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Homo versus *Plasmodium*. It's a war that has raged for millennia and that still claims hundreds of thousands of lives each year. The struggle against this mosquito-borne parasite has shaped the genomes of people in endemic regions. Past attempts to eradicate malaria have failed. What will it take to finally beat it into submission?

It is predominantly the richer countries with temperate climates that have eliminated malaria so far. The disease is still endemic in hotter, poorer countries; in some parts of western Africa, the burden is so high that elimination would require more than a 99% reduction in transmission rate (page S14). At least in Africa, where 90% of malaria-related deaths occur, the standard artemisinin-combination therapy (ACT) is still an effective cure. Parts of Southeast Asia are not so lucky. There is evidence that resistance to ACT is emerging there but, despite huge international drug development efforts, there are no new treatments to replace it (S16).

A vaccine for malaria has been a big research goal for more than a hundred years. *Plasmodium* is a master of disguise, and researchers have to try a diverse range of tactics to target the parasite — in both its human and mosquito hosts (S24). Indeed, understanding human immunity to malaria and identifying parasite antigens are two of the top research priorities identified by our panel of experts (S22). And any successful strategy to eradicate malaria will have to include controlling mosquitoes — such ideal vectors (S26).

But by far the greatest challenge is not in the lab; it is on the ground in endemic countries. It concerns access to care, encompassing education about malaria, availability of ACTs, infrastructure, presence of healthcare workers and government support. And in a country like Uganda, as our reporter Amy Maxmen found when she visited — these are in short supply (S19).

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Michelle Grayson

Senior Editor, *Nature Outlook*.

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