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## Vanuatu: Malaria

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# Vanuatu: A misunderstood Endemic

## Background

Vanuatu is a nation in the South Pacific, about three quarters of the way to Australia from Hawaii, consisting of 80 islands (Central Intelligence Agency [CIA], 2017). Vanuatu has a total area of 12,189 square kilometers, for reference nation is nearly the same area as the state of Connecticut (CIA, 2017). The climate of Vanuatu is tropical (CIA, 2017), making it a favorable for mosquito growth.

According to estimates, in 2015 the population of Vanuatu was 282,814 people (CIA, 2017). The majority of its citizens live in rural areas (CIA, 2017). The population is almost all native to Vanuatu, and the majority speak a variety of the local languages (CIA, 2017). Most of the population, 70%, is protestant (CIA, 2017).

The Government of Vanuatu is described as a parliamentary republic (CIA, 2017). The president is elected by an electoral college that consists mainly of parliament, the president, once elected, serves a 5-year term (CIA, 2017).

## Issues

As a country that has been independent for less than 40 years (CIA, 2017), Vanuatu has many issues. These issues include low contraception use/availability, low immunization of infants, and a high obesity rate when compared to other countries in the region (World Health Organization [WHO], n.d.). The country also has an issue with modern infrastructure. An example is that 5.5 % of its population has a poor source of drinking water and 42% of the population lives in areas with poor sanitation facilities (CIA, 2017).

Although the issue is getting better, the country is struggling with malaria. Shown in figure 2 (page 2), the issue of malaria is wide spread through the country, and effects nearly all 80 of its islands (Center for disease control and prevention [CDC], n.d.). The CDC has rated Vanuatu as a moderate risk for U.S. travelers as it pertains to malaria contraction (n.d.). Malaria is believed to be responsible for 2% of deaths in children under the age of 5 (WHO, n.d.). The WHO also estimates the total cases of Malaria in Vanuatu in to be near 5,000 (n.d.).

## Epidemiology

Malaria is spread through blood and is typically associated with mosquitos. The two most prevalent strains of the endemic in Vanuatu are *Plasmodium falciparum* and *P. vivax* (Donald et al., 2016). The stain *P. falciparum* is believed to be responsible for 60% of cases and *P. vivax* is thought to be responsible for the other 40% (CDC, n.d.).

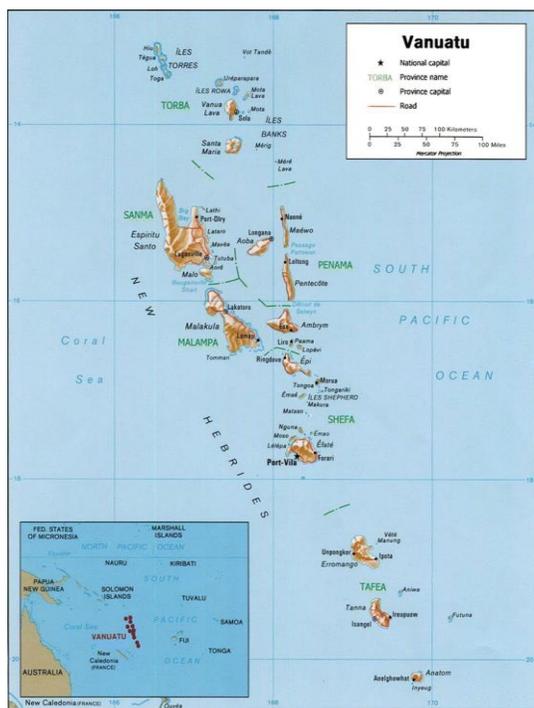


Figure 1.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4668700/figure/fig1/>

### Managing the Problem

Although the issue is still large the country is make stride in management. One technique that the country is using is surveillance of the issue. The country is actively working to better diagnose the disease, in hopes of preventing the spread (Donald et al., 2016). They also are useful in diagnosis of asymptomatic persons (Donald et al., 2016). These tools are also important to prevent miss diagnosis that is prevalent on the archipelago. Over a 6-month period only 0.53% of the fever cases diagnosed as Malaria were found to be Malaria on one of the islands (Donald et al., 2016).

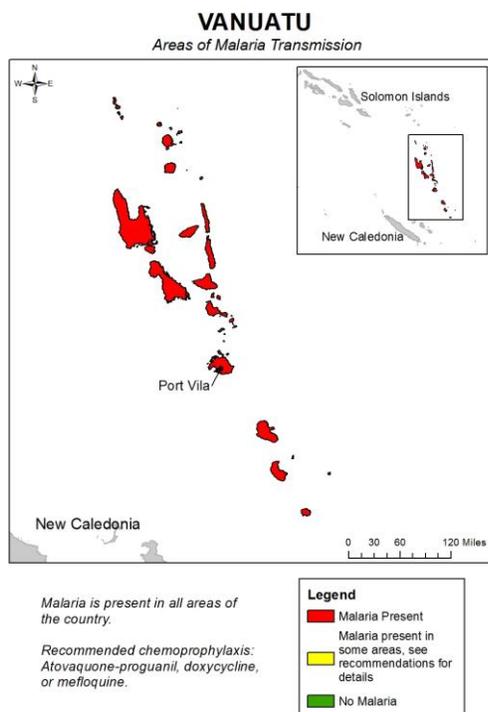


Figure 2.  
[https://www.cdc.gov/malaria/images/map/Vanuatu\\_3.14.16.jpg](https://www.cdc.gov/malaria/images/map/Vanuatu_3.14.16.jpg)

This leads to the correct treatment for the patients.

A technique that has been implemented to prevent the contraction of malaria is insecticide-treated nets (ITNs) (Watanabe et al., 2014). The protection these nets provide is understood by educated individuals, but some Vanuatuans are not educated to the malaria endemic, so the value is not known (Watanabe et al., 2014). As a result, the nets are being used for fishing and farming, which of course offers no malaria protection (Watanabe et al., 2014). The intervention needed is education, especially informing the public of the threat imposed to them by malaria. As discussed in the study by Watanabe et al., the islands that perceive a threat from malaria use the nets for the designed purpose, and the islands that don't perceive a threat use them to fish (2014).

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