

Malaria, dengue and Zika are three diseases that are transmittable by the bites of infected mosquitoes. They are present in LAC with varying degrees of incidence. Malaria is a tropical disease caused by a parasite transmitted by the female *Anopheles* mosquitoes. After a period spent in the liver, malaria parasites multiply within red blood cells, causing symptoms such as fever, headache and vomiting. As part of the SDG targets, the UN set a goal to end the epidemic of malaria by 2030. Between 2000 and 2017, there has been a global reduction of 60% in malaria deaths, making it one of the biggest public health successes of the 21st century (The Global Fund, n.d.[24]).

In the LAC region, country efforts have greatly reduced new cases of malaria to the point where it has been nearly or completely eradicated in Argentina, Belize, Costa Rica, Belize, El Salvador and Paraguay, plus several countries no longer report incidence data. However, the region remains vulnerable to outbreaks. The biggest incidence in the region can be found in Venezuela with 48 cases per 1 000 risk population in 2017, nearly tripled in the last three years, after having been almost eradicated (Figure 3.29, left panel). Moreover, Venezuela also shows the largest number of estimated malaria deaths with 456 people dying in the country, followed by Haiti, Guyana and Brazil with 81, 33 and 30 deaths, respectively.

Dengue is a viral infection caused by the mosquito *Aedes aegypti* and remains a public health problem in the Americas despite the efforts countries to stop and mitigate it. Dengue causes a severe flu-like illness (e.g. high fever, headache, pain behind the eyes, nausea, vomiting, swollen glands, muscle and joint pains, rash) and, sometimes can cause a potentially lethal complication called severe dengue. Once infected, humans become the main carriers and multipliers of the virus, serving as a source of the virus for uninfected mosquitoes. There is no specific treatment for dengue fever (WHO, 2019[25]).

Incidence of dengue in the region is heterogeneous, and is particularly high in Nicaragua with 934 cases per 100 000 population in 2018, followed by Belize with 564, Paraguay with 469 and Granada with 428 (Figure 3.30). Lethality of the disease also varies, reaching a percentage of over 1% of cases resulting in deaths only in Jamaica. The diseases did not cause any deaths during 2018 in the majority of countries in the region.

Zika fever is a viral disease caused by Zika virus transmitted by the mosquito *Aedes aegypti*, consisting of mild fever, rash, headaches, arthralgia, myalgia, asthenia, and non-purulent conjunctivitis. One out of four people may develop symptoms, but in those who are

affected the disease is usually mild with symptoms that can last between two and seven days. There is no specific treatment for Zika virus disease (PAHO, 2019[26]).

Incidence of Zika is very high in Panama with 66 cases per 100 000 population in 2018. Belize, Guatemala and Bolivia follow with 33, 16 and 13 cases per 100 00 population. There were no reported Zika deaths in 2018 (Figure 3.31).

Mosquito borne diseases disproportionally affect economically disadvantaged communities, which lack adequate prevention methods and modern sanitation and infrastructure. It is key that countries ensure good quality access and coverage among these communities to protect them from transmittable diseases like malaria, dengue and Zika. Outbreaks preparedness and control is crucial for a proper prevention and response, for which countries should develop their capacities and resources. For instance, the use of insecticide-treated nets and indoor residual spraying with insecticides are important preventive measures for at-risk populations to avoid mosquito bites.

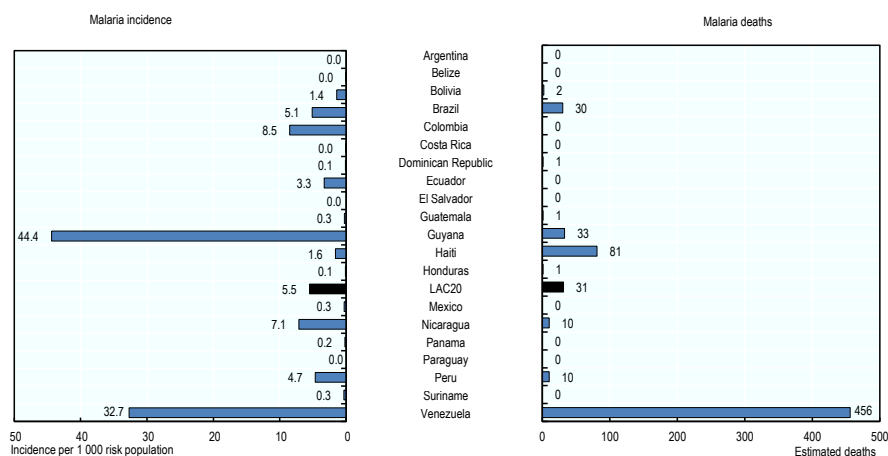
Definition and comparability

Underreporting of mosquito borne diseases cases and deaths remain a major challenge in countries with inadequate and limited access to health services and weak surveillance systems. The number of mosquito borne diseases caused deaths were estimated by adjusting the number of reported cases for completeness of reporting, the likelihood that cases are parasite positive, and the extent of health service use.

