reasons behind it, varied between our two study villages (despite relatively similar demographic and socioeconomic profiles). Additionally, it was found that a proportion (approximately 7%) of the population had been engaging in self-treatment outside of the study and/or government-led MDA. Inadequate levels of compliance to MDA have a substantial effect both on the individual's morbidity as well as on the community, as individuals who remain untreated can act as reservoirs of infection and continue to contribute to the transmission cycle. Many MDA programmes do not require directly observed therapy (DOT), and as such must rely on individual reporting of past compliance - which is problematic for a number of reasons (e.g. recall bias, reporting bias). Regular and consistent reporting of compliance/adherence to MDA will be essential as some endemic areas shift their goal from morbidity control to elimination of helminth NTD infections. This is particularly true in areas of low prevalence, as targeted treatment may be required to reach the goal of elimination. It is important to understand levels of non-compliance, as well as the reasons behind it, in order to maximise the efficiency of MDA programmes.

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IMPORTANCE OF INTEGRATED VECTOR MANAGEMENT IN VECTOR CONTROL AGAINST VECTOR BORNE DISEASES IN THE DISTRICT OF VATOMANDRY MADAGASCAR

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Vector-Borne Diseases are the infectious diseases transmitted by insect vectors; these diseases are heavy burdens in Madagascar. The main VBD in Madagascar are malaria, lymphatic filariasis and dengue. Integrated vector management is the rational decision-making process for the optimal use of resources for vector control. It is characterized by evidence-based decision-making, intersectoral collaboration, integration of chemical and non-chemical methods, advocacy and social mobilization, and legislation. In Madagascar, IVM is located in a pilot area in Vatomandry and which involves the Afro I project. The objective of this study is to demonstrate the effectiveness of 3 strategies including LLINs + IRS, LLINs + Social mobilization and LLINs alone to reduce the dependence on the use of DDT in the fight against malaria. A distribution of the LLINs in universal campaign mode was carried out in all the communes of Vatomandry, 4 Communes carried out an IRS of Actellic 300CS, some Fokontany of the District implemented a social mobilization and training for the capacity building of the different actors on IVM was carried out in this District. The results of these strategies are: for the IRS, 99.4% of the census structures are treated, 99.55% of the census populations are protected, 2037 children under 5 years old and 366 pregnant women are protected. For the LLINs distribution campaign, 103,500 nets distributed in this district, 195,606 populations and 49,245 households are protected. For the entomological study, the malaria and other VBD vectors are present in the 4 study communes: *Anopheles gambiae sl*, *Aedes albopictus* and *Culex sp. An. gambiae sl* is rather exophilic. Rice fields and stagnant waters are the potential larval breeding sites. The detection of vector resistance to insecticides in study sites is not yet very significant. In order to design an appropriate vector control program, a comprehensive assessment of VBD is essential, such as the systematic collection of epidemiological data, the development of entomological research and the follow-up of all IVM training.

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MASS DRUG ADMINISTRATION IN CROSS-BORDER COLLABORATION: CASE OF MALIAN REFUGEES IN NIGER

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Since 2007, Niger and Mali have been implementing annual integrated mass drug administration (MDA) for the elimination and control of lymphatic filariasis (LF), soil-transmitted helminths (STH), schistosomiasis (SCH) and trachoma with the support of technical and financial partners. During the political crisis in Mali, Niger welcomed more than 50,000 refugees from the endemic regions in Mali, and these refugees settled in the Tillaberi, Tahoua and Niamey regions. To protect the health of the refugees and the program impact of both countries, in 2013, with funding from the END Fund, the Ministry of Public Health, Niger organized an integrated MDA campaign for Malian refugees, supported by Helen Keller International (HKI)-Niger in collaboration with HKI-Mali that provided information on refugees' places of origin and treatment history, UNHCR that advised on access procedures in the camps, the Ministry of Interior that authorized the intervention within the camps and provided military escorts for the field teams, and the regional governor and directorate for Tillaberi region. MDA with ivermectin/albendazole (IVM/ALB), praziquantel (PZQ), and Zithromax and 1% tetracycline eye ointment (TEO) was conducted in 7 out of 8 refugee camps in the Tillaberi and Tahoua regions from June to August, 2013. A total of 16 supervisors and 86 drug distributors were used. During the MDA, drug distributors recorded data on distribution registers for each drug package and the data was subsequently summarized by health center chiefs and district NTD focal points. The LF/STH MDA with IVM/ALB treated 21,541 people out of targeted 29,761 (72% coverage: 46.9% male and 53.1% female). The SCH MDA with PZQ treated 23,741 people out of 29,761 (80% coverage: 50.4% male and 49.6% female) and the trachoma MDA with Zithromax/TEO treated 14,456 people out of 20,271 (71% coverage: 50.4% male and 49.6% female). The results show that good therapeutic coverage was achieved for all three drug packages despite the challenges in refugee camp settings. The intervention ensured that the refugees had not missed treatment and minimized the risk of cross-border transmission of the diseases.

