

# Regional data and trends briefing kit

## World malaria report 2023

30 November 2023



# World malaria report 2023

Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region

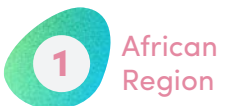
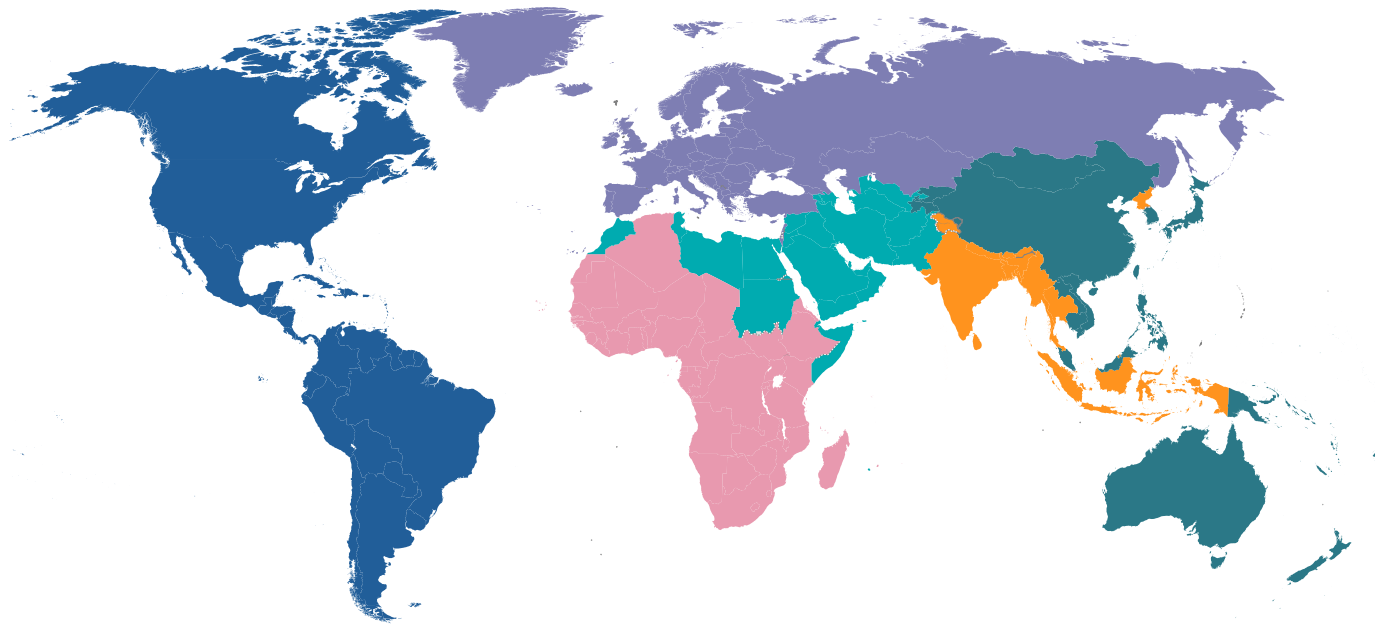


Region of  
the Americas



Western Pacific  
Region

Click to view messaging by region:



View the *World malaria report 2023* and the related information package using the links below.

[Download Report](#)

[GMP Website](#)

Goals and milestones of the *Global technical strategy for malaria 2016–2030*

[View](#)

# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region



## 1 African Region

**The WHO African Region continues to shoulder the heaviest burden of malaria.** Globally in 2022, the Region accounted for:

- 94% of all malaria cases (233 million cases);
- 95% of all malaria deaths (580 000 deaths).

About 78% of all malaria deaths in the Region were among children under the age of five.

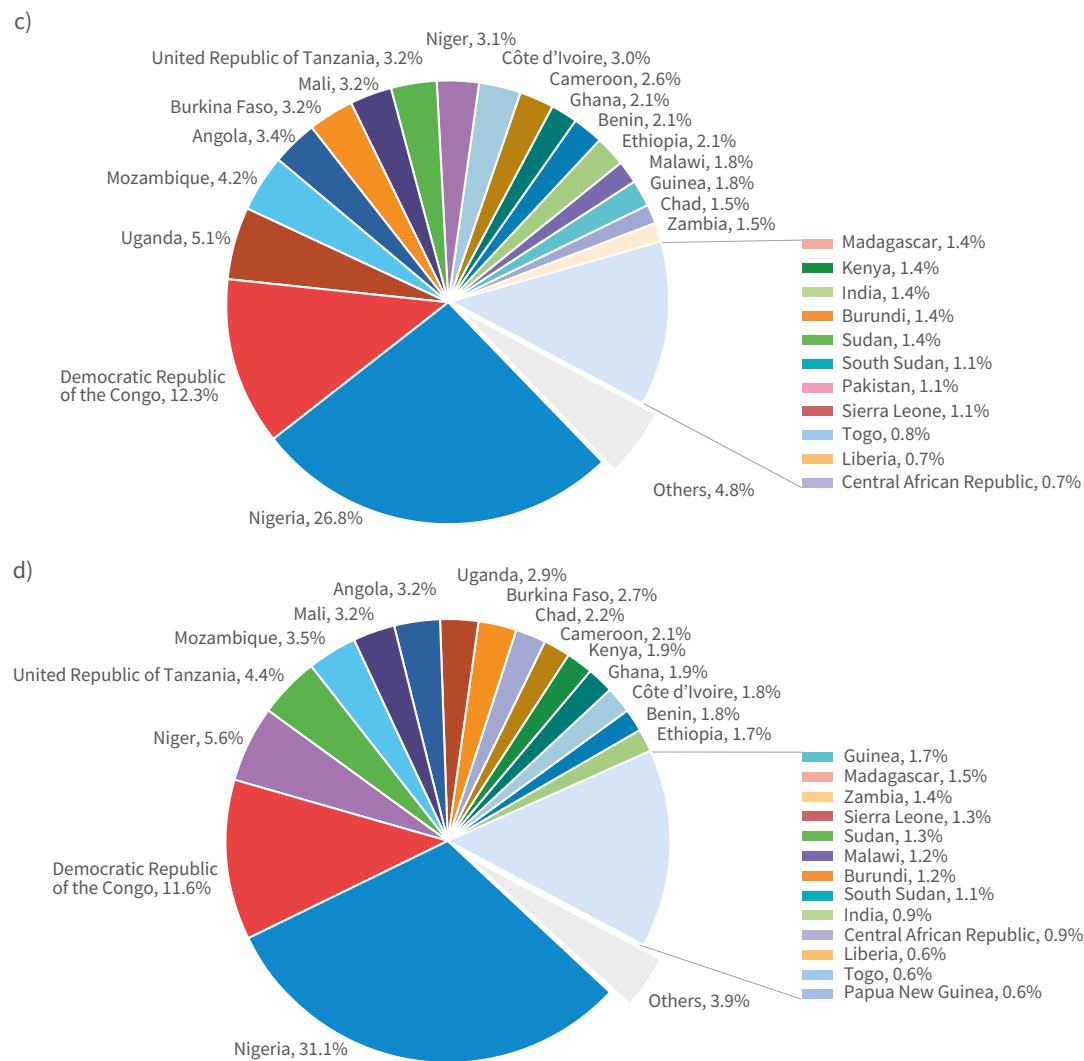
In 2022, four countries in the Region – Nigeria (26.8%), the Democratic Republic of the Congo (12.3%), Uganda (5.1%) and Mozambique (4.2%) – accounted for nearly half of all malaria cases globally (**Fig. 3.3c**).

