



Pan American
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Organization



World Health
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REGIONAL OFFICE FOR THE
Americas

Epidemiological Update Malaria in the Americas in the context of COVID-19 pandemic

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Situation summary

After a sustained trend toward reduction of malaria from 2005 to 2014, in recent years the Region of the Americas experienced an increase in the total number of cases due to the increase in cases, since 2015, in the Bolivarian Republic of Venezuela along with increased transmission in endemic areas of countries such as Brazil, Colombia, Guyana, Nicaragua, and Panama, as well as outbreaks in countries that are moving towards elimination (Costa Rica, the Dominican Republic, and Ecuador).

Despite this, Paraguay and Argentina were certified by the Pan American Health Organization/World Health Organization (PAHO/WHO) as malaria-free countries in July 2018 and May 2019, respectively, and El Salvador and Belize have maintained zero indigenous cases since 2017 and 2019, respectively.

In 2020, the coexistence between the COVID-19 pandemic and malaria transmission in endemic countries is observed. This situation is especially worrying in areas where indigenous communities reside and in cities in the Amazon region of Brazil and Peru and in areas of the Pacific region in Colombia.

The malaria situation throughout the Region is being impacted by the coexistence of the COVID-19 pandemic. Some of the effects that this will have on elimination actions are presented in the following text box:

Effects of the COVID-19 pandemic on malaria elimination efforts

- Reduction in seeking care for suspected malaria due to actions imposed towards controlling the COVID-19 pandemic, such as instructions to stay home when symptoms are mild (fever).
- Changes in health care networks.
- Absence of adequate consideration of malaria as differential diagnosis by response teams and in COVID-19 triage in health units.
- Reduction of malaria staff for engaging in COVID-19 related activities.
- Interruption of the activities of voluntary workers (restrictions on the mobility of patients and health workers).
- Reduction of case detection activities due to limitations in the implementation of personal protection measures.

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Between January and May 2020, the malaria situation in the Americas is characterized by a reduction in the number of confirmed cases compared to the same period of the previous year, mainly determined by the decrease in cases reported in Venezuela. Other countries showing a reduction in total cases during this period are Brazil, Colombia, Guyana, Peru, Ecuador, Guatemala, and Mexico (**Table 1**). Despite this overall reduction, it should be noted that 8 countries have reported a total increase in cases: Haiti, Nicaragua, Panama, Dominican Republic, Honduras, Costa Rica, and Suriname; as well as a notable increase at the subnational level in several other countries.

Table 1. Number of malaria cases in selected countries in the Americas region, 2019-2020

Country	Total 2019	Comparison 2019 - 2020			% relative difference 2019-2020
		2019	2020	EW available for public access	
Belize	0*	0*	0*		0.0
Brazil	156,918	54,924	47,415	21	-14
Bolivia	n/a	n/a	n/a		
Costa Rica (EW 45/2019)	111 (38*)	n/a	n/a		
Colombia	78,513	34,118	28,986	21	-15
Dominican Republic	1,302	174	546	18	214
Ecuador	2,081	747	552	17	-26
El Salvador	0*	0*	0*	20	0.0
French Guiana	212	76	36	13	-53
Guatemala (EW 45/2019)	1,785	1,039	n/a	20	
Guyana	n/a	n/a	n/a		
Haiti	4,603	n/a	n/a		
Honduras	253	124	184	18	48
Mexico	609	123	64	20	-48
Nicaragua	9,358 (EW 41)	4,813	12,210	18	154
Panama	1,420	85	287	5	238
Peru	23,871	9,858	6,046	22	-31
Suriname	120**/94*	45**/12*	50**/33*	19	175 (*)
Venezuela (EW 41/2019)	398,285	248,191	104,005	22	-58

Source: Data published on the websites of Ministries of Health or Health Agencies and reproduced by PAHO/WHO. The data for the Bolivarian Republic of Venezuela was provided by PAHO/WHO Office PWR in Venezuela.

The information is preliminary and may be subject to change.

