

Situation of Malaria in the Region of the Americas, 2000-2013¹



**Pan American
Health
Organization**



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REGIONAL OFFICE FOR THE **Americas**

¹ Document prepared by the Regional Malaria Program, Pan American Health Organization with data from Annual Country Reports- 2014

General situation in endemic countries

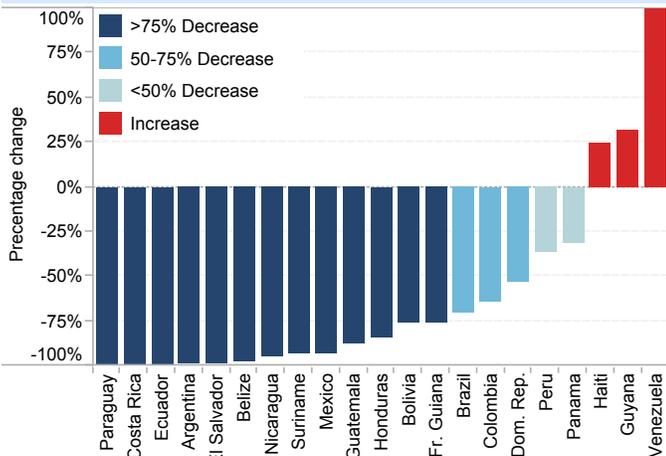
Following the trend since 2010, malaria continued to decline in 2013 after increasing between 2008 and 2010. On comparison with the previous year, there was a decrease of 9% in 2013, more than that of 5% in 2012. Since 2000, the Region of the Americas has decreased morbidity due to malaria by 64%. Unlike 2012, this decline was slightly lower in *Plasmodium falciparum* and mixed infections (59%) than in infections with *P. vivax* (66%) due to an increase in *P. falciparum* cases in 2013 in some countries, especially Venezuela and Peru. Of the 21 malaria endemic countries in the region, 13 have already reached the Millennium Development Goal-6 (MDG) of 75% reduction in malaria morbidity by 2015 compared to 2000 (Figure 1). Five countries are on track to reach the MDG target in the coming years. However, three countries have shown an increase in the number of cases during the same period. Mortality has presented a similar trend; 84 malaria deaths were reported in 2013, which is a reduction of 78% since 2000 (Figure 2). In 2013, no malaria related deaths were reported in 11 countries.

In 2013, 427,904 cases were reported in endemic countries of the Region, of which 29% were due to *P. falciparum* and mixed infections (Table 1). There was an increase in three countries; Guatemala, Peru and Venezuela in 2013, relative to 2012. Suriname also reported an increase of 160 cases; of the 789 cases reported by the country, 28.5% (208) were investigated and of these almost all 206 (27.9% of the total) were imported from neighbouring countries. Since 2009, malaria has been on the rise in Venezuela, mainly associated with increased activity in gold mining areas in the east of this country (Bolívar state) and the decline in malaria control interventions. In Peru, specifically in the state of Loreto, malaria almost tripled from 11,793 cases in 2011 to 38,833 in 2013, reaching levels similar to those reported during 2008 - 2009. The decrease in control interventions could have been the reason for this increase, in addition to natural disasters that have occurred in this state. An increase in cases of *P. falciparum* and mixed infections was observed in nine countries: Bolivia, Colombia, Ecuador, Guatemala, Guyana, Honduras, Panama, Peru and Venezuela. Meanwhile, Brazil reported over the course of a year, a decrease of 25% of the cases reported in 2012.

Information about malaria cases by sex was available for 92% of the cases reported in the Americas in 2013. Men were most affected (63%) by malaria at the Regional level compared to women. Except for Haiti (based on data from the year 2012), a similar situation can be seen at the country level in all countries where men are more affected by malaria. Especially in Guyana, Venezuela (2012 data), Dominican Republic and Suriname most malaria cases occur in men aged 15-19, 20-24 and 24-29 suggesting that malaria is related to occupation. At the regional level the disease is concentrated among children and youth; 46% of the total cases were reported among children and youth under 20 years of age (Figure 3).

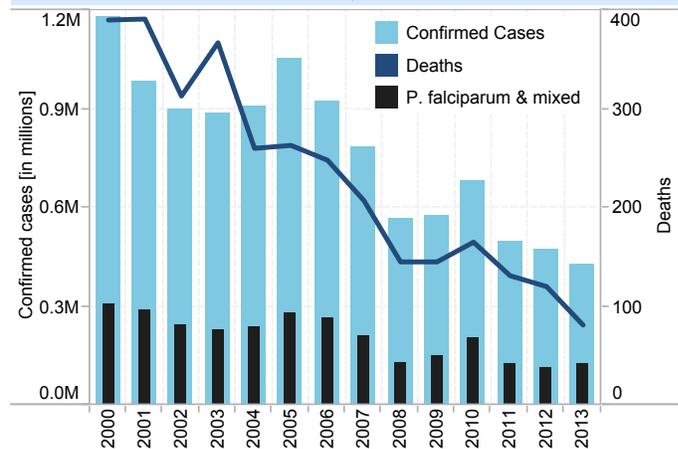
In 2013, six countries were classified as being in the pre-elimination phase: Belize, Costa Rica, El Salvador, Ecuador, Mexico and Paraguay (Table 2). Argentina is currently in the elimination phase. Argentina and Paraguay continued to report zero (0) autochthonous cases in 2013.