Four African countries also accounted for just over half of all malaria deaths globally: Nigeria (31.1%), the Democratic Republic of the Congo (11.6%), Niger (5.6%) and the United Republic of Tanzania (4.4%) (**Fig. 3.3d**).

**Over the longer term (2000–2022), malaria case incidence and mortality rates in the African Region have declined:**

- case incidence (cases per 1000 population at risk) fell from 369.3 in 2000 to 222.6 in 2022 (**Fig. 3.4a**);
- the mortality rate (deaths per 100 000 population at risk) fell from 142.6 in 2000 to 55.5 in 2022 (**Fig. 3.4b**).

**Fig. 3.3.**  
Global trends in distribution of malaria c) cases and d) deaths by country, 2022  
Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

However, since 2015, the rate of progress in both cases and deaths has stalled in several countries with moderate or high transmission; the situation was made worse, especially in sub-Saharan Africa, by disruptions during the COVID-19 pandemic and other humanitarian emergencies.

Between 2019 (pre-pandemic) and 2022, there was a considerable increase in the total estimated number of malaria cases in the African Region, from 218 million to 233 million. Substantial case increases were seen in Nigeria (5.3 million), Ethiopia (2.4 million), Madagascar (1.5 million), Uganda (1.3 million), the United Republic of Tanzania (1.3 million), Mali (1.1 million) and Mozambique (1 million).

The African Region as a whole is off track for both the malaria morbidity and mortality GTS 2025 milestones<sup>1</sup> by 52% and 50%, respectively (Fig. 8.4):

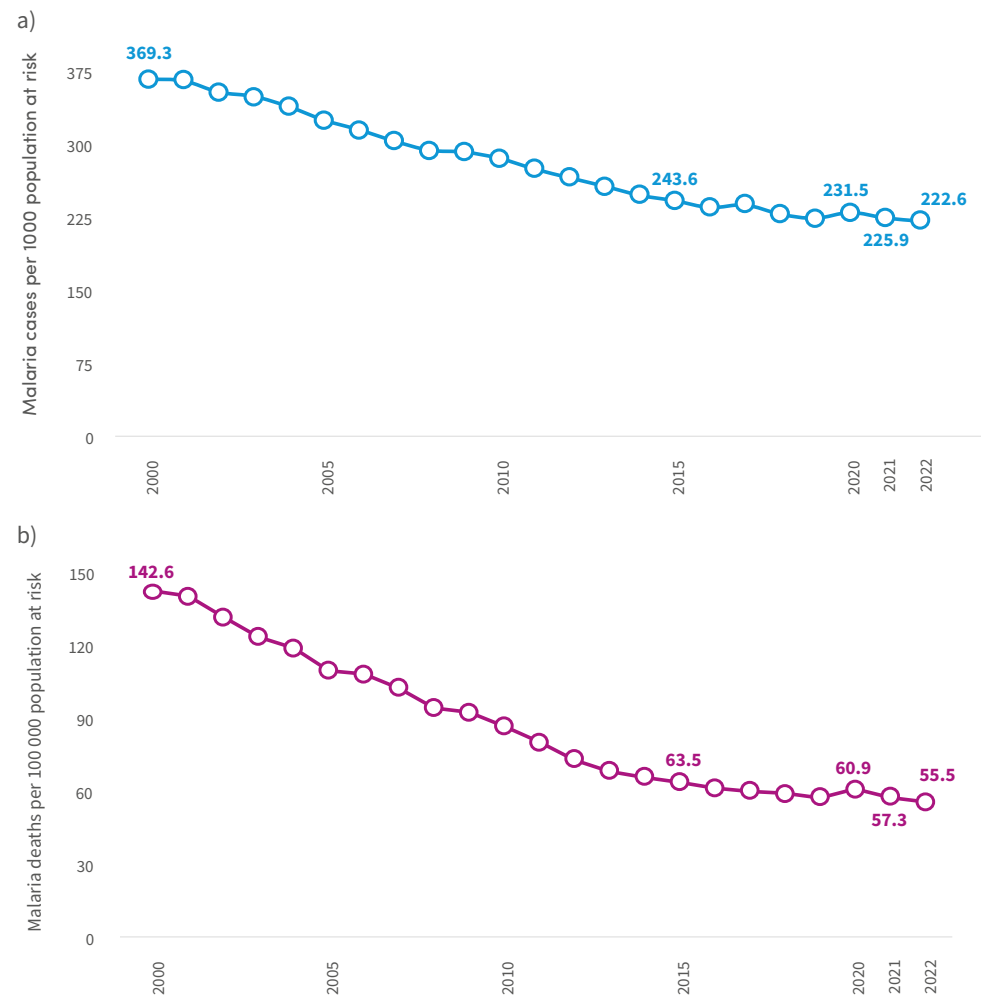
- **Case incidence:** there was little change (a less than 5% increase or decrease) in case incidence in 2022 compared with 2015 in 10 countries: Benin, Botswana, Chad, the Congo, the Democratic Republic of the Congo, Gabon, Liberia, Namibia, Nigeria and South Sudan. Case incidence increased by 5% to 25% in Côte d'Ivoire, Guinea-Bissau and Uganda; by 25% to 55% in Angola, Burundi and Madagascar; and by more than 55% or more in the Comoros, Eritrea and Sao Tome and Principe.
- **The mortality rate** increased by 25–55% in Angola and Madagascar and by 55% or more in the Comoros and Eritrea.

<sup>1</sup> The *Global technical strategy for malaria 2016–2030* (GTS) called for reductions in malaria case incidence and mortality of at least 75% by 2025 compared to a 2015 baseline.

Fig. 3.4.

Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2022; in the WHO African Region, 2022

Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

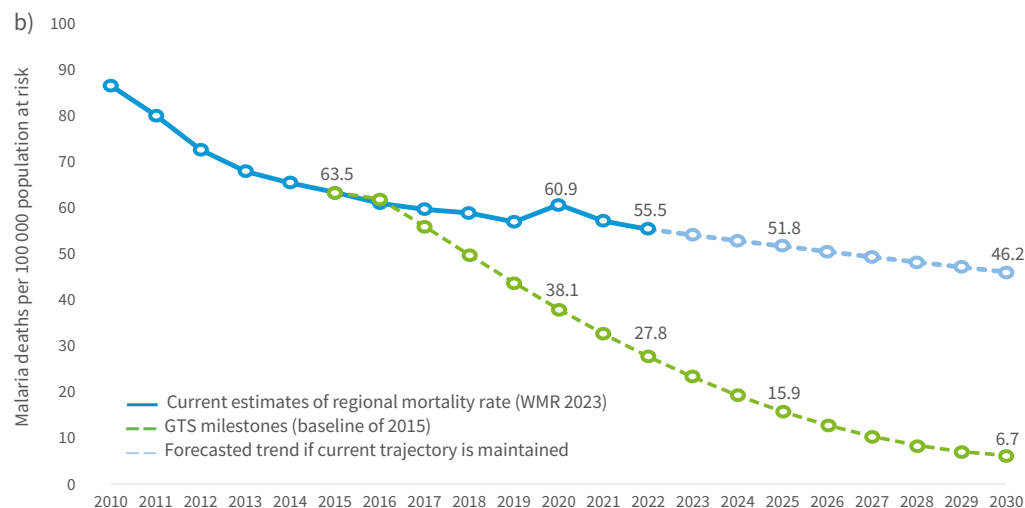
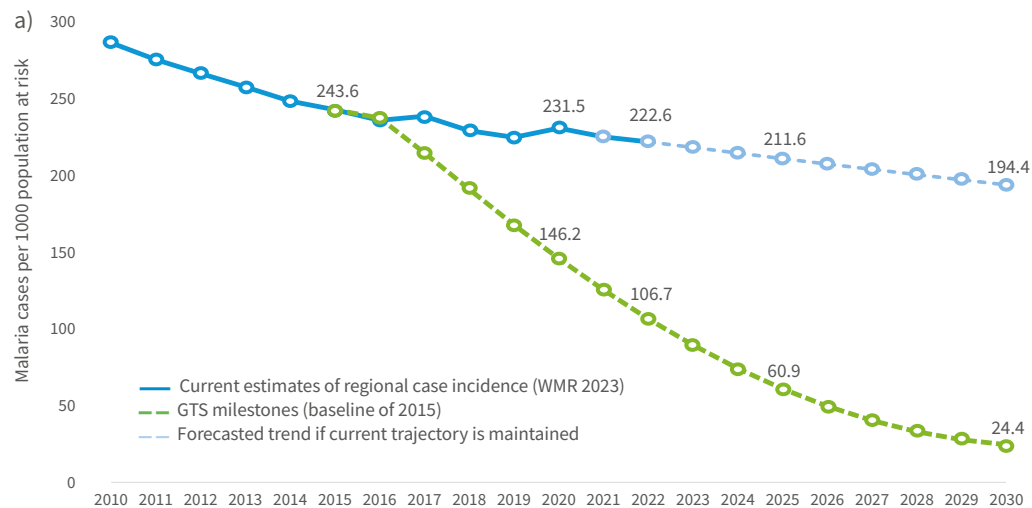
### The overall regional trend masks progress in individual countries.

- Between 2019 and 2022, Rwanda saw a steep decline in malaria cases (3.8 million).
- In 2022, Ethiopia, South Africa and Zimbabwe achieved a reduction in the mortality rate of 55% or more. And, although 27 countries<sup>2</sup> are off track to meet the GTS 2025 mortality milestone, they achieved mortality rate reductions of less than 55%.
- In 2022, Comoros and Sao Tome and Principe reported zero malaria deaths for the first time. And that same year, Botswana, Eritrea and Eswatini all reported fewer than 10 malaria deaths.
- Cabo Verde has reported zero malaria deaths since 2018 and has requested an official certification of malaria elimination from WHO (decision expected in early 2024).

<sup>2</sup> Benin, Burkina Faso, Cameroon, Chad, the Congo, the Democratic Republic of the Congo, Equatorial Guinea, Eswatini, Gabon, the Gambia, Ghana, Guinea, Malawi, Mali, Mauritania, Mozambique, Namibia, the Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Sudan, Togo, Uganda, the United Republic of Tanzania and Zambia.

Fig. 8.4.

Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO African Region considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green) Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region



## South-East Asia Region

In 2022, nine countries in the South-East Asia Region contributed to about 2% of the burden of the malaria globally (5.2 million cases). Most malaria cases in the Region were concentrated in India (66%) and about 94% of deaths were in India and Indonesia (Fig. 3.5c).

Since 2000, the Region has achieved excellent progress in reducing its malaria burden. Between 2000 and 2022:

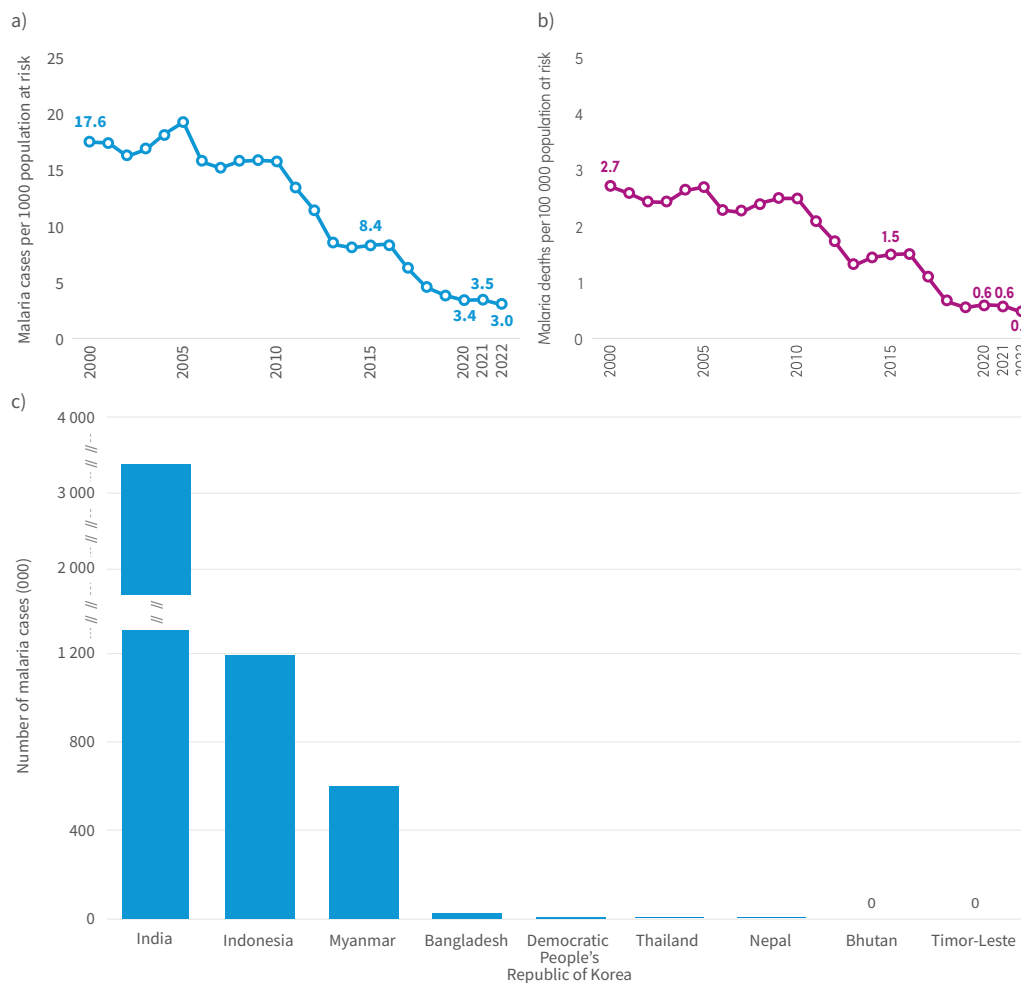
- case incidence (cases per 1000 population at risk) fell from 17.6 to 3.0 (Fig. 3.5a);
- total malaria cases dropped by 77%, from 22.8 million to 5.2 million;
- the mortality rate (deaths per 100 000 population at risk) fell from 2.7 to 0.5 (Fig. 3.5b);
- total malaria deaths declined by 77%, from 35 000 to 8000.

