

Severe Typhoid in Africa Program (SETA): *Incidences, methods, preliminary results*

Impact of a typhoid conjugate vaccine (THECA): *a multicenter study in Ghana and the Democratic Republic of the Congo*

Capturing data on Antimicrobial resistance Patterns and Trends in Use in Regions of Asia (Captura)

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GATES foundation

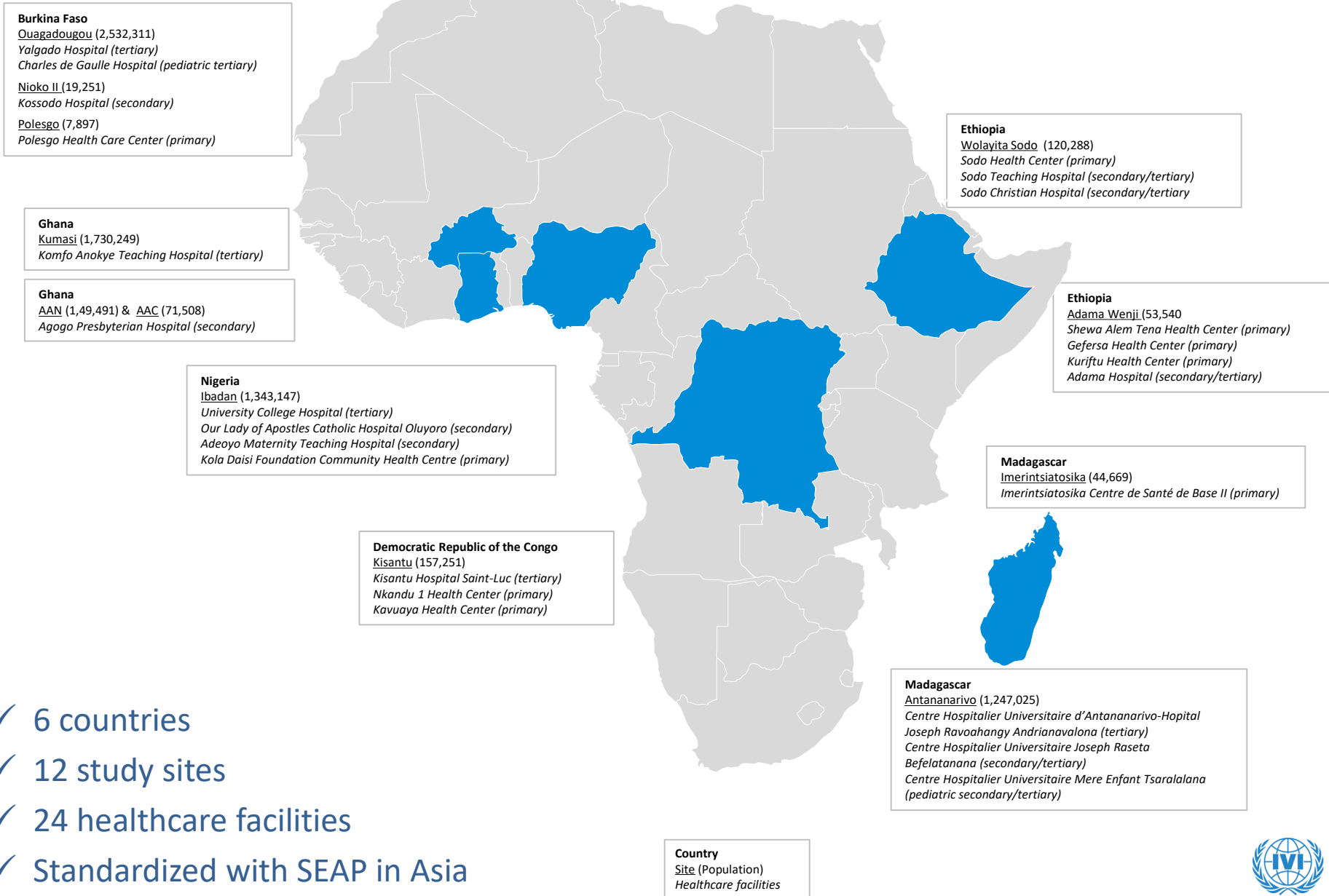


Severe Typhoid in Africa Program (SETA)



