Sri Lanka's achievement in eliminating malaria, certified by WHO on Sept 5, 2016, is an inspiring public health success story.1 With its population of about 22 million, this Indian Ocean island is the largest lower-middle-income country in the malaria-endemic tropics to achieve elimination.2 More than 80% of Sri Lanka's population live in rural areas, providing ideal ecosystems for Anopheles culicifacies, one of the main vectors for malaria in the region. And, remarkably, the groundwork for elimination was laid during a period of internal armed conflict.4

The elimination of malaria brings to an end one of Sri Lanka's most devastating health burdens. Of the country's 25 districts, only six had low to no risk for malaria.2,3 Epidemics and endemic transmission intensified in the 19th and 20th centuries as plantation, irrigation, and agricultural projects—undertaken by the British colonial administration and then by the independent government—opened up forested areas.5 Major epidemics occurred every few years. The 1934–35 epidemic killed over 1·5% of the population.5

In 1945, Sri Lanka was a regional pioneer in introducing indoor residual spraying (IRS) with dichlorodiphenyltrichloroethane (DDT).4,5 The dramatic results led to IRS being used across the country, and in 1958 Sri Lanka joined WHO's Global Malaria Eradication Programme. By 1963, there were just 17 cases of malaria reported in Sri Lanka, of which 11 were imported.5,6 Elimination seemed certain. But the subsequent scaling back of IRS led to the resurgence of malaria, with about 1·5 million cases in Sri Lanka during 1967–69.2–6 For the next 30 years, Sri Lanka did its best to control malaria but with little success.

Then in the late 1980s technical leadership by Sri Lanka's Anti-Malaria Campaign (AMC) Directorate led to the jettisoning of single vector-control methods, such as IRS, in favour of integrated vector management. This integrated approach relied on several carefully selected interventions, including vector control in major irrigation and agriculture projects, rigorous entomological surveillance leading to targeted spraying in high-risk areas, new classes of insecticides for IRS, insecticide-treated nets and larval control, and strengthened parasitological surveillance for active case detection combined with rapid response.3

Despite these efforts, major epidemics occurred during the 1980s and 1990s. In the country's 1986–87 epidemic there were more than 600 000 cases of malaria, while in 1999 the number of confirmed cases of malaria was 264 549.2,4 Fortunately, mortality was limited by wide access to quality treatment and because most infections were Plasmodium vivax malaria rather than
P falciparum, with a peak of 115 malaria-related deaths recorded in Sri Lanka in 1998.\(^4\) A turnaround began in 1999–2000.\(^4\) The Sri Lankan Government’s commitment to tackling malaria was renewed by the advocacy and technical support of the Roll Back Malaria Partnership.\(^5\) Across the country, malaria vector control, surveillance, and treatment interventions were ratcheted up. In subsequent years malaria incidence fell substantially in Sri Lanka—there was a 68% reduction in 2000–01 alone.\(^5\) By 2007, with further expansion of these interventions made possible by grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria, there were just 198 indigenous and imported malaria cases in the country, representing a 99% reduction in incidence from the 1999 level.\(^5\) In 2008, for the first time, there were no indigenous malaria-related deaths in Sri Lanka.\(^4\)\(^7\)

Strikingly, these achievements were made despite the challenges posed by the protracted armed conflict between the government and the Liberation Tigers of Tamil Eelam (LTTE), which began in the early 1980s.\(^4\)\(^6\)\(^7\) By 2000, Sri Lanka’s eight conflict-affected districts accounted for most malaria infections, after a surge in annual parasite incidence as anti-malaria efforts and primary health services buckled from decades of conflict in these districts.\(^4\)\(^6\)\(^7\) Integrated vector control and treatment interventions were scaled up in the conflict-affected districts by the AMC Directorate and the regional malaria teams, often in partnership with non-governmental organisations and the military.\(^4\)\(^5\)\(^6\)\(^7\) With their ranks affected by malaria, the LTTE assured renewed by the advocacy and technical support of the Roll Back Malaria Partnership.\(^5\) Across the country, malaria vector control, surveillance, and treatment interventions were ratcheted up. In subsequent years malaria incidence fell substantially in Sri Lanka—there was a 68% reduction in 2000–01 alone.\(^5\) By 2007, with further expansion of these interventions made possible by grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria, there were just 198 indigenous and imported malaria cases in the country, representing a 99% reduction in incidence from the 1999 level.\(^5\) In 2008, for the first time, there were no indigenous malaria-related deaths in Sri Lanka.\(^4\)\(^7\)

Inevitably, difficult challenges still remain. These range from preventing the reintroduction of malaria from imported cases to the pressing need to tackle the threats posed by Aedes and Culex mosquitoes, including the burden of dengue, chikungunya, and Japanese encephalitis, and the potential threat of Zika virus disease and even yellow fever.\(^5\)\(^6\)\(^7\) These challenges will be resolutely addressed because Sri Lanka is committed to combating and eliminating mosquito-borne and other infectious diseases as a key part of the country’s pledge to achieving the Sustainable Development Goals for 2030. The elimination of malaria is a first milestone in reaching the SDG health goals in Sri Lanka.

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