Figure 1. Decrease in malaria morbidity by countries of the Americas, 2000 - 2013



* Fr. Guiana - French Guiana, ** Dom. Rep. - Dominican Republic

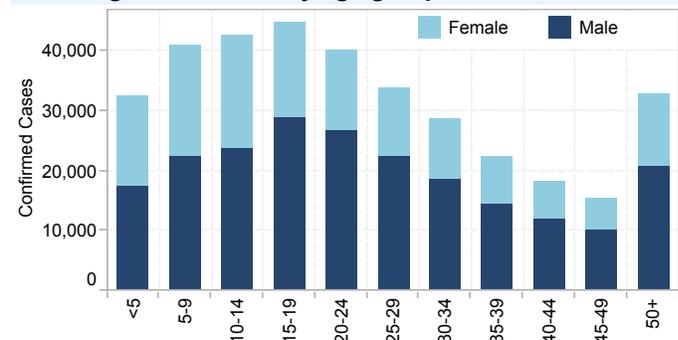
Figure 2. Malaria morbidity and mortality in the Americas, 2000 - 2013



Argentina has formally requested PAHO/WHO to commence the process of certification of elimination of malaria in 2014. Costa Rica reported only 6 cases, of which 4 were imported from Honduras, Nicaragua, Peru and Mozambique. In Belize, 18 foci were investigated of which 3 were endemic and 1 was residual active, all in the southeast of the country. Of the remaining, 6 were residual non-active and new potential foci, while the rest (8) were classified as malaria-free by the end of 2013. Four imported cases from Honduras, Guatemala and Guyana were reported by Belize. An imported case from Guatemala was also detected in the north of El Salvador in 2013, which caused an outbreak of local transmission in the latter. Two endemic foci exist in El Salvador, one in the area bordering Guatemala. Mexico reported four imported cases of *P. falciparum*, one of which was imported from Belize in 2013, although Belize has not reported any autochthonous case of *P. falciparum* since 2007 similar to Mexico where there is only local transmission of *P. vivax*. Local malaria transmission decreased by around 40% in one year in Mexico. Surveillance decreased in Ecuador in 2013; only 26% of the confirmed cases were investigated in comparison to 37% in 2012. Most imported cases in 2013 were infected in Colombia (5), while the rest were imported from other Amazon countries (Brazil, Peru and Venezuela).

In the Americas, malaria transmission is concentrated in the Amazon forest area (Figure 4). In Bolivia most malaria cases and all cases of *P. falciparum* are concentrated in the Amazon area in the north of the country, especially in the municipalities of Riberalta and Guayaramerin, both in the state of Beni. These two municipalities reported 74% of the total malaria cases in the country in 2013. The transmission is mainly related to agricultural activities - chestnut harvesting, where people called 'zaferos', travel inside the Amazon forest during the harvest season and become infected because of poor access to treatment while they are there. Difficult geographic access limiting access to diagnosis and treatment is also the main reason for transmission in the Amazon region in north-east of Peru. Here, the state of Loreto reported 89% of the total cases in Peru in 2013. Two municipalities of this state, San Juan Bautista and Punchana, together reported almost 25% of cases in the country. Migration of 'Garimpeiros', or people working in legal or illegal gold mining activities, between Amazon forest areas of Venezuela,

Figure 3. Malaria by age group and sex, 2013



* Data not available for Haiti and Venezuela. Information for Guatemala available according to age groups different from those used here.

Table 1. Malaria in countries in the control phase in the Region of the Americas, 2011 - 2013

