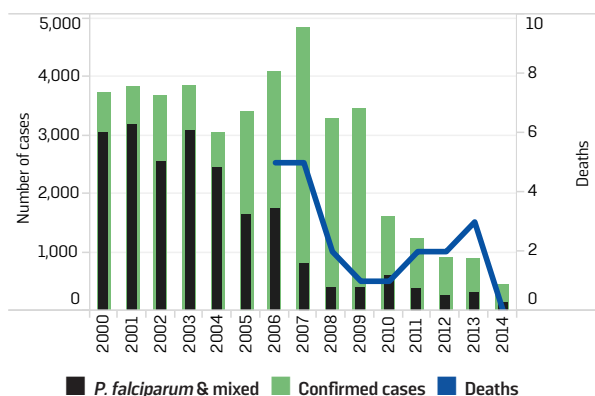


FRENCH GUIANA, FRANCE

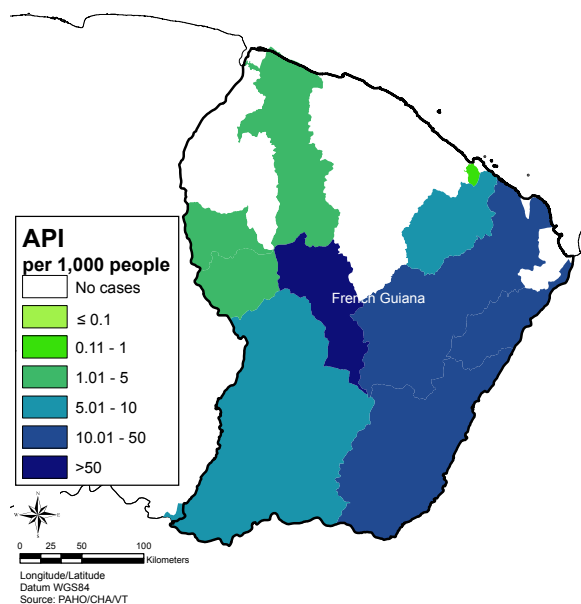
French Guiana is an overseas territory of France and is one of the only few malaria endemic areas under the French government (Figure 1). In 2014, French Guiana reported 448 confirmed cases of malaria and no recorded deaths (Figure 2). These figures are the lowest the territory has reported in decades. Overall, morbidity has decreased by 87.9% since 2000, achieving the WHA 58.2 target for MDG 6C.

Figure 2. Number of cases and deaths due to malaria in French Guiana, 2000-2014



The Guiana Shield is one of the richest mineral deposits in the world and is the site of legal and illegal gold mining. The area extends into parts of French Guiana, Suriname, Guyana, Venezuela, Colombia, and Brazil. Many people migrate to the rainforest in order to participate in mining which is an occupation linked to having a higher risk of malaria (31). A 2013 study conducted in the illegal mining

Figure 1. Malaria by Annual Parasite Index (API) at commune level (ADM2), French Guiana 2014



site of Eau Claire located in the Maripasoula commune found a 50% prevalence rate of malaria among miners, of which 40% of cases were asymptomatic (32). Malaria transmission is reported not to occur in the coastal area though many cases are diagnosed there. Although information about malaria cases by locale of infection is not available for all cases, information from the French military posted in the interior of the country indicates that transmission along the Maroni and Oyapock rivers (Figure 3), which form the borders with Suriname and Brazil, respectively, is lesser compared to the central interior part of the country.

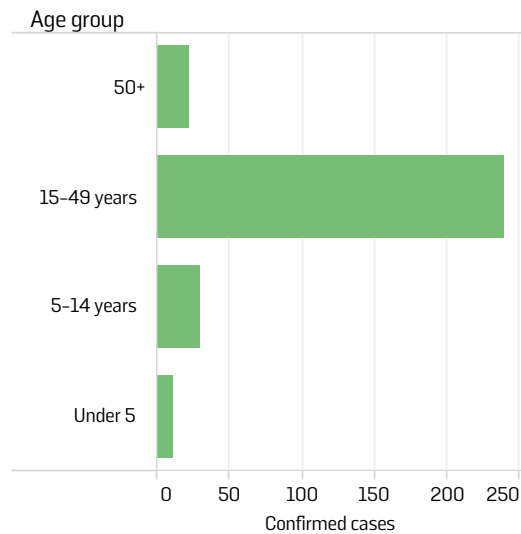
Figure 3. Communes with the highest malaria cases by place of diagnosis in French Guiana, 2012-2014

Commune	Department	2012	2013	2014
Cayenne	Cayenne	118	69	104
Maripasoula	Saint Laurent du Maroni	66	290	77
Saint Georges*	Cayenne	264	182	66
Kourou	Cayenne	58	54	35
Saint-Laurent**	Saint Laurent du Maroni	6	0	31
Regina	Cayenne	124	38	18
Camopi	Cayenne	66	46	15
Roura	Cayenne	18	6	9
Remire-Montjoly	Cayenne	26	15	7
Papaïchton	Saint Laurent du Maroni	6	26	3

■ Decrease ■ Increase
■ Insufficient data/No change

*Saint Georges (de l'Oyapock)
 **Saint-Laurent (du Maroni)

Figure 4. Malaria cases by age in French Guiana, 2014



Efforts to reduce malaria incidence in Suriname have benefitted French Guiana particularly during the "Looking for gold, finding malaria" project funded by the Global Fund. There has been a decrease in cases along the border with Suriname because of this project. However, French Guiana must still reinforce these interventions within its borders. Plans to coordinate efforts among countries in the Guiana Shield are forthcoming.