However, substantial case increases have been observed in some countries in recent years, notably in Myanmar:

- Between 2019 and 2022, Myanmar saw a seven-fold increase in cases, from 78 000 to 584 000, fueled by political and social instability.
- The increase in malaria case burden in Myanmar since 2019 has impacted neighbouring Thailand, where cases more than doubled between 2021 (2426 cases) and 2022 (6263 cases).

Fig. 3.5.

Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2022; and c) malaria cases by country in the WHO South-East Asia Region, 2022. Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

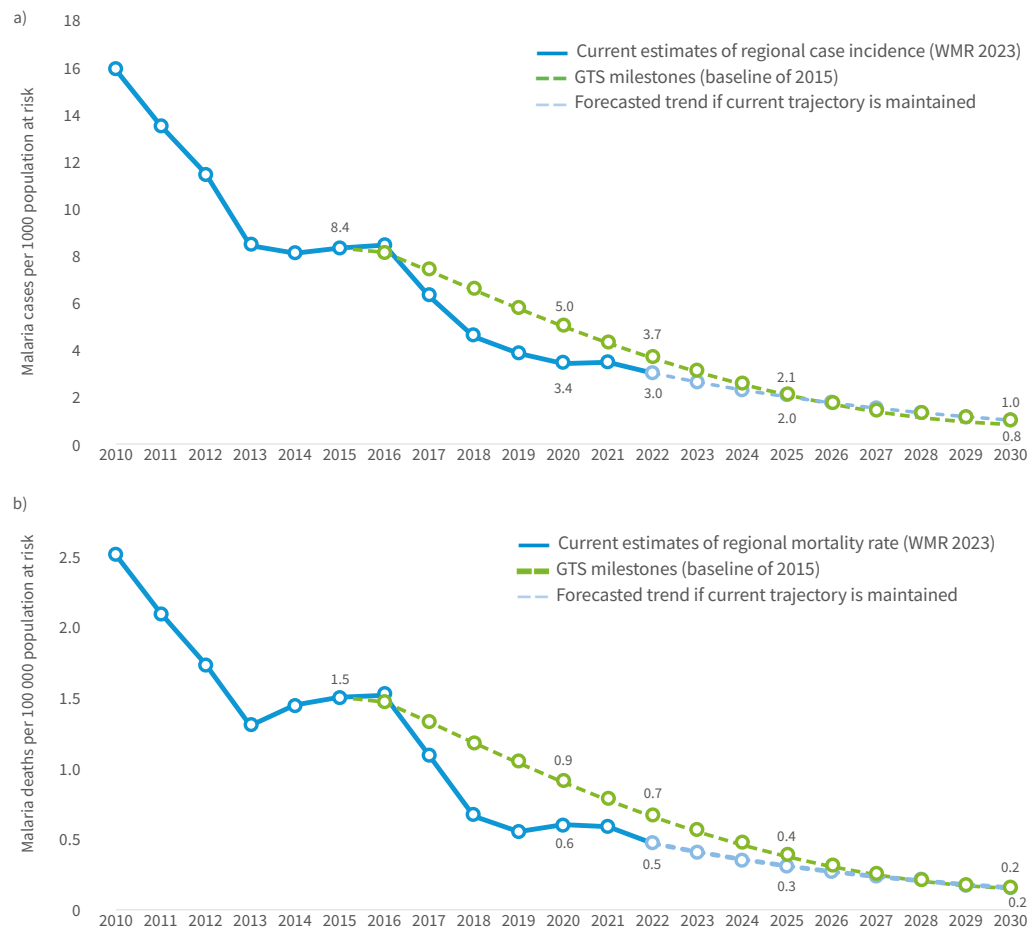
- Case increases were also seen in Bangladesh and Indonesia between 2021 and 2022.

### Despite the recent case increases, the South-East Asia Region remains on track to meet the GTS 2025 and 2030 targets (Fig. 8.7 a + b).

- Case incidence was reduced by 55% or more between 2015 and 2022 in seven of the nine endemic countries in the Region: Bangladesh, Bhutan, the Democratic People's Republic of Korea, India, Nepal, Thailand and Timor-Leste.
- In 2022, Timor-Leste reported zero malaria cases for the second consecutive year and Nepal reported zero indigenous malaria deaths for the first time.
- Bhutan reported zero cases of malaria for the first time in 2022.
- Sri Lanka was certified malaria free by WHO in 2016 and has maintained this status.

Fig. 8.7.

Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO South-East Asia Region considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green) Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region



## 3 Eastern Mediterranean Region

**In 2022, the Eastern Mediterranean Region's seven malaria-endemic countries accounted for 3% of global malaria cases.**

Sudan carried the heaviest malaria burden in the Region, with 41% of cases, followed by Pakistan, Somalia, Yemen, Afghanistan and Djibouti (Fig. 3.6c).