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Severe Typhoid Surveillance in Africa (SETA) Program

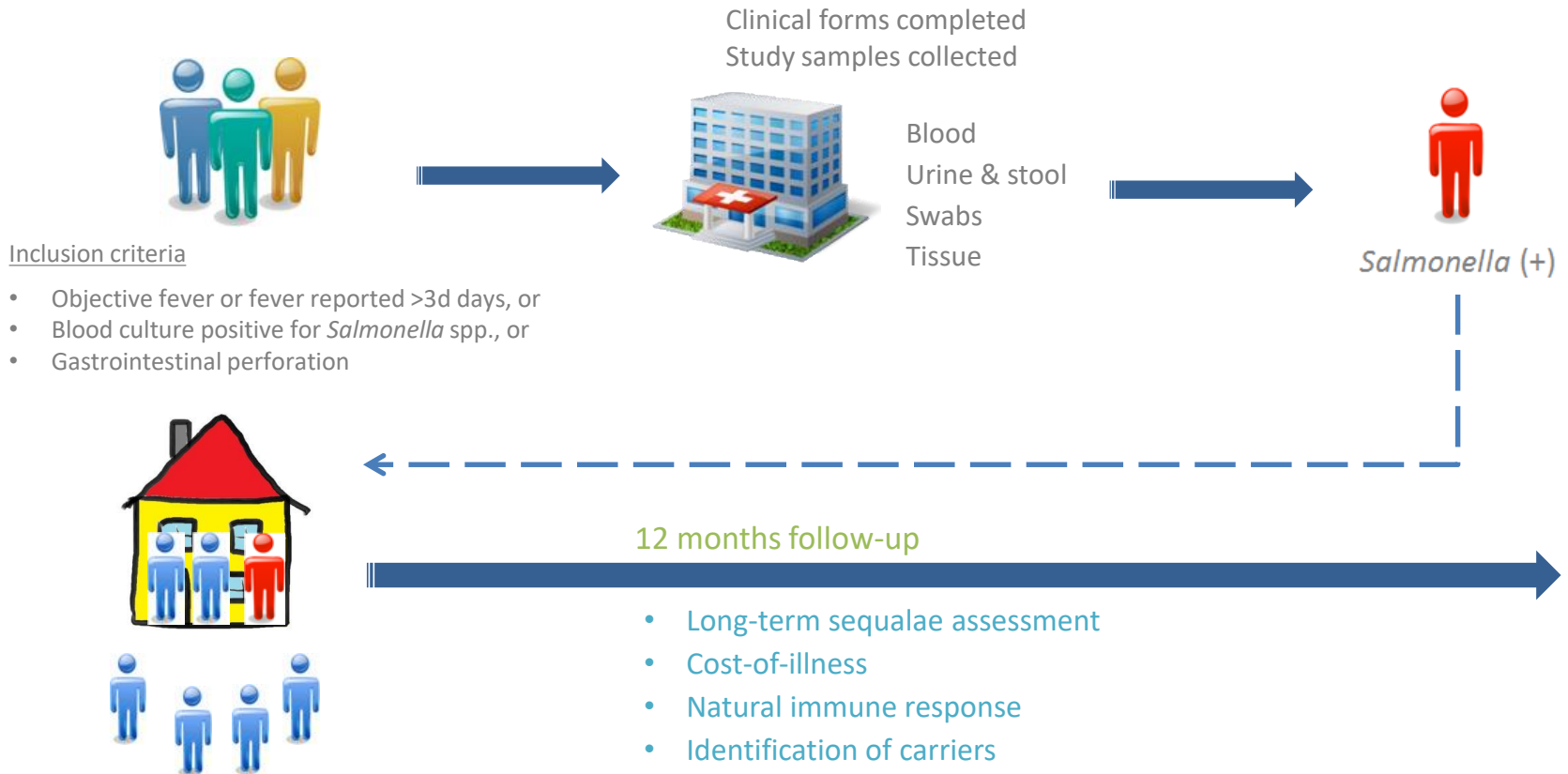


- ✓ 6 countries
- ✓ 12 study sites
- ✓ 24 healthcare facilities
- ✓ Standardized with SEAP in Asia



