

Regional data and trends briefing kit

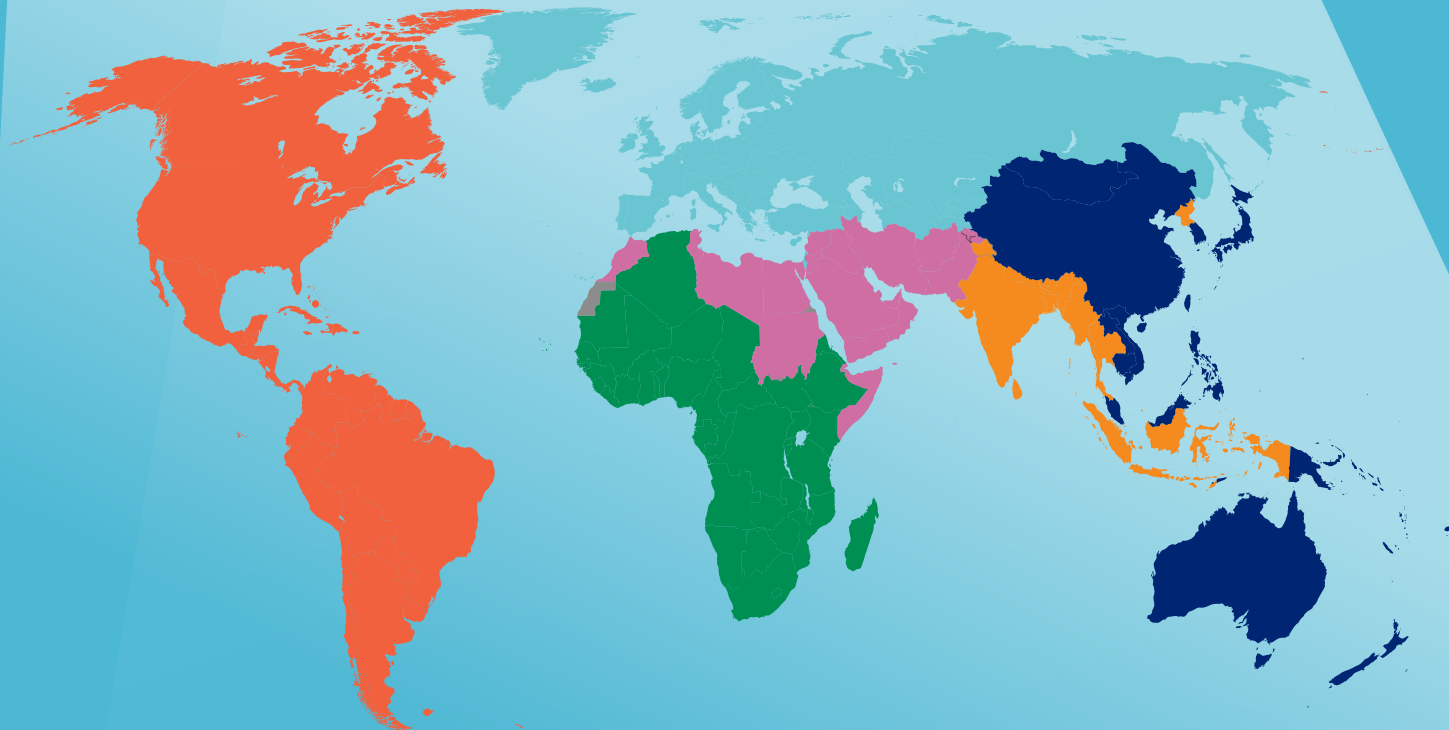
World malaria report 2024

11 December 2024



Document at a glance

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1 African Region

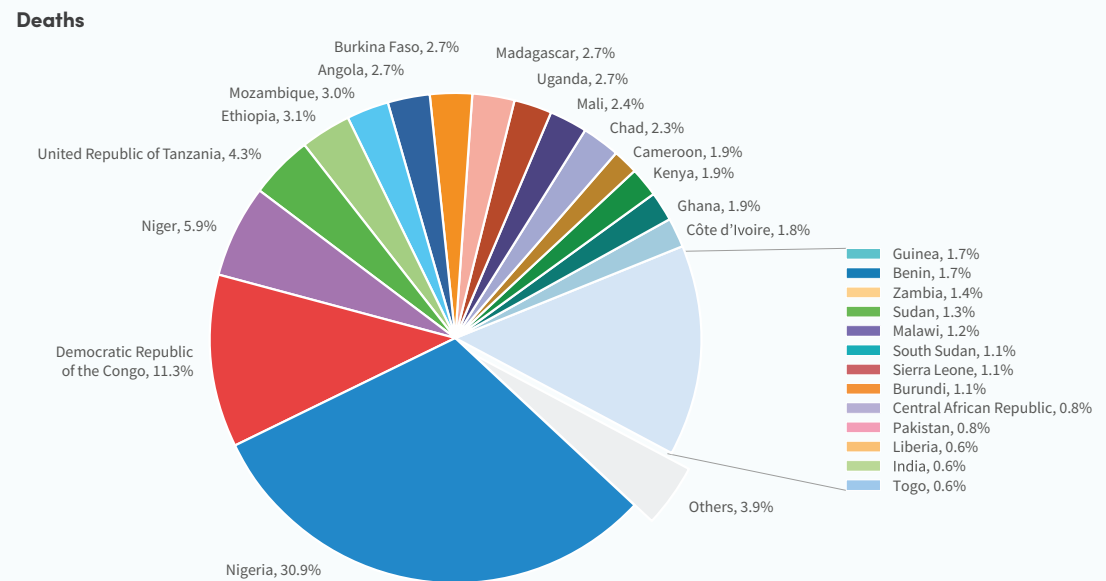
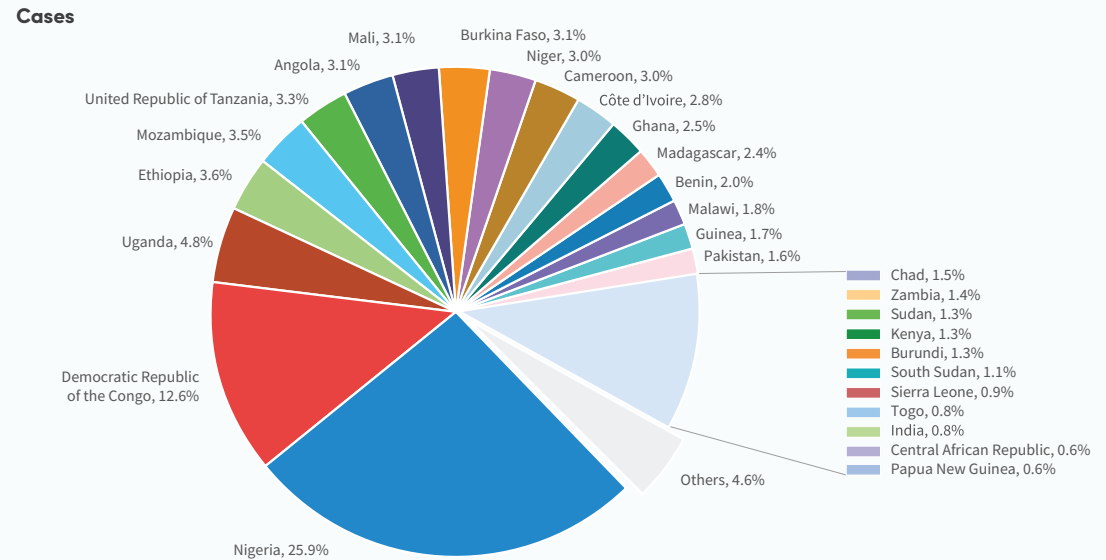
The WHO African Region continues to shoulder the heaviest burden of malaria – accounting, in 2023, for 94% of malaria cases and 95% of malaria deaths globally.

Estimated malaria cases: in 2023, there were about 246 million malaria cases compared to 204 million in 2000. Five countries in the Region accounted for just over half of all malaria cases in 2023: Nigeria (25.9%), the Democratic Republic of the Congo (12.6%), Uganda (4.8%), Ethiopia (3.6%) and Mozambique (3.5%) (Fig. 2.3).

Estimated malaria deaths: in 2023, there were about 569 000 malaria deaths compared to 805 000 in 2000. Following a peak in malaria-related fatalities during the COVID-19 pandemic (598 000), the annual number of deaths has steadily declined. About 76% of all malaria deaths in the Region in 2023 were among children under the age of 5, compared to 91% in 2000.

In 2023, four countries in the Region accounted for just over half of all malaria deaths globally: Nigeria (30.9%), the Democratic Republic of the Congo (11.3%), the Niger (5.9%) and the United Republic of Tanzania (4.3%). Nigeria accounted for 39.3% of global malaria deaths in children aged under 5 years (Fig. 2.3).