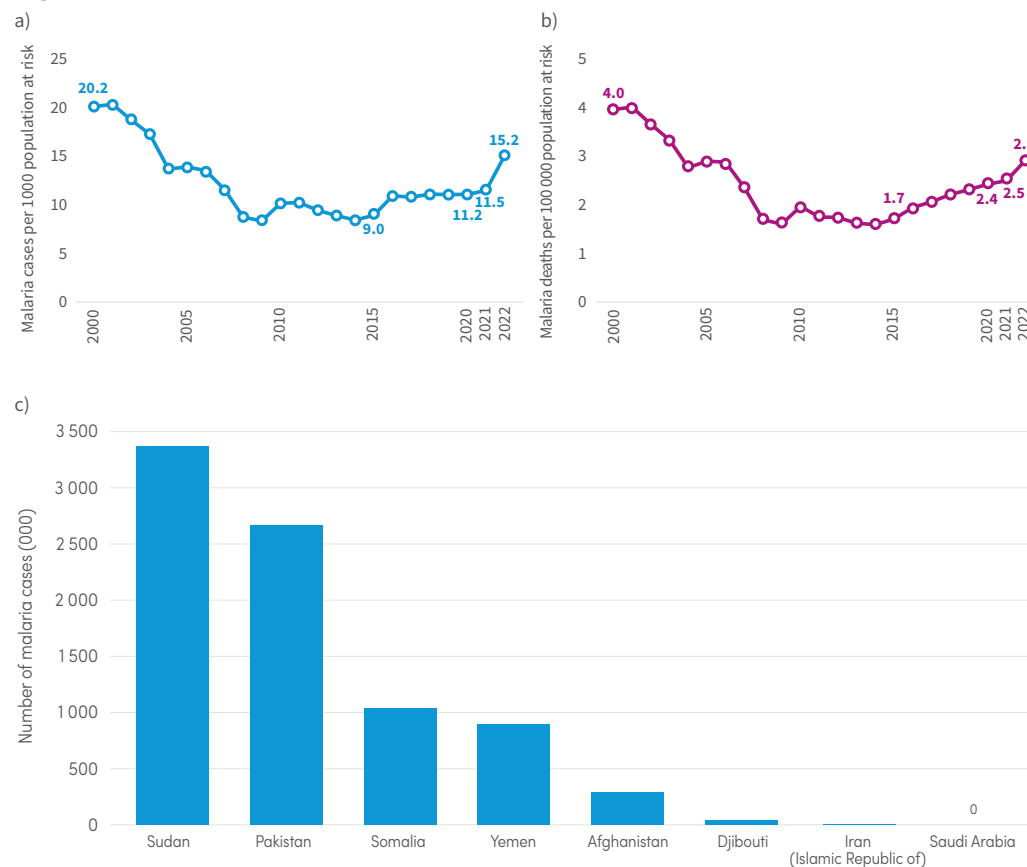
**Beginning in 2000, the Region saw a steep download trend in its malaria burden followed by a surge in cases and deaths in the period 2015 to 2022:**

- **case incidence** (cases per 1000 population at risk) fell from 20.2 in 2000 to 9.0 in 2015 and then increased to 15.2 in 2022 (Fig. 3.6a);
- **total malaria cases** fell from 6.9 million in 2000 to 4 million in 2014 before increasing steadily, reaching 8.3 million in 2022;
- **mortality rate** (deaths per 100 000 population at risk) fell from 4.0 in 2000 to 1.7 in 2015 and then increased to 2.9 in 2022 (Fig. 3.6b);
- **total malaria deaths** fell from 13 600 in 2000 to 7500 in 2014 and then more than doubled, to 15 900, in 2022.

**Between 2021 and 2022, there was a sharp rise in malaria cases in the Region, from 6.2 million to 8.3 million.** This was due, in large part, to an increase of 2.1 million cases in Pakistan following a malaria outbreak triggered by the catastrophic 2022 flooding. Significant increases were also seen in Afghanistan and the Sudan, with an additional 94 000 and 35 000 cases, respectively.

Fig. 3.6.

Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2022; and c) malaria cases by country in the WHO Eastern Mediterranean Region, 2022 Source: WHO estimates.





# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

**Reliable data remains a challenge.** Instabilities in Afghanistan, Somalia, the Sudan and Yemen have led to the closure of health facilities and to other disruptions; as a result, obtaining reliable malaria data in these countries has been a challenge, and current estimates should be interpreted with caution.

**In view of recent trends, the Eastern Mediterranean Region is off track towards meeting the 2025 GTS malaria case incidence and mortality milestones by 75% and 74%, respectively (Fig. 8.6):**

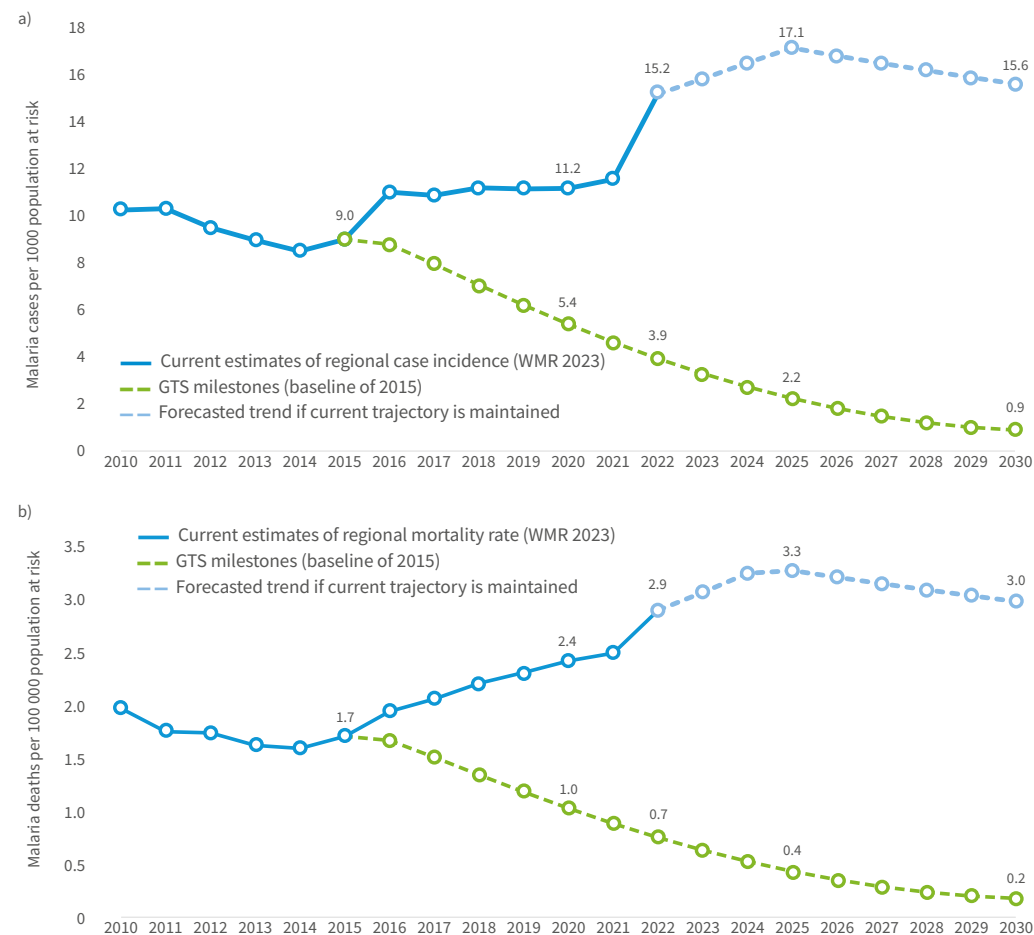
- In 2022, malaria case incidence increased by 55% or more in Djibouti, the Islamic Republic of Iran, Pakistan, the Sudan and Yemen, compared to a 2015 baseline. Meanwhile, case incidence in Somalia in 2022 was the same as in 2015.
- Malaria deaths increased by an estimated 55% or more in Djibouti, Pakistan and the Sudan, and by 25–55% in Yemen. There was no estimated change in mortality in Somalia.

