

Stopping onchocerciasis on two sides of a border

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Pathogens don't pay attention to international borders, with transmission and endemic areas often stretching between countries. In the new work, Moses Katarwa of the Carter Center, USA, and colleagues report in *PLOS Neglected Tropical Diseases* the first known and successful coordinated cross-border mass drug administration (MDA) effort with ivermectin to stop onchocerciasis.

Onchocerciasis is a [tropical disease](#) caused by the parasitic worm *Onchocerca volvulus*, spread through *Simulium* flies that breed in fast flowing rivers and streams in Africa. The disease, also called "river blindness," can cause skin and eye symptoms. An onchocerciasis transmission zone known as Galabat-Metema is shared between Sudan and Ethiopia respectively, both countries having established a nationwide policy for elimination of the disease. Baseline disease mapping of 0-18% among 14 villages in Galabat, Sudan and 14-44% in 17 villages in the Metema district of Ethiopia.

Mass drug administration was provided once and subsequently twice per year in the area, with two doses per eligible person-per-year beginning in 2016 in Ethiopia and 2008 in Sudan. To determine if transmission had been interrupted on both side of the [border](#), blood tests for onchocerciasis antibody were carried out in children and vector *Simulium* black flies were tested in 'pools' of 100 flies/pool for *O. volvulus* DNA in both countries.

Blood tests on 10,003 children were all negative and only one vector

positive pool among 36,731 flies was positive. The WHO criteria for stopping MDA were met, and MDA was halted at the end of 2017 in a coordinated binational manner through a process of close collaboration and communication between the governments of Sudan and Ethiopia. This is the first report of such a cross border stop MDA decision.

"Onchocerciasis transmission zones may cross international borders and so present a unique challenge of coordination between the different national program activities on each side of the border," the researchers say. "Several lessons were learned from this experience."

More information: Katarbarwa MN, Zarroug IMA, Negussu N, Aziz NM, Tadesse Z, et al. (2020) The Galabat-Metema cross-border onchocerciasis focus: The first coordinated interruption of onchocerciasis transmission in Africa. *PLOS Neglected Tropical Diseases* 14(2): e0007830. doi.org/10.1371/journal.pntd.0007830

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