*autochthonous cases

**imported cases

n/a= Information not publicly available

The epidemiological situation of malaria in two sub-regions is presented below.

South America is characterized by an overall reduction in cases, with increases (at the subnational level) in several countries. In the endemic countries of South America, except for Suriname, the number of cases reported in the first months of 2020 is lower than that reported for the same period in 2019.

Venezuela is the country that most determines the total reduction of cases in the Region. The reduction in mobility due to transportation restrictions to endemic areas of the country, on account of the lack of fuel and more recently, the COVID-19 pandemic, are major factors contributing to this reduction. There is concern, however, that these same factors may affect drug distribution, access to diagnosis, and case reporting in the short term.

Brazil and Colombia, on the other hand, reported a general reduction, but with an increase in some states and municipalities. In Brazil, despite the reduction in the total number of cases, there was an increase in cases in the states of Mato Grosso, Rondônia, and Roraima, which mainly affect the mining and indigenous populations. In Colombia, up until Epidemiological Week (EW) 21 of 2020, eight departments reported a higher number of cases than historically recorded: Norte de Santander, Cauca, Nariño, Antioquia, Córdoba, Guaviare, Bolívar, and Meta, in addition to outbreaks related to mining activity.

Peru, another country with a major malaria burden, showed an overall reduction in cases, comparing the first 18 weeks of 2020 and 2019. However, there is an increase in the departments of Amazonas and Tumbes. The situation on the border between Peru and Ecuador is noteworthy, with an increase in malaria transmission in the respective provinces of Tumbes and El Oro, where both countries had already managed to interrupt malaria transmission.

In the Guiana shield, in addition to the situation of Venezuela and Brazil, Guyana, until EW 15 of 2020, reports a reduction of cases compared to the same period in 2019. However, consideration should be given to the existence of reporting problems that could be exacerbated by communication restrictions related to the COVID-19 pandemic. French Guiana also reports a reduction in cases in the first quarter. Suriname has an increase in indigenous cases, compared to the same period last year, but there is a trend towards fewer cases, starting with the control of an outbreak that occurred in late 2019 and early 2020.

Central America and Hispaniola Island (Haiti and the Dominican Republic) are characterized by an increase in cases, with the exception of El Salvador and Belize, which continue to have zero indigenous cases, and Guatemala, which has a decrease compared to the same period in 2019.

Nicaragua, Panama, and Honduras are reporting an increase in the number of cases. Nicaragua continues to present a situation of high transmission in the municipality of Puerto Cabezas, which is currently the principal focal point of malaria infection in Central America. In Honduras, after a drastic reduction in malaria transmission in 2018 and 2019, there has been an increase in cases since epidemiological week 8 of 2020, due to the constant migration of people, associated with the cultivation of sea jellyfish, to the area of Kaukira, where there has been an increase in cases since the end of 2019. Panama presents an increase in case detection that is attributed to the reactivation of malaria operations (increased detection capacity) in indigenous communities with an accumulated disease burden since the end of 2019.

Haiti and the Dominican Republic are also experiencing an increase in cases. In Haiti, after a significant reduction in 2018, there has been an increase in the number of cases and in the

positivity of sample examinations until the last half of 2019. Surveillance data for the first quarter of 2020 indicates an increase in malaria cases in all 10 departments, especially in Grand Anse, Sud, and Ouest. The most affected communes are Jérémie, Les Anglais, Roseaux, Baint, Petit-Goave, Abricots, Tiburon, Les Irois, Port-à-Piment, and Miragoane. The Dominican Republic reports an increase of cases until week 10 of 2020, mainly in the urban focus of Los Tres Brazos, attributed to the improvements undertaken since the end of 2019 in the provision and access to diagnostic services.

Transmission of COVID-19 in malaria-endemic areas

The first cases of COVID-19 in malaria-endemic countries were reported in Brazil (26 February), Mexico (28 February), and Ecuador (29 February)¹. Since then, transmission has spread to all countries and territories in the Americas.