**Despite the overall regional trend, some countries achieved notable successes:**

- In 2022, Saudi Arabia reported zero indigenous malaria cases for the second consecutive year and zero indigenous malaria deaths since 2000.
- Iraq, Morocco, Oman and the Syrian Arab Republic last reported indigenous malaria cases in 2008, 2004, 2007 and 2004, respectively.
- In 2022, all countries in the Region reported zero malaria deaths, aside from Djibouti, Pakistan, the Sudan and Yemen.
- Malaria mortality rates fell by an estimated 25–55% in Afghanistan in 2022 compared with 2015.

**Fig. 8.6.**

**Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO Eastern Mediterranean Region considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green)**  
Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region



## 4 Region of the Americas

In 2022, 15 malaria-endemic countries and one territory in the Region of the Americas accounted for an estimated 0.2% of global malaria cases. Three countries – Brazil, Colombia and the Bolivarian Republic of Venezuela – accounted for an estimated 73% of all cases region-wide (Fig. 3.8c).

Between 2000 and 2022, the Region of the Americas made good progress in reducing its malaria burden:

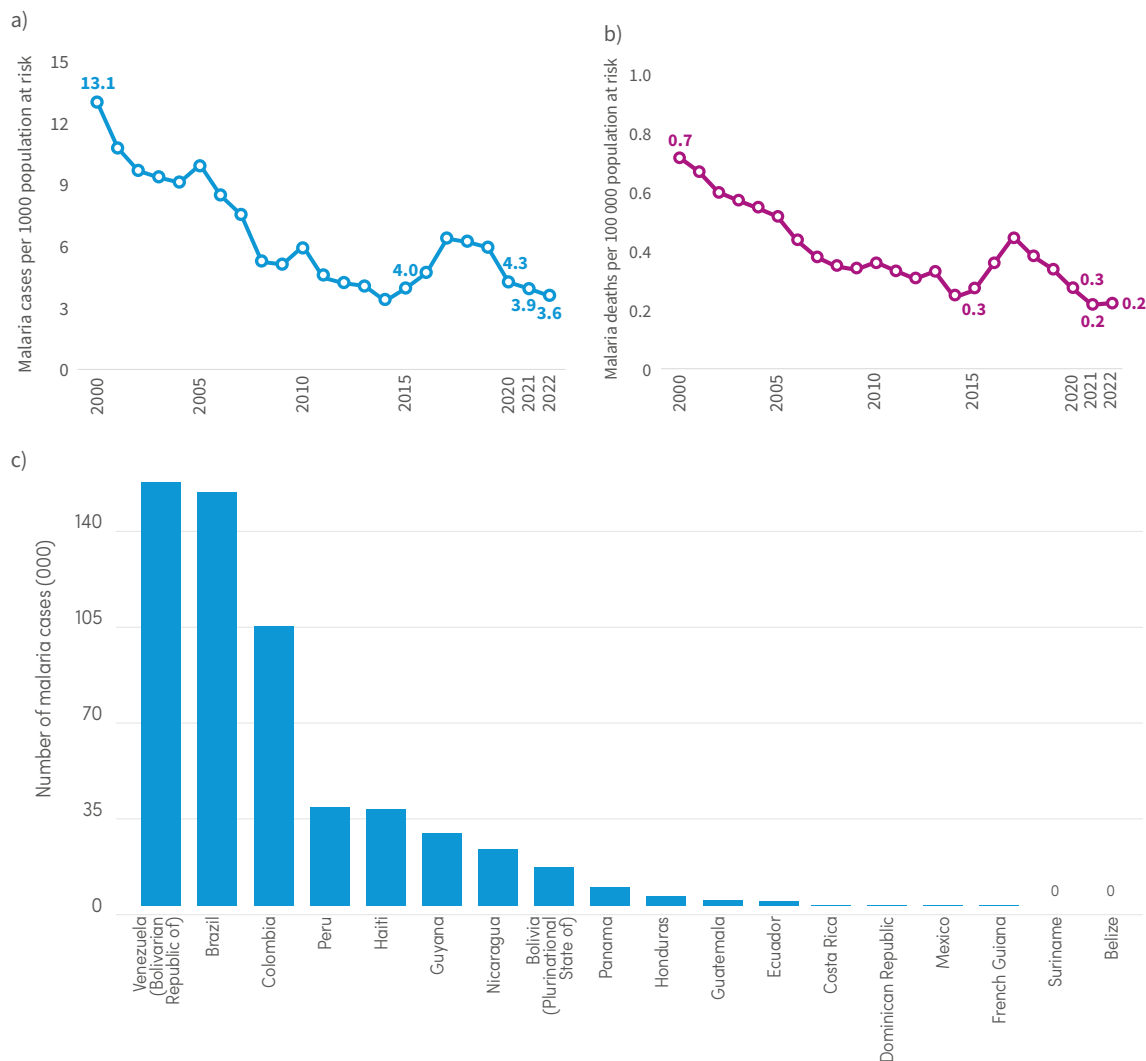
- case incidence (cases per 1000 population at risk) fell from 13.1 to 3.6 (Fig. 3.8a);
- total malaria cases declined by 64%, from 1.5 million to 0.55 million;
- the mortality rate (deaths per 100 000 population at risk) fell from 0.7 to 0.2 (Fig. 3.8b);
- total malaria deaths were reduced by 60%, from 850 to 343.

However, progress in the Region has suffered in recent years due to an epidemic in the Bolivarian Republic of Venezuela between 2018 and 2020, as well as increases in several other countries.

- Cases rose from an estimated 35 500 in 2000 to over 483 000 in 2017. In 2020, cases reduced by more than half compared to 2019, and there were further reductions observed in 2021 and 2022 (205 000 and 154 000 cases, respectively). Factors contributing to this reduction include

Fig. 3.8.

Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2022; and c) malaria cases by country in the WHO Region of the Americas, 2022 Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

restrictions on population movement during the COVID-19 pandemic and an increase in the availability and use of malaria diagnosis and treatment commodities.

- Meanwhile, estimated cases increased in 2022 in Costa Rica (311), the Plurinational State of Bolivia (1333), Guyana (428), Haiti (17 272), Honduras (3100), Nicaragua (3683) and Panama (4826).

**In view of recent trends, the Region did not achieve the GTS 2025 milestones for reductions in malaria case incidence and mortality;** progress towards these targets was off track by 52% and 48%, respectively (**Fig 8.5 a + b**).

- In Costa Rica, Ecuador, Nicaragua and Panama, case incidence increased by 55% or more in 2022 compared with 2015.
- In the Plurinational State of Bolivia and Guyana, estimated increases were between 25% and 55% and in Colombia, the estimated increase in case incidence was less than 25%.
- In the Bolivarian Republic of Venezuela and Haiti, there was no change in incidence in 2022 compared with 2015.

