

These findings were used to develop two accredited short courses 70-hours (7-credits) each. The courses were CTAs assessment and GCP inspection. Consequently, 2-weeks short courses were conducted. Pre- and Post- course tests were administered to assess the training impact.

**Conclusion** A pool of proficient assessors is important for quality reviews of CTAs and in timelines reduction. The short courses conducted were successful, and increased a pool of competent assessors and GCP inspectors in Tanzania. For further strengthening the regulatory capacity, additional training is recommended.

#### PA-500 PREVALENCE AND GENOMIC CHARACTERIZATION OF TYPHOIDAL AND NON-TYPHOIDAL SALMONELLAE IN GHANA

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**Background** Salmonella are a group of facultative anaerobic bacteria that belong to the family of Enterobacteriaceae. The common serovars are Salmonella enterica subsp. enterica serovar Typhi which causes typhoid fever and the non-typhoidal Salmonellae (NTS) which are associated with gastroenteritis. Data on the epidemiology and genomic characteristics of Salmonellae in sub-Saharan African countries are limited.

This study describes the epidemiology and genomic characterization of Salmonellae in Ghana.

**Methods** A prospective incidental hospital-based surveillance study among patients presenting with febrile illness from May, 2016 to April, 2023 was conducted in the Asante Akyem District of Ghana and Komfo Anokye Teaching Hospital. Blood cultures were processed for identification of Salmonella using standard bacteriological techniques. A subset of Salmonella isolates were confirmed using real-time-PCR amplification targets for S.Typhi and invasive NTS. The concentration of DNA were quantified using nanodrop and shipped to Eurofins Genomics for illumina based sequencing. Raw reads were assembled and analysed using Pathogenwatch web tool.

**Results** The study enrolled 6,557 participants between the ages of 1 and 95 years of which 51.7% were males. The prevalence of Salmonella Typhi and NTS were 0.14% (95%CI: 0.096 – 1.5) and 0.33% (95%CI: 0.21% - 0.5%) respectively. Male gender (adj OR; 95%CI = 1.6; 0.93–2.75) and age group below 15 years (Adj OR; 95%CI=3.94; 1.67–9.3) had higher odds of infection with Salmonella Typhi. A subset of 42 Salmonella Typhi isolates sequenced, identified the predominant genotype as 2.3.2 (54.1%) followed by 3.1.1 (42.9%). Of 17 iNTS isolates sequenced, Typhimurium (10; 62.5%), Enteritidis (5; 31.3%), Poona (1; 6.2%) and Saintpaul (1; 6.2%) were identified. Common resistance markers identified were chloramphenicol resistance (catA1; 10/50), sulphonamides resistance (sul1; 10/50), beta-lactam (9/10) and trimethoprim (dfrA; 10/50).

**Conclusion** The increasing rate of resistance and endemicity of infections emphasize the need for the introduction of vaccines to reduce disease burden.

#### PA-505 HETEROLOGOUS IMMUNITY INDUCED BY THE VIRAL VECTORED VACCINE RVS-EBOV-GP

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**Background** Heterologous immunity is the induction of an immune response to an unrelated pathogen upon exposure to a different pathogen, involving memory T cells and B cells response. Studies showed that BCG-immunization would induce resistance to Listeria infection and increase B cells and T cells responses. Viral vectored vaccine are promising and vaccine platform that favour the induction of cellular immune responses beyond potent humoral immune responses. We investigate the potential of the rVSV-EBOV-GP vaccine to induce heterologous immunity through immune mechanisms involving cellular immune responses and a network of cytokines.

**Methods** We investigate the effect of the vaccination with rVSV-EBOV-GP on the childhood vaccines, including TB, Polio 1,2,3 serotypes, Diphtheria, Bordetella pertussis, Hepatitis B, Yellow fever, Measles, Influenza type B, which are part of the expanded program on immunization in Gabon. We analyzed samples of 120 children enrolled in Phase 1/2, a randomized, controlled, open-label trial. Among them, 80 received the rVSV-EBOV-GP vaccine, and 40 received the Varicella-Zoster vaccine.

**Results** Antibody titers or cellular immune responses against TB, Polio 1,2,3 serotypes, Diphtheria, Bordetella pertussis, Hepatitis B, Yellow fever, Measles and Influenza type B are being evaluated before vaccination and at days 7, 28, 56, 180 and 365 after vaccination. We also measured adaptive cytokines IFN $\gamma$ , IL-5, IL-12, IL-13, IL-10, IL-17A, IL-22 at the corresponding time points.

**Conclusion** Cellular and cytokines immune responses are reliable biomarkers that could be used to assess vaccine candidate efficacy and vaccine heterologous induced-immune response.

#### PA-507 GENOMIC SURVEILLANCE OF INFECTIOUS PATHOGENS IN THE REPUBLIC OF CONGO

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**Background** Deadly emerging infectious pathogens pose an unprecedented challenge to health systems worldwide, especially in the Republic of Congo, where health care infrastructure is limited. Thus the COVID-19 pandemic has been an opportunity to improve the national genomic platform that could be expand to all circulating pathogens serving surveillance, prevention and response actions. This work aimed to establish the genomic platform for the effective control of infectious pathogens in the Republic of Congo.

**Methods** By 2021, we established the Oxford Nanopore Technology platform for the first time in the Republic of Congo to respond firstly to the COVID-19 pandemic and secondly to other pathogens like Plasmodium falciparum, Mycobacterium tuberculosis, HIV and others. Between April 2020 and August