Regarding the situation of COVID-19 in malaria-endemic areas, the State of Amazonas in Brazil, with 31,949 cases of COVID-19 and 1,852 deaths, presents health regions among the highest incidence and mortality rates for COVID-19 in the country (Manaus, Entorno, Alto Rio Negro, and Solimões); areas where both diseases coexist in most of its municipalities (the municipalities of Manaus, Coari, and Carauari stand out). Other malaria-endemic Brazilian Amazon states with cases of COVID-19 are Pará (28,600 cases and 2,469 deaths), Maranhão (24,278 cases and 817 deaths), and Amapá (6,967 cases and 173 deaths)².

The department of Loreto in Peru, where 75% of the country's malaria is concentrated, has been widely affected by COVID-19 (3,524 cases and 280 deaths)³.

Colombia has reported cases of COVID-19 in cities with urban malaria transmission in the Pacific region (Tumaco), and has recorded a rapid increase in cases of COVID-19 in the capital of the Amazon department bordering Brazil (1,505 cases and 54 deaths)⁴.

In Ecuador, the provinces of Pastaza, Morona Santiago, and Orellana in the Amazon, where significant amounts of malaria cases are concentrated, have also reported cases of COVID-19⁵.

As the dispersion of COVID-19 transmission increases, the situation in all the mostly rural malarial areas will become more critical, given the high vulnerability of the populations and the weaknesses of the healthcare systems.

An expected initial impact of the COVID-19 pandemic on the malaria situation is the reduction in detection and treatment and under-reporting of malaria cases. Barriers to early diagnosis are the main determinants. Although, as noted, before the introduction of COVID-19 in the Region a reduction in malaria cases was already observed in several countries in the first quarter as of March, it should be considered that the decline in case reporting could be reflecting the beginning of an impact on malaria surveillance, diagnosis, and treatment systems due to different factors.

Based on recent WHO⁶ analyses in sub-Saharan Africa of the potential effects of COVID-19 on malaria burden and mortality, it is estimated that, in the worst case scenario with 75% disruption

¹ WHO. Coronavirus Disease (COVID-19) Dashboard. Available at <https://covid19.who.int/>

² Ministry of Health of Brazil. Boletim Epidemiológico especial COE-COVID-19. Available at <https://bit.ly/2Y6MYoC>, accessed on 27 May 2020.

³ Situational Room COVID-19 Peru. Available at <https://bit.ly/37iONmE>, accessed on 27 May 2020.

⁴ National Institute of Health of Colombia. Coronavirus (COVID-19) in Colombia. Available at <https://bit.ly/37gqLZj>, accessed on 27 May 2020.

⁵ COVID-19 (PCR) in Ecuador. Available at <https://tabsoft.co/2MEhpgg>, accessed on 27 May 2020.

⁶ WHO. The potential impact of health service disruptions on the burden of malaria. Available at: <https://bit.ly/30rNaBF>

in net delivery and access to treatment, there could be a 20% and 100% increase in cases and deaths respectively, compared to 2018.

In the Region of the Americas, the heterogeneity of malaria transmission and the importance of population mobility pose challenges in estimating the impact that COVID-19 can have. However, it is assumed that the disruption in the provision of services and public health interventions due to COVID-19 will significantly affect early detection and treatment of cases and vector control campaigns, leading to an increase in transmission and case occurrence in the rest of the year.

Recommendations

In this document, the Pan American Health Organization / World Health Organization (PAHO / WHO) alert on all countries to strengthen surveillance, diagnosis, and treatment of malaria cases throughout the continent, especially among the most vulnerable populations, in coordination with national provisions for response to COVID-19, and with appropriate measures for the safety and protection of health workers and affected communities.

In the context of facing the COVID-19 pandemic, PAHO/WHO^{7,8}, urges countries to maintain continuity of actions against malaria in line with national pandemic response arrangements.