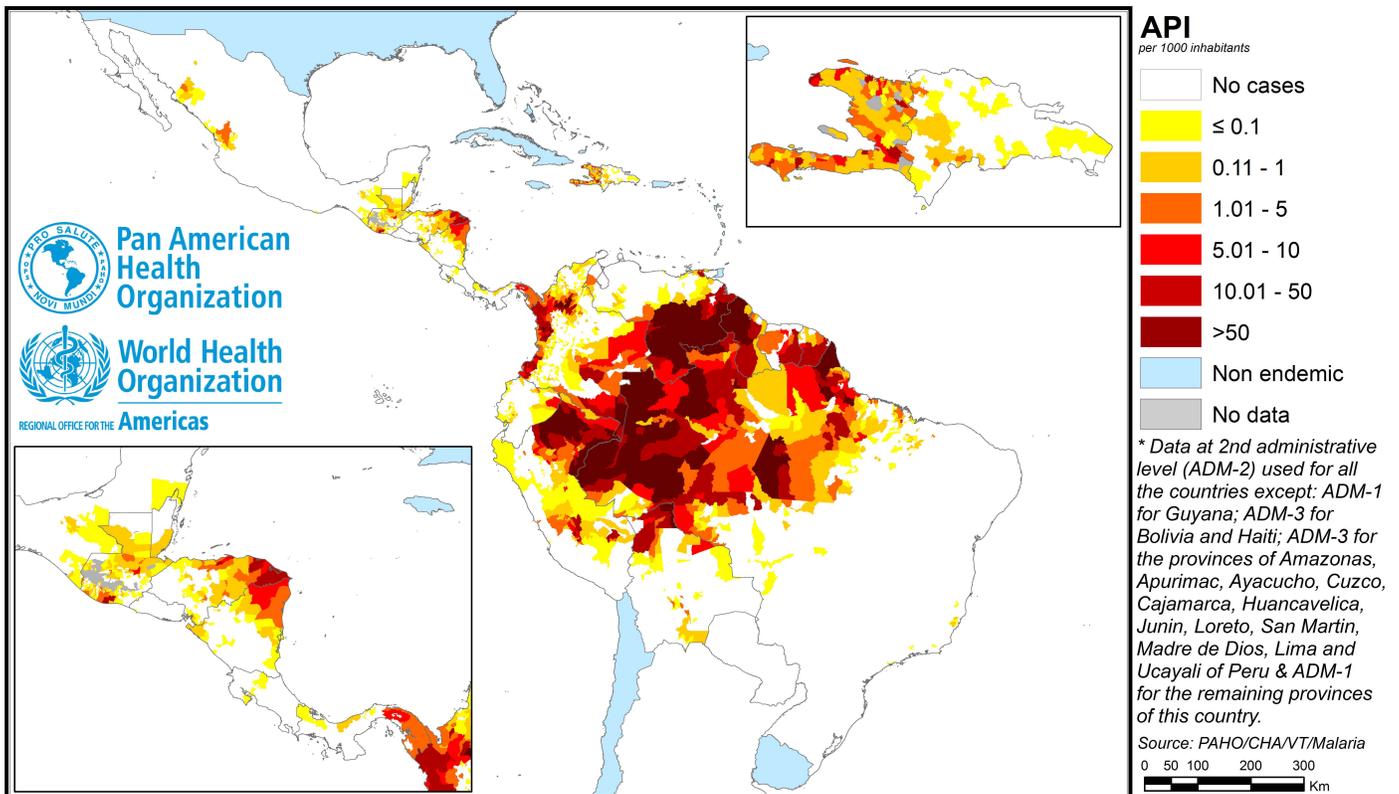
Country	Year	Total population at risk	Blood samples examined	Confirmed Cases	P. falciparum & mixed infections	Slide positivity rate (x100)	Annual Parasite Index (x1000)
Bolivia	2011	1,321,178	143,272	7,143	387	4.99	5.41
	2012	5,212,078	121,944	7,415	348	6.08	1.42
	2013	4,549,215	133,260	7,342	996	5.51	1.61
Brazil	2011	43,847,468	2,476,335	267,146	35,273	10.78	6.09
	2012	44,212,156	2,325,775	242,758	35,379	10.33	5.49
	2013	41,992,553	1,873,518	178,546	31,482	9.43	4.25
Colombia	2011	10,252,284	396,861	64,436	15,404	15.41	6.29
	2012	9,603,584	346,599	60,179	15,721	14.44	6.27
	2013	9,691,401	284,332	51,722	18,174	15.81	5.34
Dominican Republic	2011	6,663,374	421,405	1,616	1,614	0.34	0.24
	2012	6,787,117	415,808	952	950	0.19	0.14
	2013	6,577,495	431,683	579	576	0.12	0.09
French Guiana	2011	209,823	14,429	1,209	376	8.38	5.76
	2012	199,040	13,638	900	264	6.60	4.52
	2013	199,199	22,327	875	538	3.92	4.39
Guatemala	2011	5,883,321	195,080	6,817	67	3.49	1.16
	2012	6,057,530	186,645	5,346	68	2.86	0.88
	2013	6,541,912	153,731	6,214	152	4.04	0.95
Guyana	2011	698,795	201,693	29,471	20,309	14.61	42.17
	2012	698,795	196,622	31,601	20,293	16.07	45.22
	2013	732,557	205,903	31,479	17,425	15.29	42.97
Haiti	2011	9,928,243	184,934	34,350	32,969	18.57	3.46
	2012	10,312,000	167,726	27,866	25,423	16.61	2.70
	2013	10,388,424	172,624	20,957	20,378	12.14	2.02
Honduras	2011	5,690,024	152,451	7,618	605	4.87	1.34
	2012	5,478,118	155,165	6,439	583	4.05	1.18
	2013	5,270,455	144,436	5,428	1,159	3.75	1.03
Nicaragua	2011	2,575,374	521,904	925	150	0.18	0.36
	2012	3,198,774	536,278	1,235	236	0.23	0.39
	2013	6,134,267	517,141	1,194	220	0.23	0.19
Panama	2011	1,624,216	116,588	354	1	0.30	0.22
	2012	2,402,289	107,711	844	1	0.78	0.35
	2013	3,724,171	93,624	705	6	0.75	0.19
Peru	2011	4,499,236	702,894	25,005	3,018	3.56	5.56
	2012	4,499,236	758,723	31,436	3,501	4.14	6.99
	2013	4,499,236	863,790	43,139	6,843	4.99	9.59
Suriname	2011	63,351	15,135	795	331	5.25	12.55
	2012	80,000	17,464	569	126	3.26	7.11
	2013	80,000	13,693	729	407	5.32	9.11
Venezuela	2011	5,705,160	382,303	45,824	11,167	11.99	8.03
	2012	5,689,293	410,663	52,803	13,302	12.86	9.28
	2013	5,939,612	476,764	78,643	27,659	16.50	13.24

