

Typhoid and iNTS Incidences in Pre-school Children in Africa: Results from the Typhoid Surveillance in Africa Program (TSAP)

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Background and Methods: Invasive bacterial infections (IBI) are an important cause of febrile disease in children and adults in sub-Saharan Africa (sSA). From 2011 to 2013 the authors conducted the Typhoid Fever Surveillance in Africa (TSAP) program in Ghana, Burkina Faso, Senegal, Guinea-Bissau, Sudan, Ethiopia, Kenya, Tanzania, Madagascar and South Africa. Standardized surveillance for bacterial pathogens was put in place and 13,431 blood cultures

were performed. 568 non-contaminant bacteria were isolated among which 135 were *Salmonella* Typhi and 94 were non-typhoidal *Salmonella* (iNTS) serovars. In October 2017, the World Health Organization (WHO) Scientific Advisory Group of Experts (SAGE) will make recommendations for new typhoid conjugate vaccines to be included into the Gavi portfolio. Towards this end, apt vaccination strategies, particularly target age groups need to be defined. Here we present data on the disease burden of *S. Typhi* and iNTS disease for children <5 years of age.

Results:

For *S. Typhi*, 37/135 isolates were identified in children <5 years of age, the majority in Ghana (15), Kenya (13), Burkina Faso (7) and Guinea-Bissau and Tanzania each 1. No isolates were yielded in Madagascar, Sudan, South Africa and Ethiopia in that age-group. For iNTS disease, 71/94 isolates were found in children less than 5 years of age, Ghana (52), Burkina Faso (9), Guinea-Bissau (6), Kenya (2), Tanzania and Madagascar each one; no iNTS in that age-group was identified in Sudan, South Africa or Ethiopia. During the conference, we will present further stratification and incidences for these age-strata.

Conclusion: The TSAP data have implications for future vaccination programs. *S. Typhi* does not constitute a major cause of IBI under the age of 24 months in our study sites; yet, novel conjugate vaccines should be given prior to that age to ensure that *S. Typhi* can be prevented in higher risk groups from 24 months and beyond. iNTS disease, in contrary, is prevalent in infants and young children and an early deployment of iNTS vaccines to children less than one year of age would be required to ensure that the majority of cases can be prevented.