Detailed recommendations on measures to sustain malaria control efforts have been disseminated in PAHO⁹ and WHO¹⁰ documents, and are summarized below:

- Protect the health of workers and all those involved in malaria actions.
- Articulate with the national body responsible for response to COVID-19, national provisions to ensure and maintain early diagnosis of malaria in any case of fever in recognized endemic areas.
- Accelerate the procurement process of antimalarials and Malaria rapid diagnostic tests (RDTs)¹¹, ensuring sufficient stocks in central, regional, and hospital warehouses.
- To provide regulatory, financial, and logistical solutions for the maintenance of basic actions for timely diagnosis, treatment, and prevention of malaria.
- Adjust/align the malaria diagnostic process to algorithms and triage and diagnostic process of COVID-19 in services and at fixed points. In malaria-endemic areas, every case of fever should have access to malaria diagnosis.
- Communication to guide patients with fever regarding the demand for and access to malaria diagnosis and treatment at fixed points.
- Organize active search brigades with personnel adequately protected with Personal Protection Equipment (PPE), coordinated with COVID-19 actions, according to risk analysis and in view of the effects of passive detection in rural areas.
- Current and planned Indoor residual spraying (IRS) and the mass distribution of long-lasting insecticide-treated nets (LLINs) campaigns should continue to the extent possible, always implementing WHO-recommended protective measures to minimize the risk of transmission of COVID-19.
- Simplify processes of data capture, reporting, and information flow, and develop alternative mechanisms for reporting aggregate data (telephone), while maintaining routine analysis adapted to the conditions imposed by the pandemic (malaria cases and parasitological malaria tests performed).
- The efforts of some countries to maintain updated weekly malaria case information for public access to electronic newsletters on the website of Ministries of Health (Table 1) should be highlighted and other malaria-endemic countries are urged to implement measures to improve public access to information.

⁷ PAHO/WHO. Press release <https://bit.ly/2AL7ByF>

⁸ WHO. Press release <https://bit.ly/2AcgZLw>

⁹ PAHO/WHO. Measures to ensure the continuity of the response to malaria in the Americas during the COVID-19 pandemic, 24 April 2020. Available at <https://bit.ly/37gOXuw>

¹⁰ WHO. Tailoring malaria interventions in the COVID-19 response. Available at <https://bit.ly/2YeB1xg>

¹¹ Combinations based on artemisinin, chloroquine, primaquine, and artesunate I.V., as well as RDT and microscopy supplies.

Sources of information

1. Brazilian Ministry of Health. Available at <https://tabsoft.co/30dTyft>
2. Ministry of Health of Costa Rica. Available at <https://bit.ly/3cGcxCb> and <https://bit.ly/2AKlhsq>
3. National Institute of Health of Colombia. Available at <https://bit.ly/37bkKwT>
4. Ministry of Public Health of the Dominican Republic. Available at <https://bit.ly/30c1myx>
5. Ministry of Public Health of Ecuador. Available at <https://bit.ly/3dFWs0y> and <https://bit.ly/3cB6vyx>
6. Ministry of Public Health and Social Assistance of Guatemala. Available at <https://bit.ly/3cGbtva>
7. French Guiana Regional Health Agency. Available at <https://bit.ly/377Hfmp>.
8. PAHO/WHO Office PWR in Honduras.
9. Ministry of Public Health and Population of Haiti. Available at <https://bit.ly/2AKCuTI>
10. Secretariat of Health of Mexico. Available at <https://bit.ly/2Y9n1oo> and <https://bit.ly/3cGwzG>
11. Ministry of Health of Nicaragua. Available at <https://bit.ly/2XDDKRH> and <https://bit.ly/30gv3OM>
12. Ministry of Health of Panama. Available at <https://bit.ly/379cXQ4> and <https://bit.ly/2AIJcJV>
13. Peruvian National Center for Epidemiology, Prevention and Disease Control. Available at <https://bit.ly/3dRxKKV>
14. PAHO/WHO Office PWR in Suriname. Suriname National Malaria Report 2020-New.pdf
15. Pan American Health Organization / World Health Organization. Epidemiological Update: Increase in Malaria in the Americas, November 18, 2019, Washington, D.C.: PAHO/WHO. 2019. Available at <https://bit.ly/3hdv0JC>