The principal malaria vector is *An. darlingi*. However, the previously mentioned study in Eau Claire found *An. nuneztovari* and *An. ininii* to be naturally infected with *Plasmodium* species in the mining area with the former present in high numbers (32). Another study found *Anopheles (Anopheles) intermedius* Peryassu, *An. (Nyssorhynchus) nuneztovari* Gabaldon, and *An. (Nys.) oswaldoi* Peryassu to be naturally infected with *Plasmodium* species in the country (33). In 2014, 33% of cases were caused by *P. falciparum* and mixed infections. In French Guiana, Pf/PAN RDTs are used especially in the interiors which results in *P. vivax* mono-infections and mixed infections diagnosed as "other positive RDTs" when RDTs are the only used method of malaria diagnosis. Information regarding malaria cases by sex is not reported. Those between the ages of 15-49 are the most affected by malaria (Figure 4).

Priority Groups

Miners in remote areas have difficulty accessing diagnosis and treatment and often obtain it when they cross over to neighboring Suriname or Brazil. In these countries, approximately 1,249 cases were reported to have been imported from French Guiana in 2014, which is almost 3 times that reported. In Suriname interventions to treat illegal miners have been carried

out with RDTs used by community health workers who do not pose a threat to illegal miners. Interventions have been successful and as a result Suriname has been able to provide access to diagnosis and treatment to many illegal miners. Under French law, only certified health professionals are allowed to perform RDTs and prescribe treatment, which means interventions like these are not possible (34).

Medication is usually obtained across borders where it is then partially consumed and the rest is sold back in the mining sites in exchange for gold. Monotherapy of artemisinin derivatives is available from illegal pharmacies in mining areas throughout most of the Guiana Shield. Self-medication is common in mining sites, especially illegal ones, and often incomplete; this could possibly lead to development of parasite resistance to artemisinin. Other populations at risk are those that live along the rivers and in forest areas.

Figure 5. Blood slides examined and SPR in French Guiana, 2000-2014

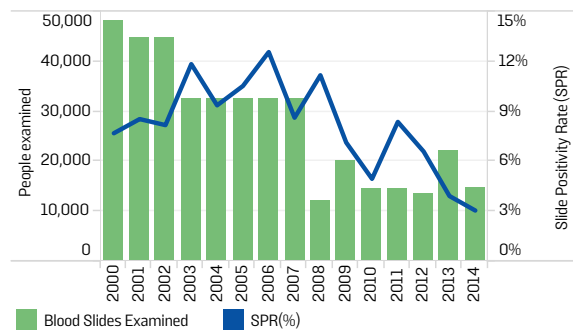
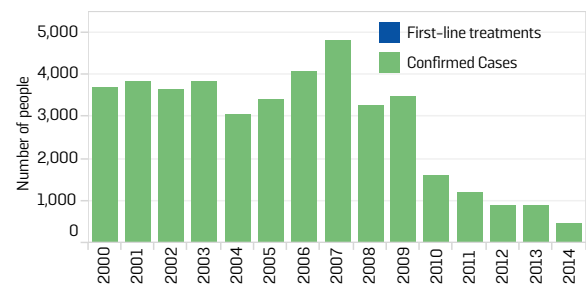


Figure 6. Number of malaria cases and those treated with first-line treatment in French Guiana, 2000-2014

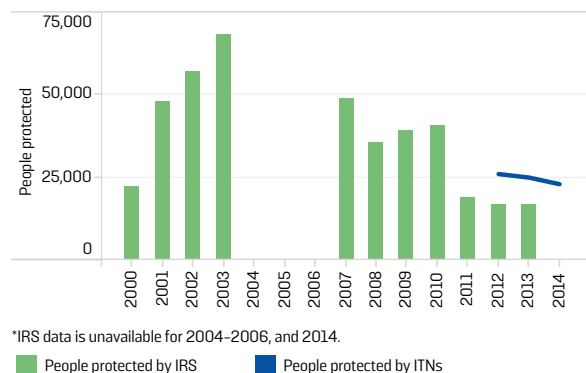


*First-line treatment data is unavailable for 2000-2014.

Diagnosis and Treatment

The SPR was 3.06 in 2014, and a total of 14,651 slides were examined (Figure 5). Artemether and lumefantrine combination is the first line treatment used for *P. falciparum* cases, while chloroquine and primaquine (30 mg/kg for 14 days) are used for *P. vivax*. However, prescription of primaquine requires G6PD screening which is difficult to conduct in remote areas. Single-dose primaquine for *P. falciparum* is restricted as it is not officially approved in the European Union for this purpose (31).

Figure 7. People protected by IRS and by ITNs in French Guiana, 2000-2014



Vector Control

IRS has been used in villages in the past to control vectors, though information for the year 2014 is not available. Since 2012, ITNs have been distributed in the territory and current estimates predict that around 23,000 people would be protected (Figure 7). However, as most people at risk are those involved in illegal mining, the proportion of these that would have been protected by government-funded vector control interventions is minimal.

Funding

Funding data is not regularly reported by French Guiana (Figure 8). Malaria control in the country is exclusively funded by the government.

Figure 8. Funding for malaria in French Guiana, 2000-2014

