or moxidectin (CDTM) has not been investigated. Using phase II and III clinical trial data, and our individual-based analogue of the EPIONCHO transmission model (EPIONCHO-IBM), we capture inter-individual PD variation for standard dose ivermectin and ascending (2mg (n=45), 4mg (n=44), 8mg (n=1,016)) doses of moxidectin. We model interventions based on annual and biannual CDTI and CDTM, comparing how long it takes to eliminate onchocerciasis under these different strategies with and without variation in PD responses. Annual CDTM is similar to biannual CDTI (in the absence of PD variation) but biannual CDTM always eliminates onchocerciasis more rapidly. Persistent infection and transmission with multiple treatment rounds of CDTI may be due to inter-individual and inter-treatment round variability in PD responses. Inter-individual variation in responses is substantially lower for moxidectin, and with biannual CDTM there would be minimal opportunity for inter-treatment transmission to vectors, which contributes to its potential for accelerating elimination. The cost-effectiveness implications of the various strategies modelled will be discussed.

1801

ARE WE ON THE RIGHT TRACK? STOPPING CRITERIA FOR ENDING SOIL-TRANSMITTED HELMINTHS RANDOMIZED CLINICAL TRIALS

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Throughout the last decade, the World Health Organisation's (WHO) efforts with regards to soil-transmitted helminths (STH) have been focused on morbidity control in children. However, there now exists a shift towards elimination beyond 2020. Models indicate that with a high coverage level and good compliance, elimination may be achievable with mass-drug administration (MDA) alone; however, this has not been verified. Trials to investigate the possibility of elimination are ongoing (e.g. the TUMIKIA and DeWorm3 studies). Achieving high coverage levels may be difficult in areas with high migration or low compliance in the study population. If target coverage is not achieved or prevalence is not coming down, it may be better to stop an ongoing trial and to investigate the reasons. In this work, we investigate the stopping criteria which would be necessary to make this decision. We adopt a stochastic simulation model to simulate the DeWorm3 randomized trial. In short, this trial compares two arms, including a control arm (treating school-aged children with MDA once a year) and an intervention arm (biannual treatment of the whole community with MDA). The DeWorm3 trial lasts for three years and the sites are closely monitored for the following two years. At the end of year five, a cross-sectional survey is performed to investigate if the prevalence thresholds for interruption of transmission (<2%) have been achieved. As the whole process is costly, it may be more efficient to stop the trial when interruption of transmission can be ruled out, to determine why it was not achieved in order to inform future trials. In this study, we investigate if stopping criteria can be defined *in situ*ations where interruption of transmission is unlikely, resulting in higher prevalence levels than expected during the study period. This may occur when high coverage levels needed to reach this goal are not achieved or when immigration results in re-infection of the study-site. We investigate different time points and the effects of varying prevalence thresholds that can determine the stopping criteria.

1802

ASSESSMENT OF TWO DENSITOMETRIC READERS TO MEASURE RESULTS OF FILARIASIS TEST STRIPS IN THE DEMOCRATIC REPUBLIC OF CONGO

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The Alere Filariasis Test Strip (FTS) is a point-of-care diagnostic tool that detects *Wuchereria bancrofti* circulating filarial antigen (CFA) in blood. The Global Program to Eliminate Lymphatic Filariasis (GPELF) employs the FTS for mapping filariasis-endemic areas and assessing the success of elimination efforts. Recently, we demonstrated that the quantitative reading of FTS results (qFTS) using a densitometric reader (FD5, Konica-Minolta) provides additional information because the intensity of the test-line is correlated with CFA titers. In June 2016, we conducted a study in the Kwilu Province (DRC) to compare the performance of the FD5 reader with a new an Android-based ratiometric image analysis software application (mReader) operating on a low-cost Amazon Fire (2015 Tablet), which is more adapted for the field than the FD5. We tested 586 individuals and assessed the results by visual reading (vFTS), qFTS, and reading with mReader (mFTS). 152 (25.9%) individuals were positive by vFTS. Both qFTS and mFTS results were correlated with the vFTS scores (Spearman's coefficients 0.72 and 0.72 respectively, for all the subjects, and 0.82 and 0.78 respectively for only the positive vFTS), and were correlated between themselves (ρ = 0.55 and 0.78 respectively, for total population and positive vFTS). The quantitative ROC analysis showed that the areas under the curves (AUC) were similar for qFTS ratios and mFTS values (96.5 and 96.4, respectively; P = 0.880). Following the sensitivity analysis, we defined cut-offs of 0.46 and 16.5 for the qFTS and mFTS, respectively. For the qualitative performances, AUC were 92.3 and 91.2 for qFTS and mFTS, respectively (P = 0.396). In conclusion, the new tablet-based ratiometric image analysis application tool, mReader has similar performance to qFTS, and we hypothesize that results are similarly correlated with CFA titers. Although minor problems with misclassification remain, our preliminary testing demonstrates that it is possible to extract a quantitative indicator from the FTS. Such an indicator could provide the GPELF with greater information on which to base stopping MDA and surveillance decisions.

1803

EMPIRIC TESTING OF A MODEL TO IDENTIFY DISTRICTS ELIGIBLE FOR SAFE IVERMECTIN-BASED MASS TREATMENTS FOLLOWING INTEGRATED MAPPING FOR ONCHOCERCIASIS, LYMPHATIC FILARIASIS AND LOIASIS

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Onchocerciasis (Oncho) and lymphatic filariasis (LF) are among neglected tropical diseases (NTDs) targeted for elimination by preventive chemotherapy (PC-NTD). As a consequence of post-ivermectin (IVM) SAEs