Severe Typhoid Surveillance in Africa (SETA) Program

Standardized passive surveillance



Health Care Utilization Surveys implemented at each site

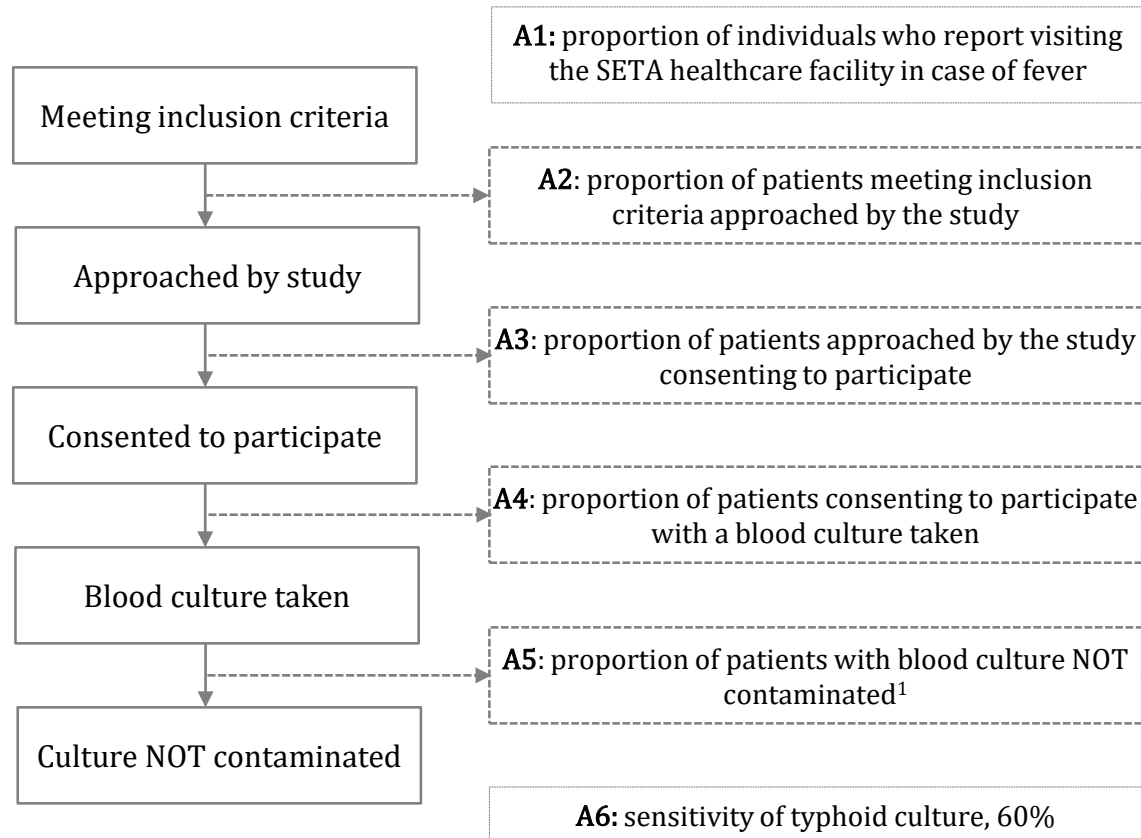
SETA incidence methods – formulas and adjustments

Crude Incidence

$$\frac{\text{crude cases}}{\text{catchment population in PYO}} \times 100,000$$

Adjusted Incidence

$$\frac{\text{crude cases}}{\text{catchment population in PYO}} * \left(\frac{1}{(A1 * A2 * A3 * A4 * A5 * A6)} \right) \times 100,000$$



Additional data needs

- Long-term safety
- Immunogenicity
- Vaccine clinical efficacy, effectiveness, including population-level protection (direct and herd)
- Cost-effectiveness