Table 2. Malaria in countries in the pre-elimination or elimination phases in the Region of the Americas, 2011 - 2013

Country	Year	Confirmed Cases	Cases Investigated	Imported	Authchonus P. falciparum	Imported P. falciparum	Imported P. vivax	Active Foci
Argentina	2011	18	18	18	0	0	18	...
	2012	4	4	4	0	0	4	0
	2013	4	4	4	0	0	4	0
Belize	2011	79	1	1	0	1	0	...
	2012	37	1	1	0	0	0	...
	2013	26	26	4	0	0	4	6
Costa Rica	2011	17	17	6	0	4	2	...
	2012	8	8	1	0	0	1	1
	2013	6	6	4	0	1	3	1
Ecuador	2011	1,233	96	14	288	8	6	...
	2012	558	204	14	68	12	2	14
	2013	378	100	10	160	1	9	3
El Salvador	2011	15	15	6	0	3	3	...
	2012	21	21	6	0	3	3	10
	2013	7	7	1	0	0	1	2
Mexico	2011	1,130	1,130	6	0	6	0	...
	2012	842	842	9	0	9	0	71
	2013	499	499	4	0	4	0	61
Paraguay	2011	10	10	9	0	7	2	...
	2012	15	15	15	0	11	4	0
	2013	11	11	11	0	7	4	0

... No data available

Figure 4. Malaria by Annual Parasite Index (API) at the second administrative level (ADM-2) in the Americas - 2013



Guyana, Suriname and French Guiana, and Brazil's border areas with these countries also leads to decreased access. This has been the main reason for malaria transmission in these countries. In 2013, Brazil and Suriname reported around 16,000 cases in people working as miners, which we consider is an underestimation of the burden of malaria in miners. Colombia, Guyana and Brazil reported over 45,000 cases in indigenous groups who also reside in the Amazon forests of these countries. Afro-Colombians are another high-risk group in Colombia who had 33% of the malaria cases in the country in 2013; malaria is concentrated in this ethnic group on the Pacific coast of the country, especially in the state of Choco.

The top 20 municipalities by burden of disease in the Amazon sub-region had more than 44% of the total cases of Amazon sub-region in 2013 (Figure 5). The municipality of Sifontes in Bolivar state of Venezuela alone reported about 12% of cases in the sub-region. This municipality continues to show an increasing trend similar to that reported by the country in recent years. The majority (13) of the top 20 municipalities by burden of malaria in 2012 reported a decrease in malaria in 2013. Oeiras do Para municipality in Para state of Brazil reported only 94 cases in 2013 although it had more than 14,000 cases in 2010. Also Anajas municipality of Para state reported 3,000 cases in 2013 compared with 13,000 in 2011. The municipalities of Cameta, Currealinho and Bagre have also reported a sharp decline among other municipalities of this state. Surveillance has decreased in many of these municipalities; the number of people tested decreased from 36,989 in 2010 to 3,825 in 2013 in Oeiras do Para and the situation is similar in several other municipalities in Para state. However, it is unclear whether this dramatic reduction is due to decreased surveillance or the effect of other interventions. Malaria returned to 2010 levels in the municipalities of Caceres (Antioquia) and Quibdo (Chocó) of Colombia after declining in 2011 and 2012. In all, 16 of the first 25 municipalities with malaria in 2013 reported increase in the number of cases since the last year.

In Mesoamerican sub-region, the top 20 municipalities reported more than 65% cases of the sub-region. Malaria in La Gomera municipality of Escuintla state in Guatemala continues to increase; this is possibly due to improved surveillance in this particular municipality and the state of Escuintla in general (Figure 6). The establishment of health posts using rapid diagnostic tests and consequently the increase in detection were among the reasons of duplication of cases

Figure 5. Municipalities (ADM-2) with high malaria burden in countries of the Amazonas sub-region, 2011 - 2013

Municipality	State	Country	2011	2012	2013
Sifontes	Bolivar	Venezuela	28,143	31,396	46,610
Cruzeiro do Sul	Acre	Brazil	10,842	16,055	20,043
Porto Velho	Rondonia	Brazil	15,915	15,570	9,134
Itaituba	Para	Brazil	7,711	14,179	9,004
Eirunepe	Amazonas	Brazil	3,166	9,269	8,483
San Juan Bautista	Loreto	Peru		3,612	7,414
Manaus	Amazonas	Brazil	14,649	9,768	7,295
Mancio Lima	Acre	Brazil	4,182	5,205	7,281
Barima/Amakura	Region 1	Guyana	4,350	4,188	6,412
Lower Potaro*	Region 8	Guyana	2,718	7,265	5,592
Sao Gabriel**	Amazonas	Brazil	4,901	4,049	5,524
Ipixuna	Amazonas	Brazil	294	4,067	5,455
Gran Sabana	Bolivar	Venezuela	2,086	2,985	5,195
Mazaruni***	Region 7	Guyana	1,498	6,996	5,063
Caceres	Antioquia	Colombia	1,773	1,922	5,061
Cedeno	Bolivar	Venezuela	2,815	3,604	5,057
Labrea	Amazonas	Brazil	2,058	4,068	4,651
El Bagre	Antioquia	Colombia	7,549	6,570	4,572
Atures	Amazonas	Venezuela	1,615	2,269	4,377
Atalaia do Norte	Amazonas	Brazil	2,121	5,723	4,291
Quibdo	Choco	Colombia	1,349	1,703	4,232
Sao Paulo****	Amazonas	Brazil	639	4,199	4,190
Macapa	Amapa	Brazil	1,442	1,484	4,022
Boa Vista	Roraima	Brazil	284	169	4,011
Ramon Castilla	Loreto	Peru			3,911