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A COMMUNITY STUDY OF THE IMPACT OF SEMIANNUAL ALBENDAZOLE ON LYMPHATIC FILARIASIS AND SOIL-TRANSMITTED HELMINTH INFECTIONS IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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Implementation of mass drug administration (MDA) with ivermectin plus albendazole (Alb) for lymphatic filariasis (LF) has been delayed in Central Africa, because ivermectin can induce serious adverse events in people with very high *Loa loa* microfilaremia. In 2012, the WHO recommended use of Alb MDA together with vector control to combat LF in areas with co-endemic loiasis. This strategy has been supported by the results of a 3-year community trial conducted in the Republic of Congo, where baseline circulating filarial antigenaemia (CFA, assessed using the immunochromatographic card test - ICT) and microfilaremia (Mf) rates were 17.3% and 5.3%, respectively. In June 2014, we started a parallel trial in an area with higher baseline infection rates (31.6% for antigenemia

and 11.8% for microfilaremia) in the Democratic Republic of the Congo. Therapeutic coverage for the population > 2 years of age was ~ 75% at all treatment rounds. Evaluation at year 1 and 2 showed that the circulating filarial antigen (assessed using Filarial Test Strip - FTS) rate in the community decreased to 28.7% in 2015 and to 20.6% in 2016. Among 530 individuals who were examined both in 2014 and 2016, 185 were positive at baseline; 52 of those 185 (28.1%) cleared their antigenemia in 2016. Mf prevalence in the community decreased to 8.1% in 2015 and to 3.7% in 2016. Mf density (geometric mean of positive microfilariae (mf) counts) decreased from 171 mf/mL in 2014 to 104.4 mf/mL in 2015 and to 68.1 mf/mL in 2016 (60.2% reduction from baseline value). A total of 63/97 (65%) microfilaremic individuals at baseline have cleared their microfilaremia by 2016. Soil-transmitted helminth infections were monitored using Kato-Katz method. Between 2014 and 2016, prevalence of *Ascaris lumbricoides* infection in the community decreased from 14% to 2.3%, prevalence of hookworm infection from 58.6% to 38.3%, and prevalence of *Trichuris trichiura* from 8% to 3.6%. Year 3 results from that study will be presented at the meeting. This study should provide additional evidence regarding the use of semiannual MDA with Alb for elimination of LF in central Africa.

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STRENGTHENING THE TRANSMISSION ASSESSMENT SURVEY FOR LYMPHATIC FILARIASIS AND ONCHOCERCIASIS IN MUHEZA DISTRICT, TANGA, TANZANIA

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Transmission Assessment Surveys (TAS) are used by lymphatic filariasis (LF) elimination programs to determine whether LF transmission has been interrupted and mass drug administration (MDA) can be stopped. In Tanzania, TAS have been conducted in 76 out of 186 LF endemic districts, and have resulted in LF MDA being stopped in 74 districts. A programmatic TAS conducted in Muheza district in 2014 showed that 13 of 1664 tested children were antigen positive. Though the number of antigen-positive children was below the critical cutoff of 20, the results raised a concern that transmission could be ongoing in some areas within the district. In 2016, a community-based TAS was conducted in Muheza with the aim of testing the sensitivity of the TAS for detecting evidence of recent LF transmission. The study design was modified to accommodate assessment of antibodies to *Onchocerca volvulus,* allowing assessment of program impact for both onchocerciasis and LF. A total of 1,439 children aged 6-7 years and 3,115 individuals with ≥8 years of age were tested for *Wuchereria bancrofti* circulating filarial antigen (CFA) using the Filariasis Test Strip (FTS), and 4,502 individuals were tested for antibodies to *O. volvulus* by Ov16 rapid diagnostic test (RDT). Five children (0.35%) aged 6-7 year and 80 individuals (2.6%) with ≥8 year old were positive by FTS. Overall, 98 (2.18%) individuals were positive by Ov16 RDT and the prevalence for 0V16 antibodies among children aged <10 years 0.14%. The FTS results among young children support the TAS results from 2014 while the Ov16 RDT results among children suggest that MDA has had a significant impact on transmission of onchocerciasis in the district. This study demonstrated the feasibility of integrating onchocerciasis and LF elimination program activities. However, there was clear evidence of LF antigenemia and antibodies to *O. volvulus* among older individuals. These findings confirms the decision of stopping Mass drug administration for Lymphatic Filariasis in Muheza district. However due to presence of onchocerciasis in adult population, there may be a need for additional rounds of Mass drug administration.

