Vanuatu, which has eliminated malaria from two islands, is working to reduce its national annual parasite incidence and malaria deaths by 2016, and to continue eliminating malaria island by island, starting with Tafea Province by 2014.

Overview

Vanuatu has experienced a 76 percent decrease in reported malaria cases between 2000 and 2011, from 6,768 cases to 2,077 cases. Malaria is endemic in Vanuatu except for the islands of Aneityum and Futuna, which are malaria free. Although the only known malaria vector is Anopheles farauti, infections due to Plasmodium falciparum and P. vivax also occur, as do rare cases of P. malariae. P. vivax makes up approximately 59 percent of the Plasmodium parasite species with a recent P. vivax increase especially in the southern islands. Transmission is seasonal with a peak during the December-to-April rainy season. Overall, malaria incidence is lower in the south and higher in the north. Due to the constant movement of populations, certain areas that would be considered malaria free are at risk of transmission from imported cases.

The malaria-free island of Futuna lies beyond the Buxton line, which defines the southeastern limit of anopheline breeding, and therefore malaria transmission there is impossible. Other than those living on Futuna, the entire population of Vanuatu is at risk for malaria. Widespread use of insecticide-treated bed nets (ITNs) has contributed to an overall reduction of malaria starting in 1990, when annual malaria incidence was nearly 200 per 1,000 population. The current malaria strategy aims to achieve and sustain close to 100 percent coverage and use of long-lasting insecticide-treated bed nets (LLINs), increase access to quality diagnostic coverage for health facilities, provide 100 percent coverage of indoor residual spraying (IRS), and ensure effective and prompt treatment using artemisinin-based combination therapy (ACT). Vanuatu is a country partner in the Asia Pacific Malaria Elimination Network (APMEN), a network composed of 14 Asia Pacific countries and other stakeholders working to eliminate malaria in the region.

At a Glance

- **2,077** Reported cases of malaria (59% P. vivax)
- **1** Death from malaria
- **99%** of population at risk (total population: 245,000)
- **8** Annual parasite incidence (cases/1,000 total population/year)
- **10.8%** Slide positivity rate


Progress Toward Elimination

Malaria has been endemic to most of the 68 populated islands of Vanuatu, yet several small islands are malaria-free. In 1973, IRS with DDT was implemented as the main malaria control activity. However, an assessment in 1982 provided no evidence of impact on transmission, and the program was scaled down to only focal spraying for outbreaks. P. vivax was the most common Plasmodium species in Vanuatu until P. falciparum began regularly appearing in 1970, possibly linked to the emergence of chloroquine-resistant P. falciparum. In the early 1980s, P. falciparum resistance to chloroquine was first confirmed and was estimated to comprise about 30 percent of the species nationally by 1990. In 1991, the Vanuatu Ministry of Health instituted new treatment guidelines for P. falciparum, which consisted of chloroquine/sulphadoxine-pyrimethamine combination therapy. Today, chloroquine remains the recommended treatment for P. vivax.

To examine the feasibility of eliminating malaria from an island in Vanuatu, a mass drug administration (MDA) project was initiated in 1991 and covered the entire population on
Eliminating malaria in VANUATU

Malaria Transmission Limits

*Plasmodium falciparum*

*Plasmodium vivax*

Aneityum (718 inhabitants) for a period of nine weeks. The project was part of an integrated malaria control program that used MDA in addition to ITNs, larvivorous fish, and surveillance by a community microscopist, along with a high degree of community commitment. By the mid-1990s, malaria had been eliminated from Aneityum. After a small outbreak of *P. vivax* in 2002, another round of MDA was administered using chloroquine and primaquine, and vector control measures were restrengthened. Through these efforts, the Aneityum project has resulted in virtual malaria freedom for the island over the last two decades.

ITNs were first introduced in 1988 on Efate Island with promising results. By the end of 1992, 27 percent of Vanuatu’s population was using ITNs. In the 1990s, malaria mortality in Vanuatu was significantly reduced as a result of large-scale ITN intervention. Malaria cases decreased considerably from 28,805 in 1990 to 5,152 in 1999. However, in 1999 an earthquake and tsunami, as well as an overall reduction in funding for the malaria program, made it difficult to sustain programmatic capacity and interventions such as ITNs, and malaria resurged in the early 2000s. Malaria cases increased from 6,768 in 2000 to 15,240 in 2003, and deaths increased from only 3 to 14 during this period.

Starting in 2003, Vanuatu received a Global Fund Round 2 grant to reduce malaria morbidity by 50 percent and eliminate mortality by strengthening and expanding malaria control programs.
The Pacific Malaria Initiative Support Centre (PacMISC), which is supported by the Australian Agency for International Development (AusAID), was created in 2007 to support the intensification of malaria control and progressive elimination efforts in the Southwest Pacific, with a particular focus on the Solomon Islands and Vanuatu. PacMISC provides the Vanuatu ministry of health with focused technical expertise and programmatic assistance through operational research. The current national malaria strategy for Vanuatu covers 2007 to 2012. The aim is to achieve and sustain 90 percent population coverage with LLINs, to expand diagnosis using either microscopy or rapid diagnostic tests (RDTs) to all health facilities, and to introduce ACT as first-line treatment drug policy. In 2008, RDTs for malaria diagnosis were introduced in health facilities. From 2004 to 2011, an overall progressive decline in malaria cases has occurred, from 14,653 cases to 2,077 cases.

Vanuatu’s malaria program, through support provided by the Global Fund and the Pacific Malaria Initiative (PacMI), along with strategic guidance from the Malaria Reference Group (MRG), aims to decrease its annual parasite incidence and malaria-related deaths by 2016 and eliminate malaria from Tafea Province by 2014. Increasing coverage of diagnostic services in hospitals and health care centers, as well as continued distribution of LLINs within the community, will assist Vanuatu in reaching its near-term goal of eliminating malaria in Tafea Province.
Challenges to Eliminating Malaria

Community sustainability

One challenge to eliminating malaria is sustaining the commitment to elimination in at-risk communities. Physical and sociocultural factors, such as access to health facilities, cost of malaria services, and level of satisfaction with health centers, affect community treatment-seeking behavior. Community engagement in elimination is necessary to sustain interest in the effort, maintain gains in malaria control, and continue progress toward elimination.25

Programmatic capacity

Delivering services and interventions to at-risk populations in remote areas is a priority if Vanuatu is to achieve elimination.3 LLIN distribution is a challenge in certain areas because Vanuatu lacks adequately trained staff at national and provincial levels. This is currently being addressed by the malaria program through repeated training and supervision of health workers at all levels.24

Conclusion

Vanuatu is implementing a spatially progressive strategy of elimination and has adopted an intensive malaria program that seeks timely access to early diagnosis, appropriate treatment, and LLINs for the entire population. In order to meet these strategic elimination goals, continued financial and programmatic commitments to the current malaria activities are essential.

Sources

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**Transmission Limits Maps Sources**


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About This Briefing

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The Malaria Elimination Initiative at the Global Health Group of the University of California, San Francisco (www.globalhealthsciences.ucsf.edu/global-health-group) convenes the Malaria Elimination Group (www.malariaeliminationgroup.org), and supports countries actively pursuing elimination at the endemic margins of the disease. Funding for the Malaria Elimination Initiative is provided by the Bill & Melinda Gates Foundation and Exxon Mobil Corporation.

The Malaria Atlas Project (MAP) provided the malaria transmission maps. MAP is committed to disseminating information on malaria risk, in partnership with malaria endemic countries, to guide malaria control and elimination globally. Find MAP online at: www.map.ox.ac.uk.

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