*Lower Potaro/Ladysmith Creek, ** São Gabriel da Cachoeira, *** Mazaruni/Left Bank Essequibo River, ****São Paulo de Olivença
Data not available at ADM2 level for 2011 and 2012 for Suriname. District-level data (ADM-3) used for Peru, which were partially available during 2011-2013.

Change from previous year
■ Increase ■ Decrease ■ No Data

in Puerto Lempira municipality in Honduras. Fourteen of the top 25 municipalities reported increase in 2013 compared to 2012. Chepo district of Panama in particular has reported a large increase; in 2013 it reported five times more cases than those reported in 2011. On the Island of Hispaniola, all the top 25 municipalities with a high burden of malaria were in Haiti (Figure 7). Dajabon was the municipality with the highest burden of malaria (51 cases) in Dominican Republic in 2013, while the neighbouring municipality of Ouanaminthe in Haiti reported 61 cases. The introduction of the use of rapid diagnostic tests in 38 of 140 communes of the country in 2013, has led to an increase in surveillance. This has reduced the proportion of cases treated clinically without a diagnostic result (approximately 86 000 in 2013 compared to 110 thousand in 2012).

Chloroquine is used as the first-line of treatment for *P. falciparum* in 9 of the 21 endemic countries in the Americas (Table 3). All these countries belong to the sub-region of Mesoamerica and the Island of Hispaniola, areas where there is no known resistance to this anti-malarial medication. The combination of artemether-lumefantrine is used in 9 countries, while the rest use artesunate-mefloquine for the treatment of *P. falciparum* malaria. Chloroquine and primaquine are used as first-line treatment for *P. vivax* in all countries of the Region of the Americas.

At the Regional level, the number of people protected by insecticide-treated nets (ITNs) decreased as ITNs were not distributed in several countries in the last three years (2011-13) along with decrease due to normal wear and tear of ITNs (Figure 8). Indoor residual spraying (IRS) and ITNs were used in almost all endemic countries of the Region. Suriname and Haiti did not use IRS for vector control and Guyana has started using it since 2011. An increase in number of people protected annually by IRS in 2013 was reported by Peru (215%), Guyana (98%) and Venezuela (20%). The coverage of IRS

Table 3. First line of treatment for malaria by species type in the Región of the Americas

Country	<i>P. falciparum</i>	<i>P. vivax</i>
Argentina	AS+MQ; AL	CQ+PQ(7)
Belize	CQ+PQ(1d)	CQ+PQ(14)
Bolivia	AS+MQ+PQ	CQ+PQ(7)
Brazil	AL+PQ; AS+MQ+PQ	CQ+PQ(7); CQ+PQ(14)
Colombia	AL	CQ+PQ(14)
Costa Rica	CQ+PQ(1d)	CQ+PQ(7); CQ+PQ(14)
Dominican Republic	CQ+PQ(3d)	CQ+PQ(14)
Ecuador	AL+PQ	CQ+PQ(7)
El Salvador	CQ+PQ(1d)	CQ+PQ(14)
French Guiana	AL; AQ+PG	CQ+PQ
Guatemala	CQ+PQ(3d)	CQ+PQ(14)
Guyana	AL+PQ(1d)	CQ+PQ(14)
Haiti	CQ+PQ(1d)	CQ+PQ(14)
Honduras	CQ+PQ(1d)	CQ+PQ(14)
Mexico	CQ+PQ	CQ+PQ
Nicaragua	CQ+PQ(1d)	CQ+PQ(7)
Panama	AL	CQ+PQ(7); CQ+PQ(14)
Paraguay	AL+PQ	CQ+PQ(14)
Peru	AS+MQ+PQ	CQ+PQ(7)
Suriname	AL+PQ(1d)	CQ+PQ(14)
Venezuela	AS+MQ+PQ(1d)	CQ+PQ(14)

CQ- Chloroquine PQ- Primaquine MQ- Mefloquine AS- Artesunate AL- Artemether & Lumefantrine PG- Proguanil AQ- Atovaquone
 For *P. falciparum*- (3d): 15 mg of Primaquine per day for 3 days (adults)
 (1d): 45 mg of Primaquine in one dose on 1st day (adults)
 For *P. vivax*- (14): 15 mg of Primaquine per day for 14 days (adults)
 (7): 30 mg of Primaquine per day for 3 days (adults)

* Artemisinin-based combination therapy (ACT) is used for imported cases of *P. falciparum* in countries using CQ as first-line treatment for this species.