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CHALLENGES AND PROSPECTS FOR TAKING DRUGS DURING MASS DRUG ADMINISTRATION WITH PRAZIQUANTEL AND ALBENDAZOLE: CASE OF THREE HEALTH DISTRICTS IN TILLABERI REGION, NIGER

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The Niger Ministry of Health Neglected Tropical Disease (NTD) Program organizes annual mass drug administration (MDA) campaigns with the support of Helen Keller International through funding from USAID's END in Africa project. In 2017, the first round of MDA with praziquantel/albendazole was held between February and March 2017 in four regions: Niamey, Diffa, Dosso and Tillaberi, where schistosomiasis is highly endemic. Supervision activities were conducted in four selected districts along the Niger River in the Tillaberi region, which is characterized by population displacement around Kandaji dam and insecurity in the northern area. A rapid survey was conducted at the end of drug distribution to assess compliance with taking the drugs. A convenience sample of 200 people aged ≥five years were surveyed in 10 villages (20 per village) of 8 health areas in Tillaberi, Tera and Kollo districts. The age range of 200 respondents was 5-85 years. Overall, 145 (72.5%) people received drugs and 130 (65%) ingested drugs. Of those aged 5-14 years (92), 64 (69.6%) received drugs and 63 swallowed them (68.5%). Of those aged ≥15 years (108), 81 (75%) received drugs and 67 swallowed them (62%). Among women (95), 72 (75.8%) received drugs and 63 swallowed them (66.3%). Among men (105), 73 (69.5%) received drugs and 67 swallowed them (63.8%). In those not receiving drugs the reasons given included absence (44%), the community drug distributor (CDD) did not come (25%), and stock-out (22%). Those who received but did not ingest the drugs reported being sick (6/15) and fear of side effects (6/15). The results showed that only 68.5% children and 62% adults actually ingested drugs (66.3% in women and 63.8% in men), lower than the minimum 75% required, though such rapid surveys do not reflect the true coverage. The factors affecting the receipt and ingestion of drugs reflect the challenges in MDA in these areas. More efforts for improving coverage include reducing CDDs' workload and providing training for key community actors such as public town criers and female volunteers.

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A COMPREHENSIVE SUSTAINABILITY FRAMEWORK FOR NEGLECTED TROPICAL DISEASE ELIMINATION PROGRAMS

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Great progress is being made in the push to eliminate Lymphatic Filariasis (LF) by 2020. However, additional guidance is required to ensure that elimination is sustained. A typical LF elimination program cycle has three phases: program initiation to identify infection prevalence; treatment to at-risk populations for 4-6 years to suppress transmission; and validation of elimination. This qualitative research was conducted in two steps using a multi-case study methodology: a literature review of sustainability frameworks to identify the optimum approach for LF, and the testing of the new sustainability framework on the Kenya National Programme for Elimination of Lymphatic Filariasis (NPELF). The research aimed to answer the following: (1) what elements of an LF elimination program need to be sustained?; (2)what factors influence sustainability of these elements?; and(3) how does decentralization of health services impact sustainability?. In-depth interviews were conducted with key stakeholders, programmatic documents were reviewed and key meetings attended. Data were subsequently arranged into the two key themes of interest- programmatic and contextual factors affecting sustainability. Within each of these, data were coded to specific programmatic or contextual factors and to the