References

- [26] PAHO (2019), *Zika virus infection*, Pan American Health Organization, https://www.paho.org/hq/index.php?option=com_topics&view=article&id=427&Itemid=414&lang=en.
- [24] The Global Fund (n.d.), *Malaria. The Global Fund to Fight AIDS, Tuberculosis and Malaria*, 2019, <https://www.theglobalfund.org/en/malaria/>.
- [25] WHO (2019), *Dengue and severe dengue*, World Health Organization, <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>.

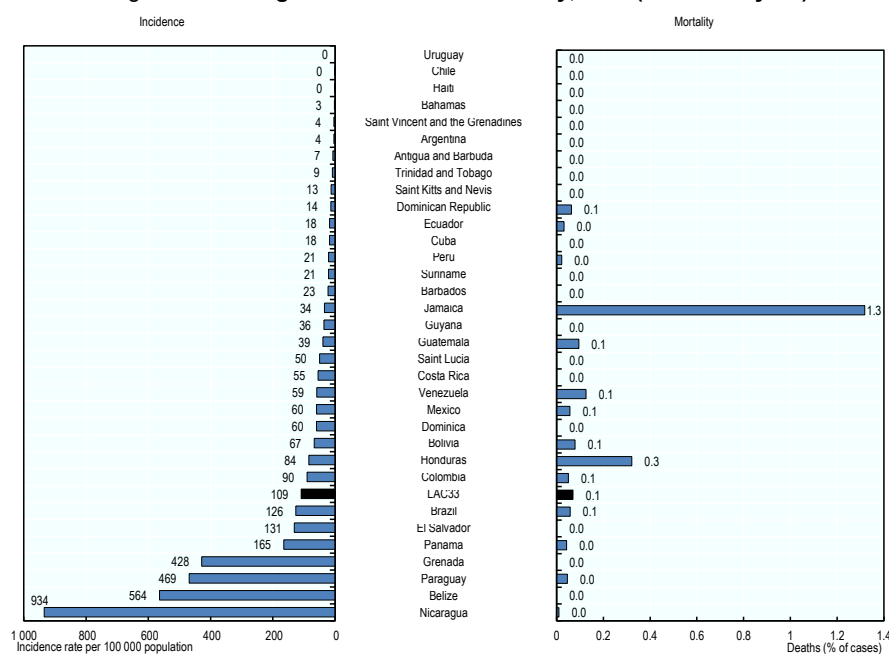
Figure 3.29. Confirmed malaria cases and estimated deaths, 2018 (or nearest year)



Source: WHO GHO 2019.

StatLink <https://stat.link/qiyvf5>

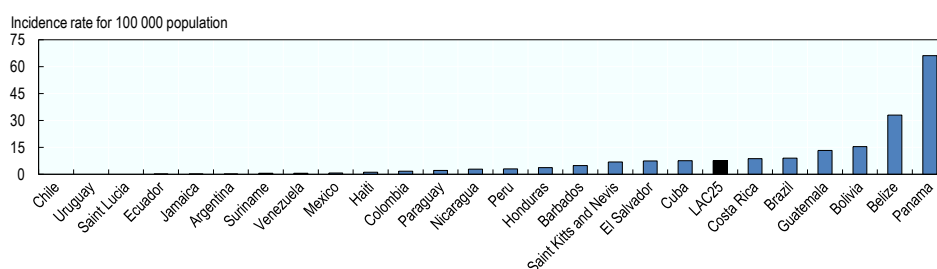
Figure 3.30. Dengue incidence and mortality, 2018 (or nearest year)



Source: PAHO 2019.

StatLink <https://stat.link/tn1hs4>

Figure 3.31. Zika incidence, 2018 (or nearest year)



Source: PAHO 2019.

StatLink <https://stat.link/d8guia>



From:

Health at a Glance: Latin America and the Caribbean 2020

Access the complete publication at:

<https://doi.org/10.1787/6089164f-en>

Please cite this chapter as:

OECD/The World Bank (2020), "Mosquito borne diseases", in *Health at a Glance: Latin America and the Caribbean 2020*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/5cf8d3e1-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.