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Editorial: Highlights in neglected tropical diseases 2021/22

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Editorial on the Research Topic
Highlights in neglected tropical diseases 2021/22

Frontiers in Tropical Diseases, Neglected Tropical Diseases (NTDs) section was launched in 2020 with the mission to publish high-quality manuscripts without discrimination based on perceived impact and significance. We reflect on the years 2021/22, presenting manuscripts that highlight advances in the elimination and control of NTDs towards achieving the WHO 2030 goals (1). The articles in this collection focus on schistosomiasis, onchocerciasis and visceral leishmaniasis, and range from original research, clinical trials, hypothesis and theory, and perspectives.

Schistosomiasis control remains a challenging area with frequent reinfections after treatment, and the exclusion of paediatric and other community populations from treatment interventions. N'Goran et al. worked on the paediatric praziquantel, much needed to extend treatment to preschool-age children and infants. In a clinical trial evaluating the efficacy and safety of new orodispersible tablet formulations of praziquantel (Racemate and L-Praziquantel) in *Schistosoma mansoni*-infected children, they showed that both formulations used as single-dose therapy demonstrated acceptable overall efficacy and safety. In the same trial, the investigators compared the performance of the POC-CCA test with Kato-Katz in diagnosing infection in the pediatric population administered with L-Praziquantel and revealed that the POC-CCA is sensitive and rapid for diagnosing *S. mansoni* infection (Yin et al.). However, the performance of the POC-CCA and its consistency with Kato-Katz needed to be further investigated among young children. Finally, Pinto-Almeida et al., investigated resistance/tolerance by *S. mansoni*, important for safeguarding and prolonging the efficacy of praziquantel (PZQ) and to develop markers for monitoring the potential emergence of drug resistance. Using a comparative proteomic analysis of PZQ-susceptible and PZQ-resistant *S. mansoni* they revealed distinct responses.

In the field of onchocerciasis, Albert et al. employed the diagnostic network optimization (DNO) method to model the implementation of the old Ov16 rapid diagnostic test (RDT) and of new RDTs in development for onchocerciasis elimination mapping (OEM) under different testing strategy scenarios. They also utilised the Environmental Suitability Scores in identifying areas at risk of transmission and used to select sites for OEM. Their results indicated that the new RDTs modelled, based on the Onchocerciasis target product profile developed by the WHO Diagnostic Technical Advisory Group subgroup (2), added most value in areas with variable disease prevalence, with most benefit in implementation units

that are near the statistical decision thresholds. In areas with high infection prevalence, the old RDT was still valuable. Thus, the DNO is useful in guiding the development and placement of new RDTs based on defined sensitivities and specificities.

For leishmaniasis, de Souza et al. showed the importance of strengthening diagnosis of visceral leishmaniasis (VL) capacity to improve access to care. The careful placement of health facilities is important in improving access to diagnosis and treatment and could serve as an investment case in accelerating the elimination of the disease. Makau-Barasa et al. make a case for moving from control to elimination of VL in East Africa. They advocate for a fully integrated program in East Africa, inclusive of effective diagnostics and treatment, to effectively reduce and eliminate the burden of VL in the region, thus paving the way to achieve the global elimination goals in the region. Finally, de Almeida Marzochi et al. hypothesize on the anthropogenic dispersal of *Leishmania (Viannia) braziliensis* responsible for cutaneous or mucocutaneous leishmaniasis in the Americas. This hypothesis can be extended to the spread of VL caused by *L. infantum* from the Old to the New world (3), and in current situations in parts of East Africa where nomadic populations are highly affected (4, 5), possibly resulting in the range expansion of the disease.

These studies reveal the important contributions to these diseases targeted for control or elimination in the WHO 2030 NTD roadmap, pushing the current boundaries of knowledge. Advancements in new diagnostic tools, treatments and their access, where most needed, are required if the elimination goals are to be achieved. We are grateful to the authors, reviewers and Editorial Board Members for their contributions to this collection.

Author contributions

All authors listed have made direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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