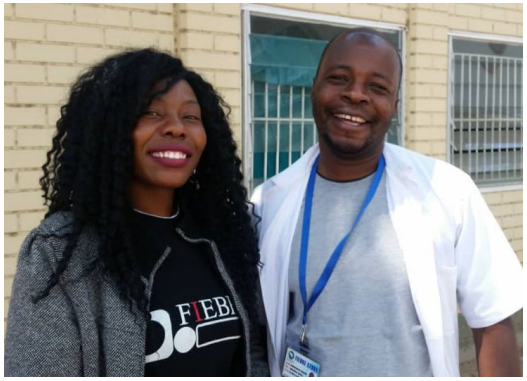
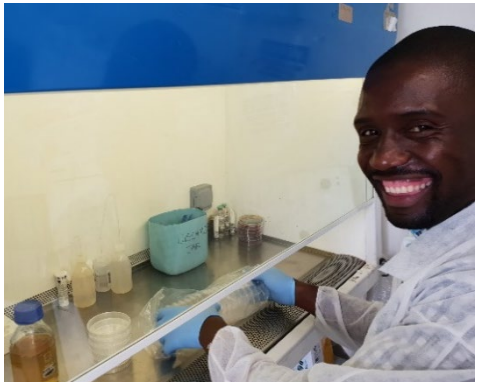


FIEBRE Field team
The study participants

Harare City Health
Prosper Chonzi
The doctors and nurses from the clinics
National Microbiology Reference Laboratory



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