Figure 6. Municipalities (ADM-2) with high malaria burden in countries of the Mesoamerican sub-region, 2011 - 2013

Municipality	State	Country	2011	2012	2013
Puerto Lempira	Gracias A Dios	Honduras	929	870	1,769
La Gomera	Escuintla	Guatemala	1,055	1,231	1,739
Masagua	Escuintla	Guatemala	539	509	580
Trujillo	Colon	Honduras	947	1,376	466
Santa Lucia*	Escuintla	Guatemala	319	472	459
Sonaguera	Colon	Honduras	284	560	442
Panzos	Alta Verapaz	Guatemala	391	843	409
Waspan	RAAN	Nicaragua	468	336	398
Villeda Morales	Gracias A Dios	Honduras	329	274	390
Tocoa	Colon	Honduras	444	513	332
Chepo	Panama	Panama	58	160	332
La Democracia	Escuintla	Guatemala	171	81	299
Tiquisate	Escuintla	Guatemala	381	459	273
Rosita	RAAN	Nicaragua	32	115	238
Brus Laguna	Gracias A Dios	Honduras	496	167	234
Chisec	Alta Verapaz	Guatemala	265	292	230
Santa Catalina**	Alta Verapaz	Guatemala	121	243	208
Danli	El Paraiso	Honduras	81	54	181
Nueva Concepcion	Escuintla	Guatemala	125	79	173
Puerto Cabezas	RAAN	Nicaragua	68	253	171
Kuna Yala	Kuna Yala	Panama	34	55	156
Olancho	Yoro	Honduras	178	279	147
Coban	Alta Verapaz	Guatemala	33	78	144
Retalhuleu	Retalhuleu	Guatemala	30	0	143
Bonanza	RAAN	Nicaragua	23	135	127

* Santa Lucia Cotzumalguapa, ** Santa Catalina La Tinta ***RAAN- North Atlantic Autonomous Region

Change from previous year

■ Increase ■ Decrease ■ No Data

Figure 7. Municipalities (ADM-2) with high malaria burden in countries of the Island of Hispaniola, 2011 - 2013

Municipality	State	Country	2011	2012	2013
Delmas	Ouest	Haiti	642	2,284	1,919
Croix-Des-Bouquets	Ouest	Haiti	184	3,076	1,842
Petit Goave	Ouest	Haiti	1,050	1,510	1,336
Port De Paix	Nord-Ouest	Haiti	1,182	2,931	1,123
Port Margot	Nord	Haiti	640	433	1,109
Carrefour	Ouest	Haiti	134	1,025	1,059
Chardonnières	Sud	Haiti	1,976	1,538	1,059
Port-au-Prince	Ouest	Haiti	296	1,342	856
Ganthier	Ouest	Haiti	6	1,041	753
Jeremie	Grand-Anse	Haiti	996	557	587
Gressier	Ouest	Haiti	15	117	548
Bas Limbe	Nord	Haiti	207	239	495
Saint-Marc	Artibonite	Haiti	305	693	490
Cavaillon	Sud	Haiti	1,044	820	485
Mole Saint Nicolas	Nord-Ouest	Haiti	201	508	472
Aquin	Sud	Haiti	882	872	442
Les Cayes	Sud	Haiti	332	386	429
Mombin Crochu	Nord-Est	Haiti	226	235	371
Petion-Ville	Ouest	Haiti	321	626	326
Dondon	Nord	Haiti	97	28	301
Bombardopolis	Nord-Ouest	Haiti	1	255	288
Fonds Des Negres	Nippes	Haiti	31	362	235
Plaine du Nord	Nord	Haiti	453	445	231
Quartier Morin	Nord	Haiti	108	280	219
Torbeck	Sud	Haiti	384	310	218

Data at commune level used for Haiti

also rose in Nicaragua and Honduras with decrease in malaria in the latter. On the other hand, IRS coverage decreased in Colombia (57%) and Guatemala (52%) alongside a decrease in the number of people protected by ITNs in the last three years in the latter; possibly the reason for the increase of malaria in some areas of Guatemala in 2013. Other countries reported only a slight increase or small decrease in protection by IRS. The number of people protected by ITNs increased by 2.3 times in Honduras in 2013 compared to the previous year. Currently, ITNs are not used in Argentina, Paraguay and Panama while El Salvador introduced its use in the country in 2013. A slight increase in protection by ITNs was also observed in Belize, Brazil and Peru while it decreased in the other countries. The total financing available for malaria at the Regional level declined slightly in 2013, mainly due to the decline in external financing, especially for Global Fund grants (Figure 9). Government budget for malaria decreased in 7 countries in 2013: Ecuador (51%), Guatemala (37%), El Salvador (23%), Peru (21%), Costa Rica (10%), Panama (9%) and Dominican Republic (5%).

