Onchocerciasis (or river blindness) is a disease caused by infection with a parasitic worm transmitted by blackflies, which breed in fast-flowing streams and rivers. Adult worms produce larvae (microfilariae) that migrate to the skin, eyes, and other organs, and can cause debilitating itching, disfiguring skin conditions, and visual loss (including irreversible blindness) over time. Onchocerciasis can therefore impact enormously on the lives of those infected, reducing their ability to work and learn.

Can it be prevented and/or treated?
There is no vaccine to prevent onchocerciasis infection, but mass administration of an oral drug called Mectizan® to communities in endemic areas can reduce the prevalence of the disease and the parasite load in infected people, and can eventually interrupt transmission. Skin-snip biopsies continue to be used to confirm positive cases, but new improved diagnostic methods are also being introduced.

What strategies are in place to achieve the WHO Roadmap targets for onchocerciasis?
Since donations of ivermectin by Merck & Co., Inc. began in 1987, mass drug administration (MDA) programs have commenced in many areas of the world. Starting from 1995, the partnership around the African Programme for Onchocerciasis Control (APOC) has provided treatment to all countries in Africa needing MDA through an innovative delivery strategy in which individuals are trained to give treatments to fellow community members. This strategy – called Community-Directed Treatment with Ivermectin (CDTI) – has been enormously successful in controlling onchocerciasis in Africa. In Yemen, clinical cases of onchocerciasis are treated with ivermectin, while MDA and blackfly controls will hopefully soon be launched. In Latin America, the regional elimination strategy is centered on twice-yearly MDA with ivermectin to eliminate transmission.

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How many people are affected and where?
Onchocerciasis occurs in 31 countries in tropical sub-Saharan Africa, in pockets in Yemen, and was or remains present in 6 countries in Central and South America.

~169 million people at risk
Of the approximately 169 million people living in onchocerciasis-endemic areas in Africa, an estimated 37 million are infected, representing 99% of the global burden of the disease. Of these, 4 million have skin manifestations, and 2 million are blind or severely visually impaired.
While new cross-border cooperation arrangements seem set to assist Latin America in achieving its transmission interruption target, in moving forward Africa will need to contend with various constraints, including a sizeable resource gap and a transitioning onchocerciasis control program, in order to ensure that the gains made by APOC towards elimination are not reversed.

Elimination in Yemen

Although political considerations in Yemen have hampered achievement by 2015 of the originally-envisioned elimination target, there is renewed government commitment and increased support from partners for moving forward. The country is now rallying toward an elimination target date of 2020, with MDA and blackfly control measures anticipated to start in 2015.

Community-Directed Treatment with Ivermectin in Africa

In Africa, the APOC program’s CDTI strategy has delivered hundreds of millions of treatments to people living in endemic areas.

~100.7 million people treated in 2013

Out of a total at-risk population of around 169 million in 1,209 health districts in Africa, around 100.7 million persons received ivermectin through the CDTI strategy (for a coverage of 59.5%) during APOC’s 2013 treatment cycle, up from 99 million people in 2012 but representing a drop from the 76.4% treatment coverage for that year. Onchocerciasis control efforts have now led to elimination in focal areas in several countries in Africa. Mali, Niger, and Senegal in West Africa, and Burundi, Chad, and Malawi in Central and Southern Africa are all ready for evaluations in 2015-16 to determine if treatment can be stopped nationally. 12 African countries are expected to achieve countrywide elimination by 2020. In rural sub-Saharan areas, where health systems are weak and under-resourced, CDTI is proving one of Africa’s most successful low-cost disease reduction strategies.

Key Challenges: It will be critical to address obstacles to achieving and sustaining high treatment coverage, particularly in conflict and post-conflict areas. In 2013, ivermectin distribution was prevented in the highly-endemic Central African Republic by civil unrest. Other areas in Central Africa where loa loa is also endemic remain untreated because individuals infected with both diseases can have serious or fatal complications from ivermectin. A strategy must be developed and implemented for areas where delivering treatment is impeded by such factors.

Priorities for progress

- For Africa, urgent efforts and support are required to address the huge existing resource gap. Momentum will also need to be maintained once APOC closes down in December 2015, and a new entity takes on responsibility for strategy coordination and technical support to countries in Africa.
- For Latin America, cross-border collaboration will be key.