

be surprising if cost proved an insurmountable obstacle to the roll-out of artesunate. Nick White (Mahidol University, Bangkok, Thailand) points out that there are other factors that can work against change in Africa. "It's not all about money. There are regulatory burdens. There is tremendous inertia, and physicians have been very tied to quinine for centuries now." Country-specific issues could delay matters. South Africa, for example, has asked Guilin to submit further information on its product (which is its right, of course).

De Clerk notes that quinine has developed a longevity and familiarity in Africa. "It's the drug of choice in most African countries—everybody knows it, not only health personnel but patients too." It can take time to persuade people of the benefits of changing to a new drug, although, here, Olumese is optimistic—he points out that, given that quinine requires a certain skill to administer,

those involved in its dispensation are likely to be amenable to arguments in favour of artesunate. Besides, quinine will not disappear entirely. Its lengthy shelf-life—5 years—makes it a good idea to keep hold of supplies in case there are problems in sourcing artesunate.

"The MSF call is timely", adds White, "this is not something that will happen without a push." Olumese hopes that countries will have made the switch by the end of the year, and, to this end, WHO is helping adapt national training guidelines. Nathan Ford coauthored the MSF report. "Given that the majority of countries in Africa are still using quinine as first-line therapy for severe malaria", he told *TLID*, "the WHO guidelines imply a continent-wide policy change. It requires a clear international implementation plan and dedicated resources." De Clerk works in Uganda. She believes there is a receptiveness to change but



Complete kit for testing and treatment for malaria

translation of policy into practice can be a lengthy process. "WHO should keep the pressure on national governments to make the switch", she said. "We shouldn't waste any more time."

Talha Burki

East African tradition as a source of new antimalarials

Derivatives of quinine and artemisinin have prevented millions of deaths due to malaria, and these drugs have likely been used for thousands of years in the traditional medicine of South America and China, respectively. In a new report by the World Agroforestry Centre (ICRAF) and Kenya Medical Research Institute (KEMRI), a collaboration between traditional medicine practitioners and scientists identifies 22 plants used in east Africa with possible antimalarial properties.

Reported therapeutic use of plants by some non-human primates suggests that the use of medicinal plants may stretch back into our prehuman history, and many of the drugs used widely in western medicine today have their origins in plants.

Najma Dharani of ICRAF and Kenyatta University (Nairobi, Kenya) explains that the main aim of the report "was the documentation and

dissemination of local knowledge together with scientific information, including descriptions of 22 plants used for centuries by different local east African tribes".

The trees and shrubs produce a range of potentially active chemical compounds including alkaloids, terpenoids, and flavanoids that have activity against malaria parasites. And some, such as *Warburgia ugandensis* and species in the genus *Erythrina* are already under investigation.

But, Dharani says, more funds are needed to investigate the other plants on the list. "For example, *Zanthoxylum* species are potentially highly antimalarial, and have potential for other diseases, but we don't have enough funds to do research on species of this genus. National and international donors and pharmaceutical companies should provide funds for scientific research."

In addition to the species identified in the report, many more plants might possess antimalarial properties. "Compounds from botanical origin remain interesting for the discovery of new leads with original structures", says Joëlle Quetin-Leclercq, Louvain Drug Research Institute (Belgium).

Each plants' entry also includes details on cultivation and conservation. As pressures of population, agriculture, use of wood and charcoal as fuel, and habitat destruction increase, efforts to protect these potentially useful species and those in other threatened environments worldwide, will be needed.

"As only a small part of plants and trees have been studied, it is evident that deforestation will lead to the loss of potentially active compounds", warns Quetin-Leclercq.

Peter Hayward

For Common Antimalarial Trees and Shrubs of East Africa see <http://www.worldagroforestry.org/downloads/publications/PDFs/B16781.PDF>