Non-endemic countries

There are 29 countries / territories (hereinafter referred to as countries for both) in the Region of the Americas, which are considered non-endemic for malaria. Of these, 19 shared information for the year 2013 (Table 4). Thirteen of these countries reported imported malaria cases from other endemic countries, for a total of 2,190 cases. Canada and the United States of America (U.S.A.) together reported 95% of these cases in non-endemic countries. One autochthonous malaria case by *P. falciparum* was reported by the Bahamas in 2012. Autochthonous cases were reported by the country in 2008, but no autochthonous cases were reported in 2010, 2011 and 2013. Information for the year 2009 is not available. The country is still in the phase of prevention of reintroduction of malaria transmission. In Jamaica, where there was an outbreak of malaria from 2006 to 2009, no autochthonous case has been reported since 2010 and the outbreak was declared over in 2013. Uruguay in 2013 reported one death from malaria. Six deaths with malaria were reported by U.S.A. in 2012; information for the year 2013 is not available. Most cases in the U.S.A. are imported from African countries (Figure 10). During 2011 - 2013 in the English-speaking non-endemic Caribbean countries, most malaria cases were imported from the Americas, mainly Haiti followed by Guyana (Table 5). Haiti was also the country from which most cases were reported imported by the French-speaking Caribbean territories during the same period.

Figure 8. People protected by Indoor Residual Spraying (IRS) and Insecticide-Treated Nets (ITNs), 2000 - 2013

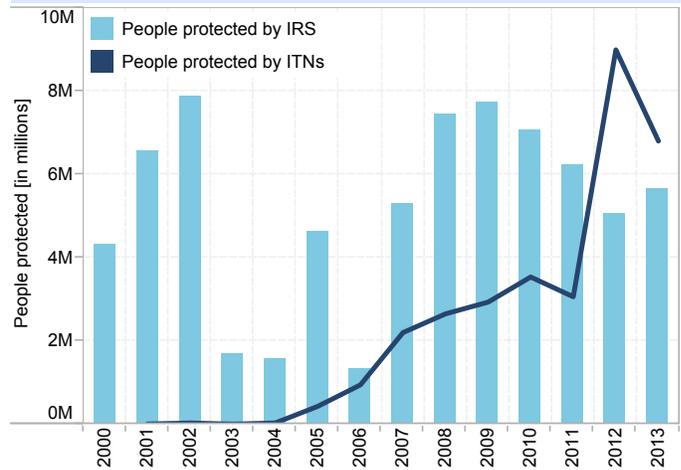
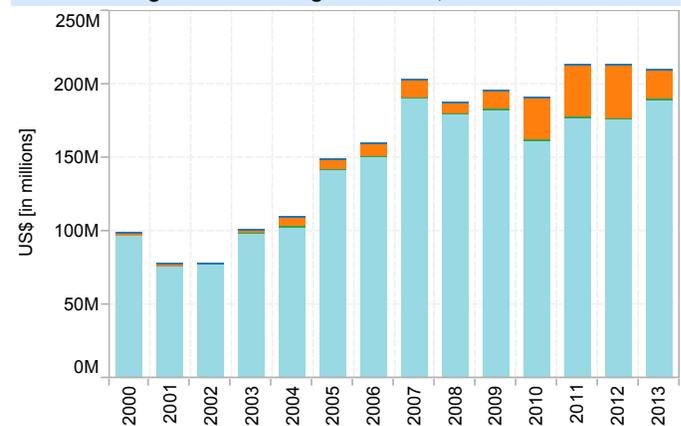