Ghana

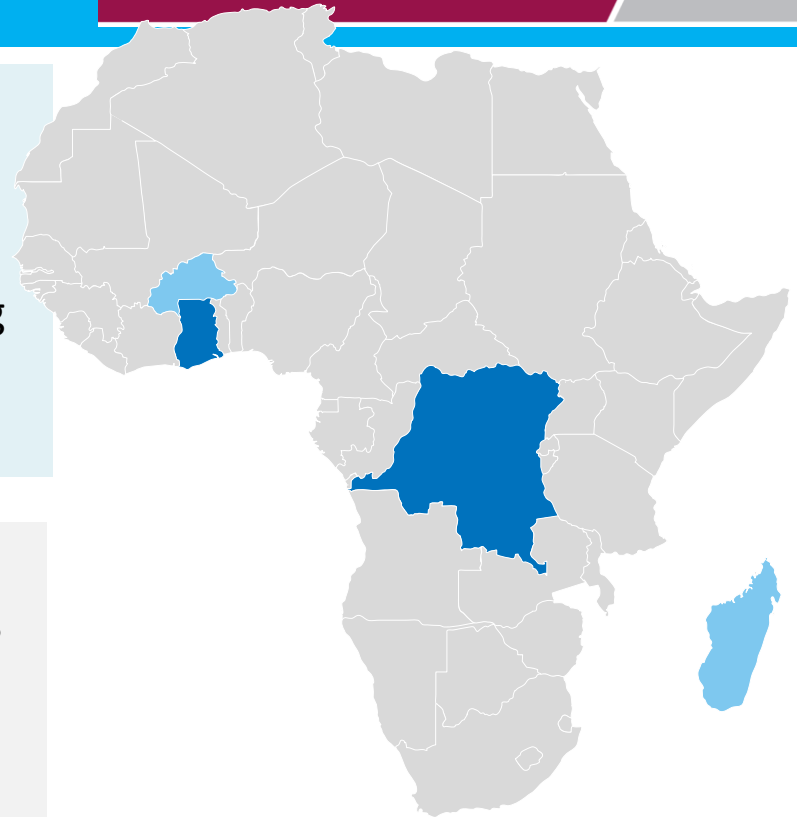
Cluster-randomized TCV trial in children <15 years

DR Congo

TCV mass vaccination campaign in children <15 years, effectiveness study

All THECA countries

- Early adopter countries support for TCV introduction (implementation, GAVI applications)
- Health economic studies



General assembly:

Chaired by

- Florian Marks
- John Clemens
- Kathleen Neuzil



- Design:** A cluster-randomized Phase 3 study of Typbar-TCV®
- Setting:** Asante Akim North, Ghana, characterized by both semi-urban and rural settlements and low population migration
- Population:** The aim is to enroll all eligible, consenting children meeting inclusion criteria within the target age range (9 months to <16 years). Anticipated coverage is 60% (approx. 28,000 children)
- Measurements:** Herd immunity, overall and total effects of vaccination

- Design:** A mass vaccination campaign with nested case-control effectiveness study; cases defined as patients being blood culture-positive for *S. Typhi*.
- Four controls matched on neighborhood, sex and age will be enrolled for each case
- Setting:** Kisantu, DR Congo (population 183,750)
- Population:** All children from 9 months to <16 years of age
- Measurements:** Vaccine effectiveness, cost-effectiveness, safety and feasibility

Support regulatory affairs for TCV introduction in African early adopter countries



- ✓ Three pan-African typhoid conferences will be planned at the beginning, midpoint and end of the study.

Study objectives, progress and outcomes will be communicated to study partners and stakeholders.

- ✓ Work within DRC, Ghana, Madagascar, Burkina Faso to support the collection of the necessary data to enable the quick introduction of TCVs
- ✓ Support THECA countries with the respective GAVI applications

Capturing data on Antimicrobial resistance Patterns and Trends in Use in Regions of Asia (CAPTURA)