Fig. 2.3. Distribution of malaria cases and deaths, by country, 2023



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1. African Region

Case incidence (cases per 1000 population at risk) fell from **356** in 2000 to **227** in 2023. Although case incidence rates in the period 2019–2023 changed very little, the total number of cases increased, reflecting a rapidly growing population at risk of the disease (**Fig. 2.4 a**).

Meanwhile, the **mortality rate** (deaths per 100 000 population at risk) in the Region fell by 63%, from about **140** in 2000 to **52** in 2023 (**Fig. 2.4 b**).

Cases and deaths averted: since 2000, more than 1.7 billion cases and 12 million deaths have been averted in the African Region. This represents 80% of global cases and 94% of global deaths averted.

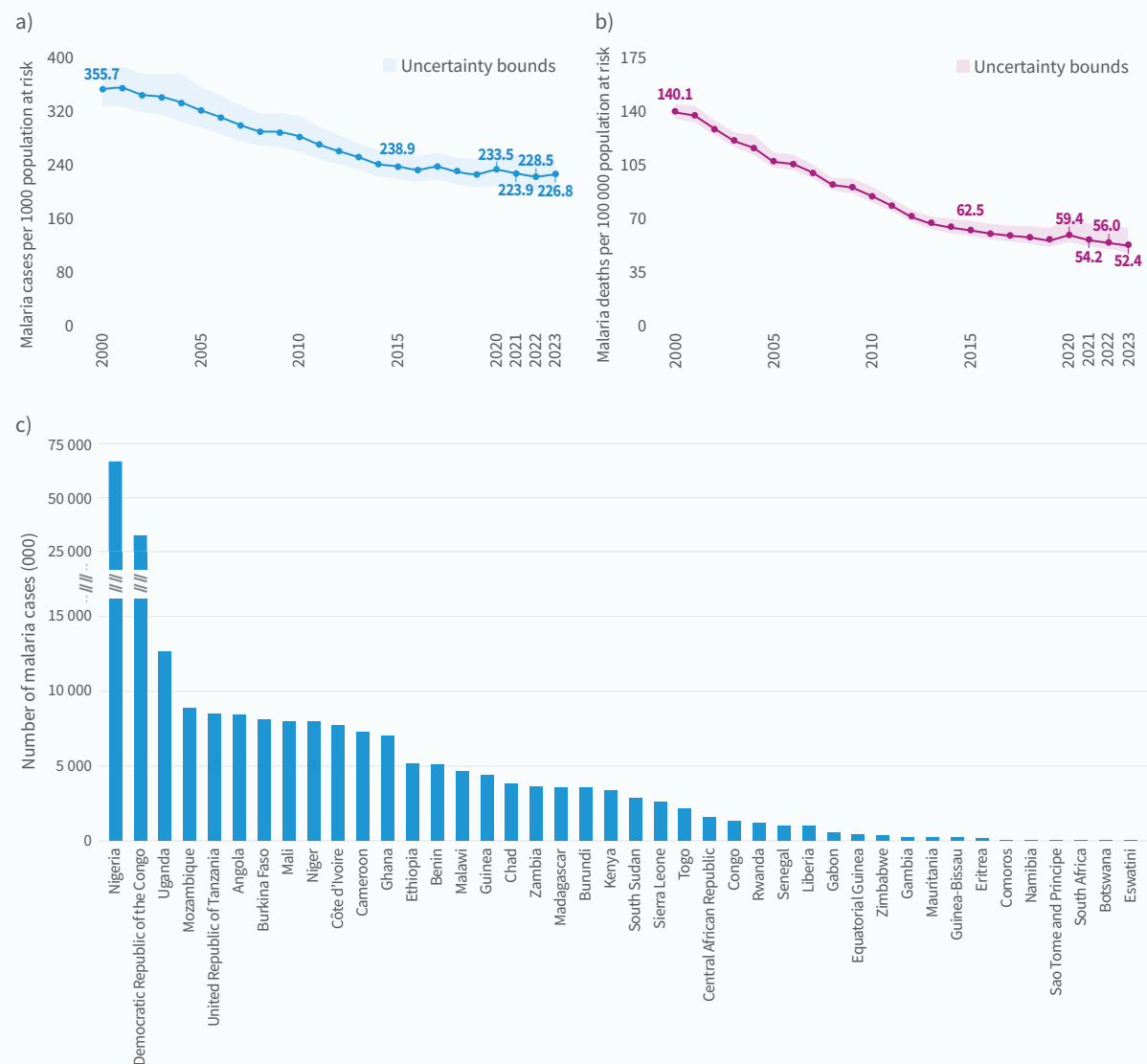
Progress has varied across the Region

Over the past 5 years (2019–2023), eight countries saw substantial increases in their malaria caseload: Nigeria (+6.8 million), Ethiopia (+6.9 million), Madagascar (+4.2 million), the United Republic of Tanzania (+1.9 million), the Democratic Republic of the Congo (+1.8 million), Uganda (+1.3 million), Mali (+1.4 million) and Cameroon (+1.2 million) (**Fig. 2.4 c**).