Figure 9. Financing for malaria, 2000 - 2013

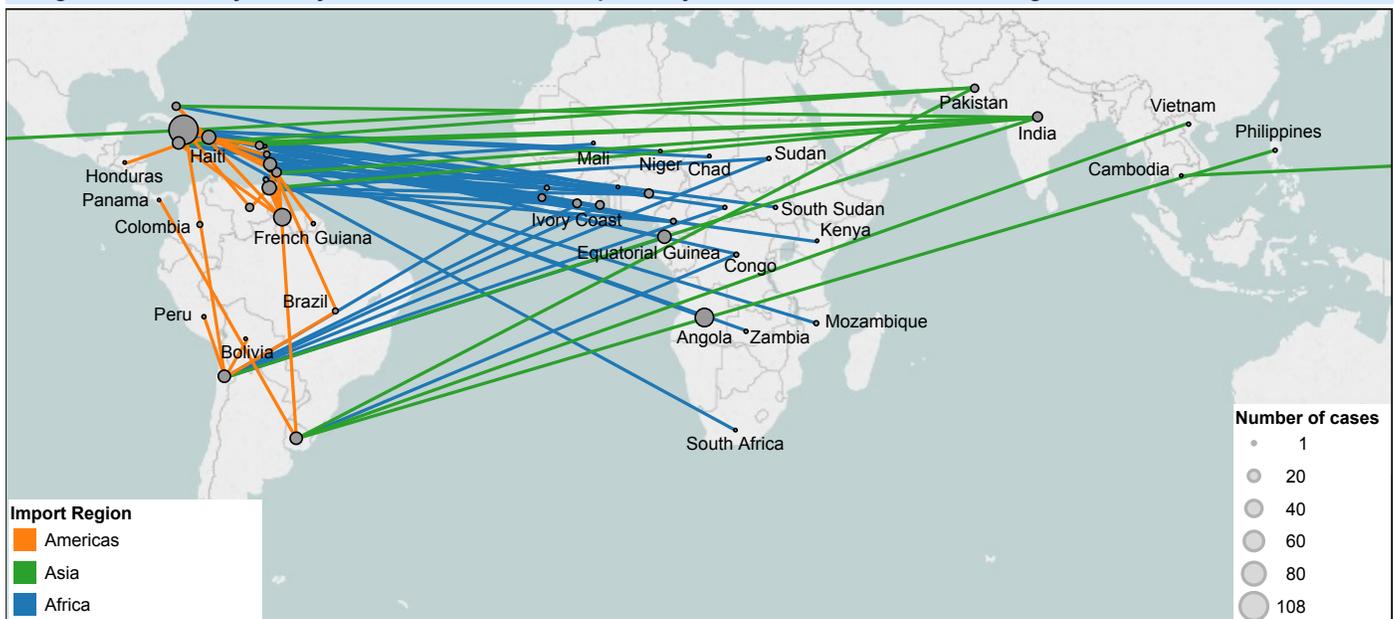


* Data not available for the years 2000-12 for Haiti, from 2005-11 for Suriname and 2006-08 for Venezuela. Data available only for the year 2006 for French Guiana.



- Bilaterals
- USAID
- UN Agencies
- GFATM
- Government
- World Bank

Figure 10. Malaria by country from which cases were imported by non-endemic countries in the Region of the Americas, 2011 - 2013



* Does not include cases reported imported by the United States of America.

Table 4. Number of malaria cases in non-endemic countries of the the Region of the Americas, 2000 - 2013

Country	Year													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Anguilla	0	0	0	0	0	0			0	0		0	0	0
Antigua & Barbuda	0	2	0	0	0	2			1	0	1	1	0	0
Aruba	0		0		0									
Bahamas	2	4	1	3	2	1	49	6	14		1	6	2	2
Barbados	3	5	6	0	3	3				2	2	10	9	5
Bermuda	0	0	0	0	0	1								
British Virgin Islands	0	0	0	0	0	0	0		0		0			
Canada	462	445	366	376	375	348	318						477	489
Cayman Islands	3	0	3	1	1	2	1				1	1	3	
Chile	7	0	5	7	7	5	3	5		4	3	5	10	6
Cuba	53	0	29	30	26	9	33	35	19			28	32	48
Dominica	0	0	0	0	0	0		0		0	1	1	0	
Grenada	0	0	0	0	0	1	0	0	0	1	0	0	1	2
Guadeloupe	7	7	12		7		6		12	0	8	1	2	2
Jamaica	7	6	7	9	141	88	194	199	22	22	12	9	5	6
Martinique	7	11	12	16	10		10		14	11	7	13	2	9
Monteserrat	0	0	0	0	0	0			0	0	0	0	0	0
Puerto Rico	1	0	1	1	0	1	2	3	2	3	5	2	1	0
Saint Barthelemy											0			1
Saint Kitts & Nevis	0	0	0	0	1	1			0	1	1	1	0	0
Saint Lucia	3	0	2	1	0	1		0			1	1	2	1
Saint Martin											2	1	7	1
Saint Vincent & the G*	0	0	0	0	0	0	0	0	1		2	0	0	
Trinidad & Tobago	17	0	8	10	15	8	8	16	22	24	23	10	19	13
Turks & Caicos Islands	0	0	1	3	1	1								
United States of America	1,402	1,383	1,337	1,278	1,324	1,528	1,564	1,505	1,298	1,484	1,691	1,925	1,687	1,594
Uruguay	2	0	24	90	54	27	15		12	5		2	7	13
US Virgin Islands	1	2		0		0		0	0	0	0	0	0	0
Grand Total	1,977	1,865	1,814	1,825	1,967	2,027	2,203	1,769	1,417	1,560	1,759	2,023	2,261	2,190

*Saint Vincent & the Grenadines **Blank spaces imply no data available

Table 5. Imported cases in non-endemic countries of the Americas by country / Region of origin, 2011 - 2013

Country/Region from which malaria was imported	Country / Territory														
	Antigua & Barbuda	Bahamas	Barbados	Chile	Cuba	Grenada	Guadeloupe	Jamaica	Martinique	Saint Barthelemy	Saint Lucia	Saint Martin	Trinidad & Tobago	U.S.A.	Uruguay
Bahamas														1	
Belize														2	
Bolivia				1											
Brazil				3			1							11	
Colombia				3	1									6	
Costa Rica														2	
Dominican Republic														8	
Ecuador														1	
El Salvador														1	
French Guiana									2	0				1	
Guatemala														10	
Guyana	1	1	5			2		5	4		3		16	43	1
Haiti		1	1		3		2	5	6			6		107	
Honduras								1						29	
Jamaica														3	
Mexico														2	
Nicaragua														2	
Panama														2	1
Peru				2										11	
Suriname														1	
Venezuela					6								2	1	
Caribbean, unspecified														1	
Central America, unspecified														3	
South America, unspecified														1	
Africa	0	3	3	9	91	1	2	6	9	1	1		4	2,364	12
Asia		3	2	1	7			2				2	3	564	5
Oceania														14	
Unknown		1		2				1	3					412	

Countries of the Americas
1 107

Other Regions
1 2,364

* U.S.A. - United States of America
** Data not available for countries not shown in table.
Data not available for:
2013 - U.S.A. and Saint Martin,
2012 - Barbados, Trinidad & Tobago and Uruguay,
2011 - Santa Lucia, and
2011 & 2013 - Saint Barthelemy.