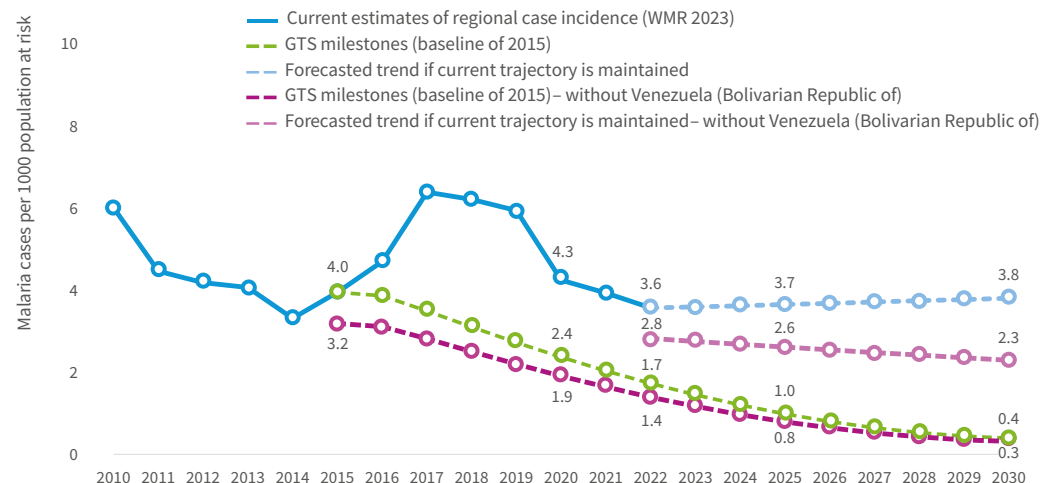
**Progress varied across the Region, and some countries bucked the overall regional trend:**

- The Dominican Republic, French Guiana, Guatemala, Mexico and Peru all achieved reductions of more than 55% in case incidence between 2015 and 2022 (**Fig. 8.5**), with Suriname reporting zero indigenous cases for the first

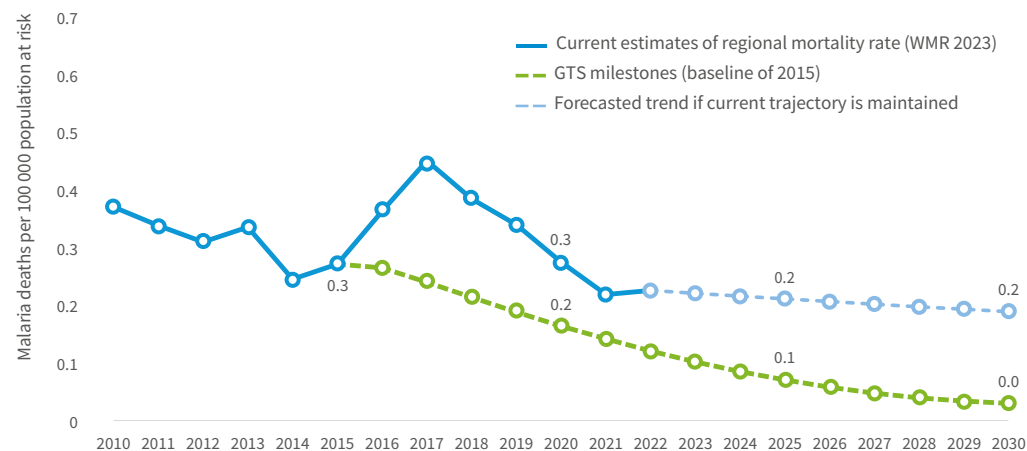
**Fig. 8.5.**

**Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO Region of the Americas considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green)** Source: WHO estimates.

a)



b)



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

time. Over the same period, Honduras was estimated to have reduced its malaria case incidence by between 25% and 55%, and Brazil by less than 25%.

- In 2022, three countries saw substantial reductions in the total number of cases compared to 2019: Brazil (–28 000), Colombia (–21 000) and Peru (–9000). That same year, more modest reductions were seen in the Dominican Republic, Ecuador, French Guiana, Guatemala and Mexico, and Suriname reported zero indigenous cases for the first time.
- Four countries – Argentina, Belize, El Salvador and Paraguay – were certified by WHO as malaria free in 2019, 2023, 2021 and 2018, respectively.

# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region



## Western Pacific Region

In 2022, the Region's eight malaria-endemic countries accounted for 0.74% of global malaria cases. Papua New Guinea accounted for 90% of all cases in the region in 2022, followed by Solomon Islands, Cambodia and the Philippines (Fig. 3.7c).

The Region achieved an overall downward trend in case incidence and mortality rates between 2000 and 2022:

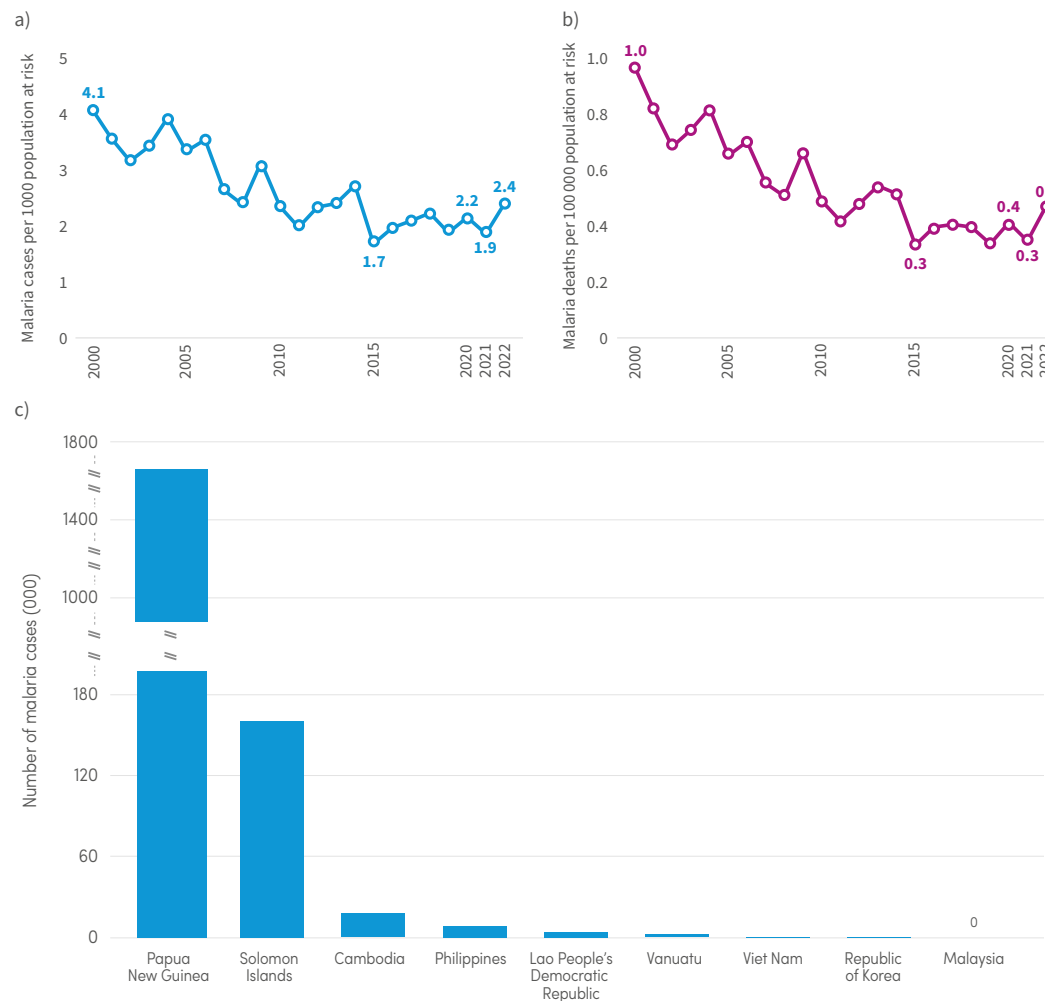
- case incidence (cases per 1000 population at risk) fell from 4.1 to 2.4 (Fig. 3.7a);
- the mortality rate (deaths per 100 000 population at risk) fell from 1.0 to 0.5 (Fig. 3.7b).