However, other countries, such as Rwanda and Liberia, achieved a substantial reduction in their malaria caseloads. Rwanda saw estimated cases drop from 4.9 million in 2019 to 749 000 in 2023 – a reduction of 85%. Liberia achieved a 44% reduction in the period 2017–2023, from an estimated 1.8 million to 1 million.

Five countries in the African Region reported fewer than 10 malaria-related deaths in 2023: Botswana, the Comoros, Eritrea, Eswatini, and Sao Tome and Principe. Since 2015, two countries in the Region have been awarded a malaria-free certification by WHO: Algeria (2019) and Cabo Verde (2023).

Fig. 2.4. Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2023; and c) malaria cases by country in the WHO African Region, 2023



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Progress towards the GTS targets in the African Region must be accelerated

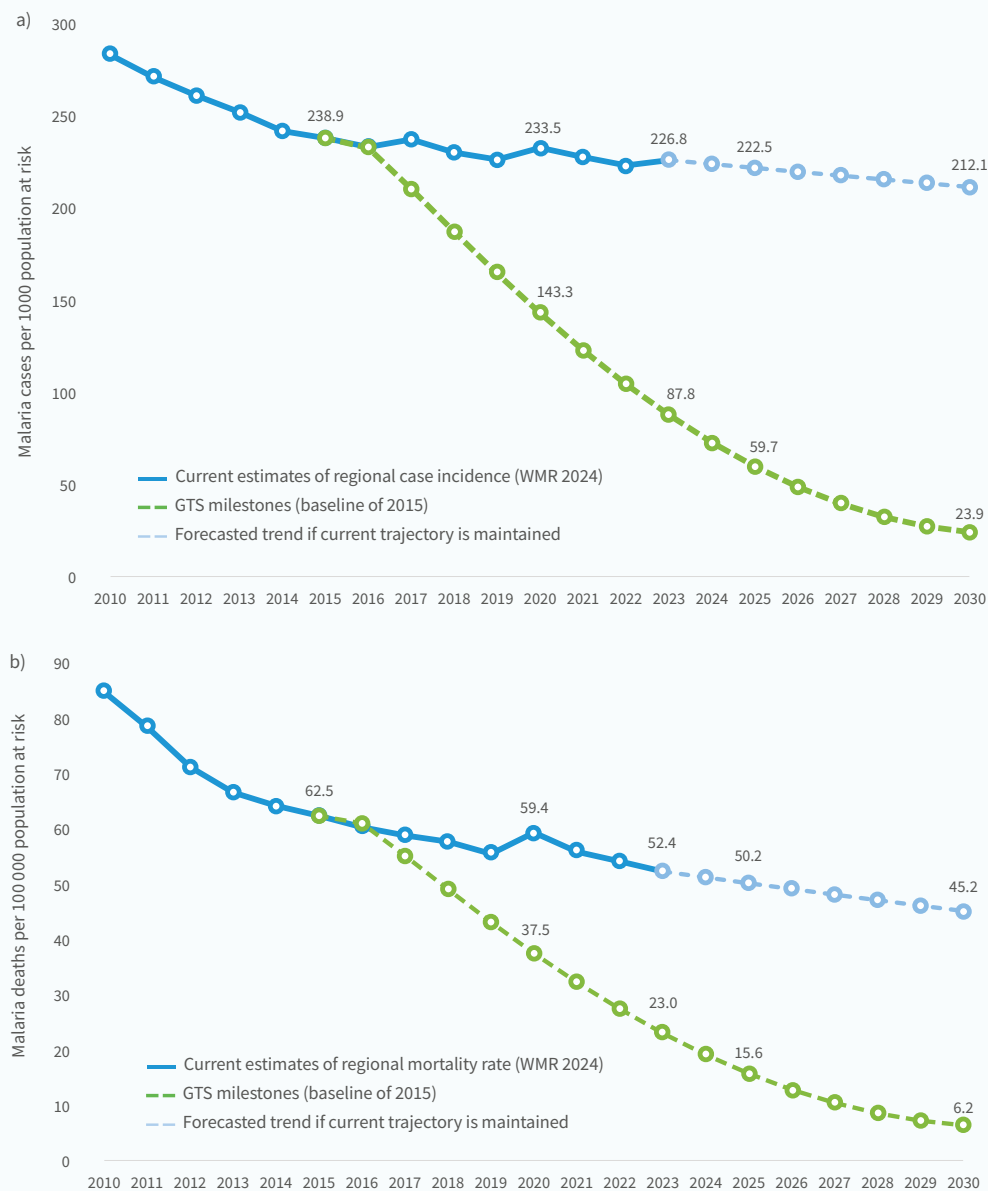
Although not on track to meet the 2025 target of the WHO *Global technical strategy for malaria 2016-2030* (GTS), 21 countries achieved reductions in malaria case incidence in 2023 compared with 2015.¹ In this same period, 34 countries achieved reductions in their malaria mortality rates, though not at the expected levels to reach the corresponding GTS 2025 mortality target.²

