PA-84 DISSECTING THE DIAGNOSTIC PERFORMANCE OF THE ALERE FILARIASIS TEST STRIP FOR THE DETECTION OF ACTIVE WUCHERERIA BANCROFTI INFECTION AND TREATMENT SUCCESS

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Background Although the Alere Filariasis Test Strip (FTS) is recommended for surveillance and monitoring of Wuchereria bancrofti infection, the performance characteristics of this tool in post-treatment settings have not been established. To determine the accuracy of the FTS in effectively monitoring treatment of bancroftian infection, we investigated the sensitivity of the test in detecting different subgroups of asymptomatic adult worm-infected individuals at pre-treatment and post-treatment and the specificity of the test in detecting treatment success following therapy.

Methods Plasma samples obtained from the same cohort of individuals (n = 143) with known adult worm and microfilariae (Mf) burdens at pre-treatment and 24 months post-treatment were used. The sensitivity of the FTS was assessed for the detection of microfilaremic and amicrofilaremic subgroups of adult worm-infected individuals at both time points. The post-treatment specificity of the test was assessed in those who cleared both adult worm and Mf burdens 24 months following doxycycline treatment. Seventy-one samples from W. bancrofti-uninfected individuals living in the same endemic areas were also analyzed.

Results The FTS showed significantly greater sensitivity for the detection of microfilaremic adult worm-infected individuals (pre-treatment = 100%; 24 months post-treatment = 95.8%) than amicrofilaremic adult worm-infected individuals (pre-treatment = 65.8%; 24 months post-treatment = 52.2%). The FTS's specificity for successfully treated individuals at 24 months post-treatment was 73.0% (CI = 62.58–81.90), which was significantly less than the specificity of the test for uninfected individuals (95.8%, CI = 88.14–99.12).

Conclusion From our results, the FTS does not satisfy the WHO's minimum diagnostic requirements of 85% sensitivity and 98.8% specificity for identifying amicrofilaremic adult worm-infected individuals and successfully treated individuals at 24 months post-treatment, respectively. Our study highlights the need for high-quality diagnostic tools to provide a more precise endpoint infection threshold and accelerate the achievement of the global elimination target for 2030.

PA-89 PROFESSIONAL CAREER PATHWAYS ARE NEEDED TO COMBAT A DECLINING WORKFORCE AND LACK OF COMPETENCY-BASED TRAINING IN CLINICAL RESEARCH IN AFRICA

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Background Six sub-Saharan African nations are in the top 10 globally for losing over 50% of their medical graduates to work abroad. Insufficient training and career advancement options hinder retention, harming sustainable development. Evidence-based research training is needed to improve research capacity and retention.

Methods The Global Health Network (TGHN) and the UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) collaborated to create an Evidence-led Essential Research Skills Training Curriculum (EERSTC). The study surveyed 7,176 individuals from 153 countries worldwide, with 54% of respondents from Africa. The EERSTC showed effectiveness in developing research skills among novices. The curriculum recommends specific modules for clinical research training programs.

Results TASK Research Academy used selective modules from the EERSTC to develop a training course that uses storytelling, simulations, and interactive case studies to teach core competencies. Since its launch in August 2022 the course has enrolled 127 novices, with 82 having completed it. 98% of students believe the course improved their confidence in their ability to work in clinical trials, while 90% indicated that it helped them create career opportunities. The academy plans to further develop bi-chronous clinical research career pathway programs for research-naive individuals. These role-focused career pathway programs will be based on the suggested EERSTC modules and will use the latest digital technologies to create simulation-based training. By providing industry-ready training that emphasizes practical application, graduates will be prepared to start working immediately.

Conclusion To achieve the Sustainable Development Goals by 2030, Africa requires research capacity building to attract sponsors and promote clinical research. Lack of research experience is a significant barrier to entry. Training that aligns with industry needs and core competencies can equip the next generation of researchers and support and African research culture, easing entry barriers and combatting workforce deficiencies.

PA-90 INFLUENCE OF CYP2B6 AND CYP3A4 POLYMORPHISMS ON THE VIROLOGIC AND IMMUNOLOGICAL RESPONSES OF PATIENTS TREATED WITH EFAVIRENZ CONTAINING REGIMEN

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Background The objective of this study was to evaluate the effect of CYP2B6 and CYP3A4 polymorphisms on the virological and immunologic responses of patients receiving an efavirenz-containing regimen. A total of 153 HIV-positive patients were enlisted for the current study.

Methods Viral load and median CD4 T cell counts were evaluated at baseline and month 6 (M6). Single nucleotide polymorphisms (SNPs) in CYP2B6 and CYP3A4 genes were genotyped using TaqMan genotyping assays.