However, a sharp increase in cases and deaths was observed between 2021 and 2022. After a 48% drop in the total number of malaria cases between 2000 and 2021, from 2.6 million to 1.4 million, the Region saw a 30% increase in cases between 2021 and 2022, to 1.9 million. Malaria deaths fell by 56% between 2000 and 2021, from about 6300 to 2600, and then jumped by 37% between 2021 and 2022, to 3600.

- These increases in cases and deaths were mainly due to stock-outs of commodities, limited human resource capacity, management constraints and unstable sources of funding in Papua New Guinea.
- Significant increases in cases were also observed in Solomon Islands and Vanuatu in the period 2020–2022.

Fig. 3.7.

Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2022; and c) malaria cases by country in the WHO Western Pacific Region, 2022. Source: WHO estimates.



# World malaria report 2023

## Regional data and trends



Contents  
Page



African  
Region



South-East  
Asia Region



Eastern  
Mediterranean  
Region



Region of  
the Americas



Western Pacific  
Region

**The Western Pacific Region is not on track to reach the GTS 2025 milestones for case incidence and mortality;** progress is off course of 69% and 74%, respectively.

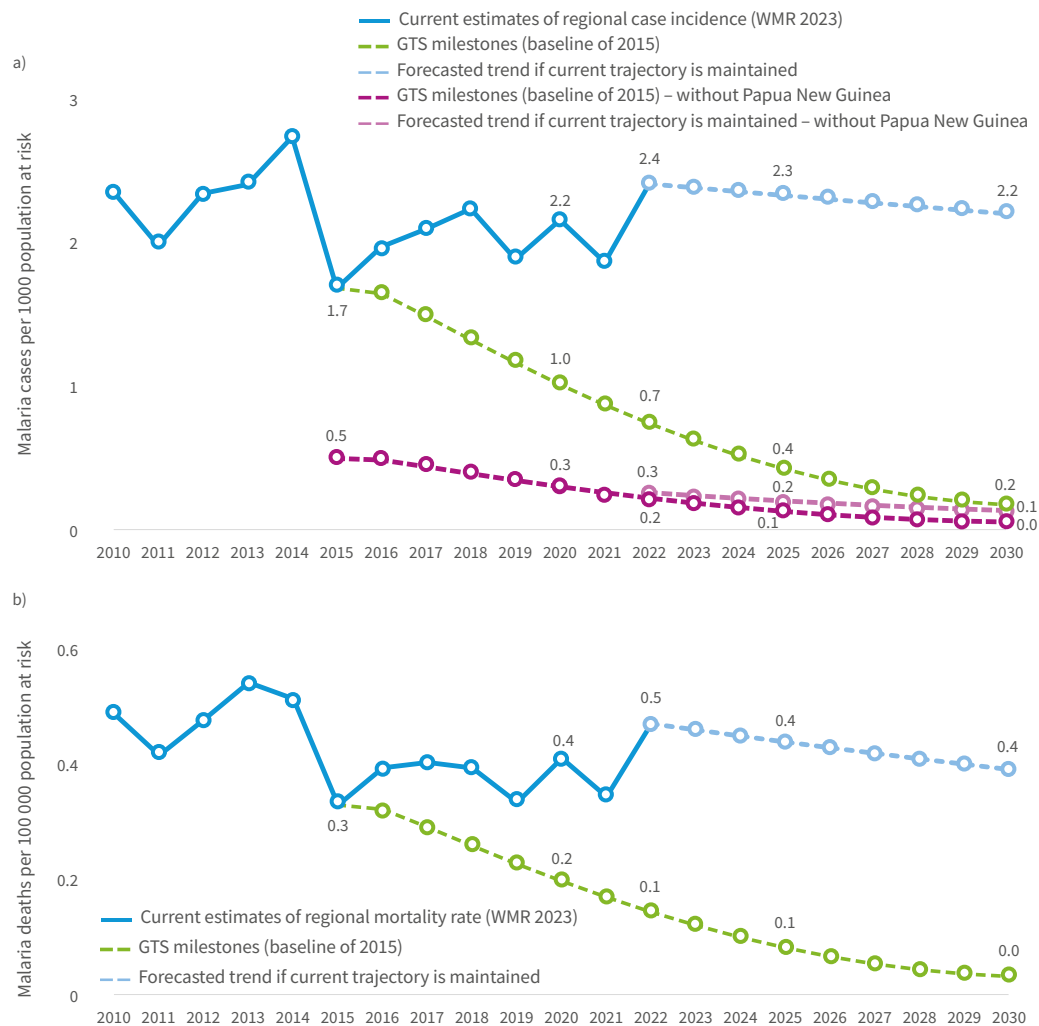
- This trend is mainly due to increases of more than 55% in cases and deaths in Papua New Guinea, which carries 90% of the burden of malaria in the region.
- Increases of 55% or more in case incidence were also observed in Solomon Islands, which accounts for a large proportion of cases in the region, and in Vanuatu, for which trends should be interpreted with caution in view of the low number of cases.


**Despite the overall regional trend, many countries achieved excellent results.**

- China was certified malaria-free by WHO in 2021 and has maintained this status.
- Five countries in the region reported fewer than 10 000 malaria cases in 2022: Lao People's Democratic Republic (3713), the Philippines (8160), the Republic of Korea (382), Vanuatu (2035) and Viet Nam (412). That same year, Cambodia, the Philippines, the Republic of Korea, Vanuatu and Viet Nam all reported zero malaria deaths.
- Malaysia has achieved zero human cases of malaria for five consecutive years. However, over the past 6 years, the country has reported an increase in the number of zoonotic *P. knowlesi* malaria cases, with 2500 cases reported in 2022.

Fig. 8.8.

Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO Western Pacific Region considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green) Source: WHO estimates.





Graphs drawn from the *World malaria report 2023*. For more information on sources, please see the report.

Regional data and trends briefing kit: World malaria report 2023  
WHO/UCN/GMP/2023.08

© **World Health Organization 2023**. Some rights reserved. This work is available under the CC BY-NC-SA 3.0 IGO licence.