Between 2015 and 2023, the African Region as a whole achieved a reduction in case incidence and mortality rate of 5% and 16%, respectively. However, rates for both indicators are more than double the target levels set by the global strategy (Fig. 3.4 a & b).

Of the remaining malaria-endemic countries in the Region, only Rwanda is on track to meet the GTS 2025 target of a reduction in malaria case incidence of at least 75% (compared to a 2015 baseline). Sao Tome and Principe is the only endemic country to meet the GTS 2025 mortality reduction target, with zero estimated malaria deaths in 2023.

- 1 Benin, Burkina Faso, Cameroon, Central African Republic, Equatorial Guinea, Ethiopia, Gambia, Ghana, Guinea, Kenya, Liberia, Mali, Mauritania, Mozambique, Niger, Sierra Leone, South Sudan, Togo, United Republic of Tanzania, Zambia and Zimbabwe.
- 2 Benin, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sierra Leone, South Africa, South Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

Fig. 3.4. 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)



2 South-East Asia Region

Since 2000, the WHO South-East Asia Region has made remarkable progress against malaria

Estimated malaria cases in the Region fell from 22.8 million in 2000 to 4 million in 2023 – a reduction of 82.4%. The Region contributes about 1.5% of the burden of malaria cases globally. India accounted for about half of all estimated cases in 2023, followed by Indonesia, which carried just under one one third.

In the period 2022–2023, four countries achieved reductions in their malaria caseload: Bangladesh (–9.2%), India (–9.6%), Indonesia (–5.7%) and Nepal (–58.3%). Meanwhile, three countries saw case increases: Democratic People’s Republic of Korea (+47.9%), Thailand (+46.4%) and Myanmar (45.1%). In 2023, both Timor-Leste and Bhutan reported zero indigenous cases of malaria (**Fig. 2.7 c**).