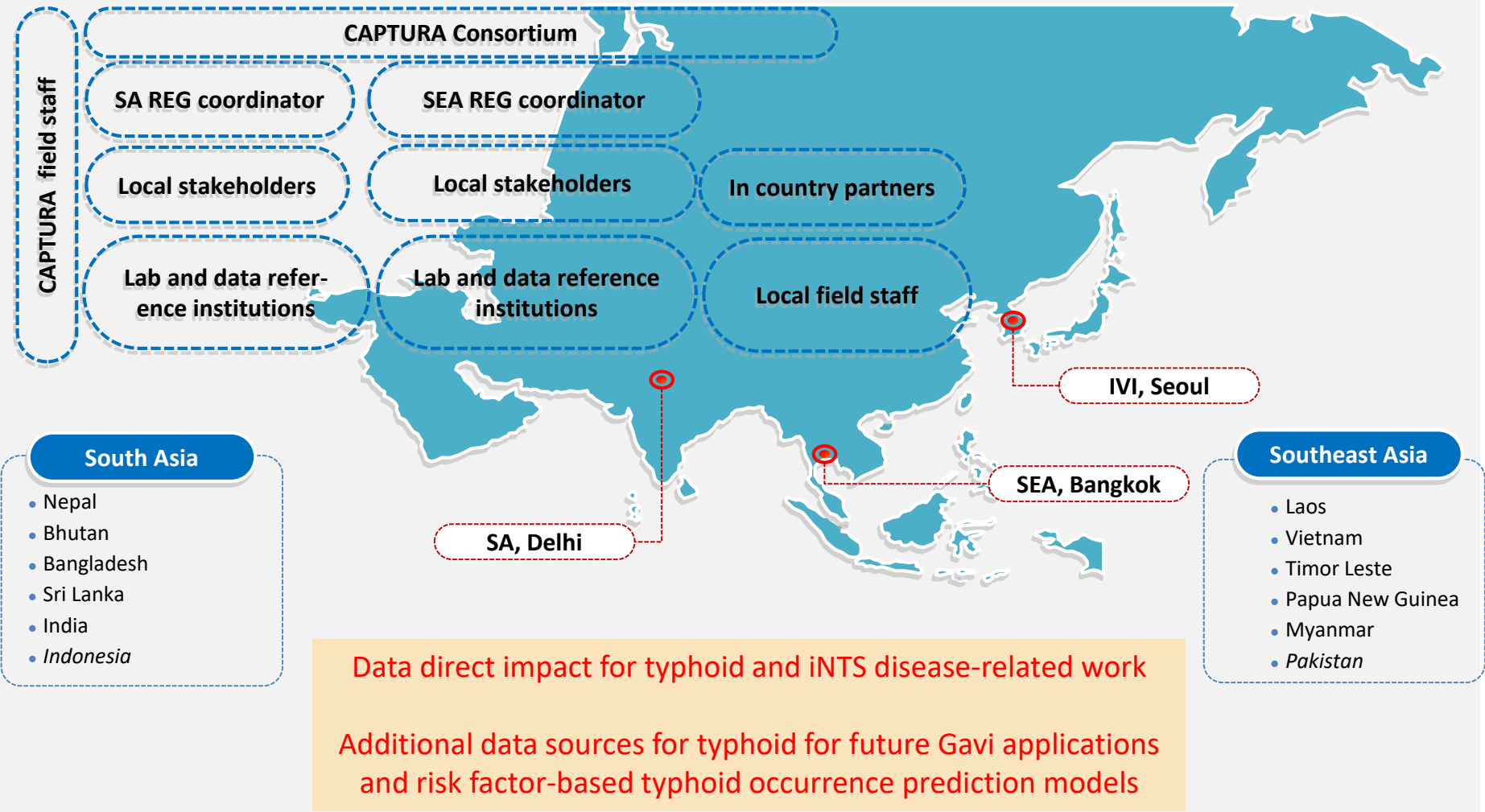


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Capturing data on Antimicrobial resistance Patterns and Trends in Use in Regions of Asia

- The UK Government has established the Fleming Fund to respond to the global threat of antimicrobial resistance (AMR)
 - [UKAID Development Programme to help build AMR surveillance systems](#)
- Regional Grants round 1; a “call for data”, which aims to expand the volume of historical and current data available on AMR and AMU across regions
- IVI leading an international consortium that has been awarded the grants for South and South East Asia
- Increase the volume of data available to improve spatiotemporal mapping of antimicrobial resistance (AMR) and antimicrobial usage (AMU)
- Undertake analysis of the data and ensure it is disseminated locally and globally

CAPTURA: Organization of regional and in-country work



Summary

Research providing data to understand typhoid fever and iNTS disease burden, severity and antimicrobial resistance in Africa in support of future TCV introduction.

SETA

Ongoing efforts; preliminary data:

- Typhoid fever disease in all countries participating in SETA with higher incidence rates in <15 years old.
- iNTS disease in three countries (DRC, Ghana, Burkina Faso) with higher incidence rates in <2 years old.

THECA

- Recently awarded
- Complementing TyVAC efforts to generate additional data required by WHO, Gavi, other stakeholders supporting TCV introduction in Africa.

CAPTURA

- Currently ongoing; providing additional data on AMR and typhoid fever occurrence

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