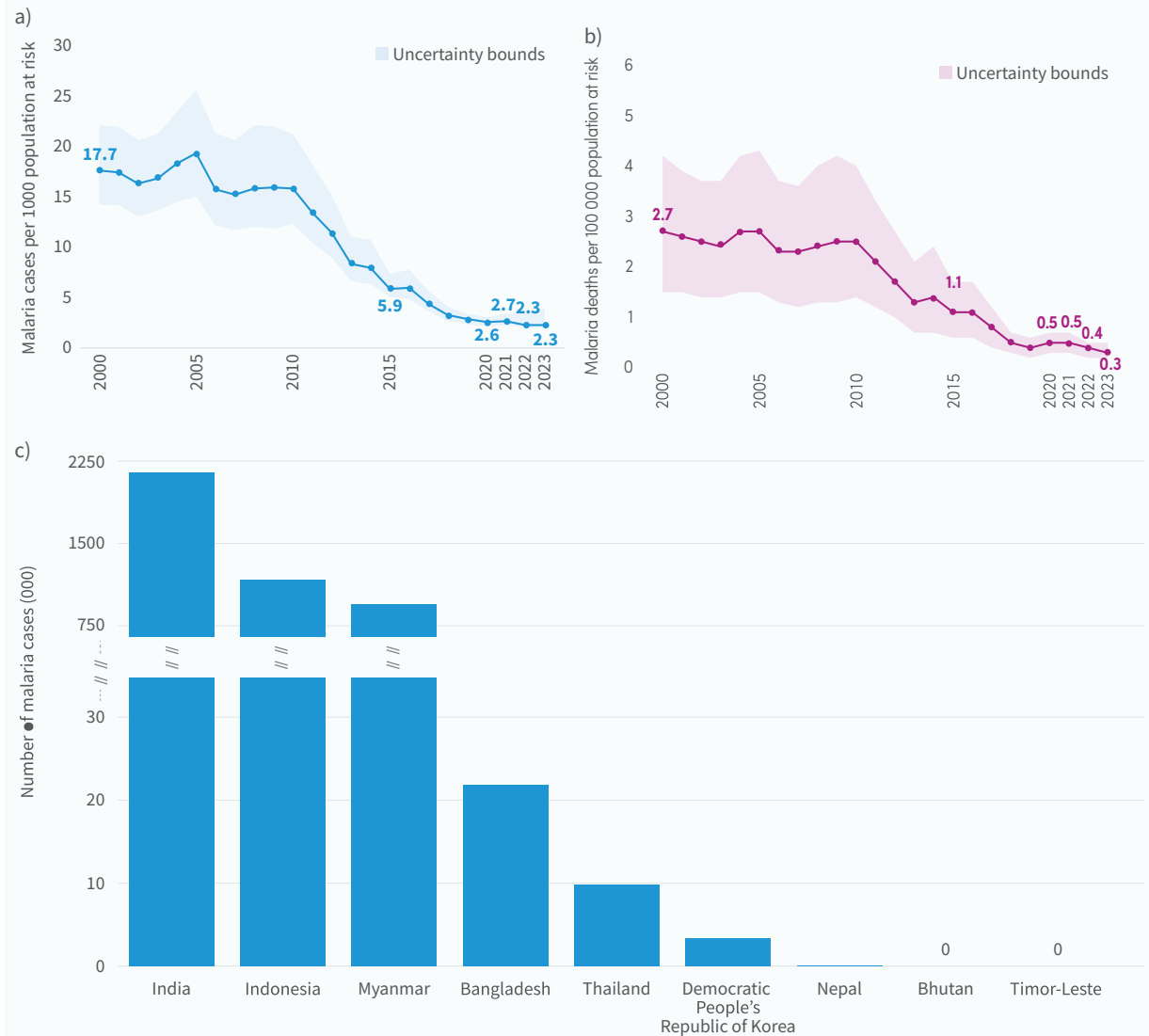
Estimated malaria deaths in the Region fell by 82.9%, from 35 000 in 2000 to 6000 in 2023. Together, India and Indonesia accounted for about 88% of malaria deaths in the Region. With the exception of Myanmar and Thailand, all countries reported either a decline in their malaria mortality rate or zero malaria deaths.

A reduction in **case incidence** of 87% was achieved between 2000 and 2023, from **17.7** to **2.3** per 1000 population at risk. These gains have been largely attributed to progress in India, which saw 17.7 million fewer estimated cases and a 93% decrease in case incidence since 2000 (**Fig. 2.7 a**).

Meanwhile, the **malaria mortality rate** fell by 88.8%, from **2.7** to **0.3** deaths per 100 000 population at risk. Between 2022 and 2023, only two countries in the Region – Myanmar and Thailand – reported an increase in their malaria mortality rate (**Fig. 2.7 b**).

Cases and deaths averted: more than 270 million cases and 420 000 deaths were averted in the Region between 2000 and 2023.

Fig. 2.7. Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2023; and c) malaria cases by country in the WHO South-East Asia Region, 2023



Countries with fewer than 3 consecutive years of zero indigenous malaria cases are still classified as malaria-endemic. In 2023, Bhutan remained in this category, marking its second consecutive year without indigenous cases. Meanwhile, Timor-Leste achieved 3 consecutive years of zero indigenous cases in 2023 and, as such, is no longer considered malaria-endemic.

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Malaria trends in Myanmar and Thailand are a cause for concern

Estimated cases increased more than 10-fold in Myanmar between 2019 and 2023, from 78 000 to 847 000. This sharp rise is thought to be due to the current political and social instability in the country, which has weakened its focus on malaria prevention and control.

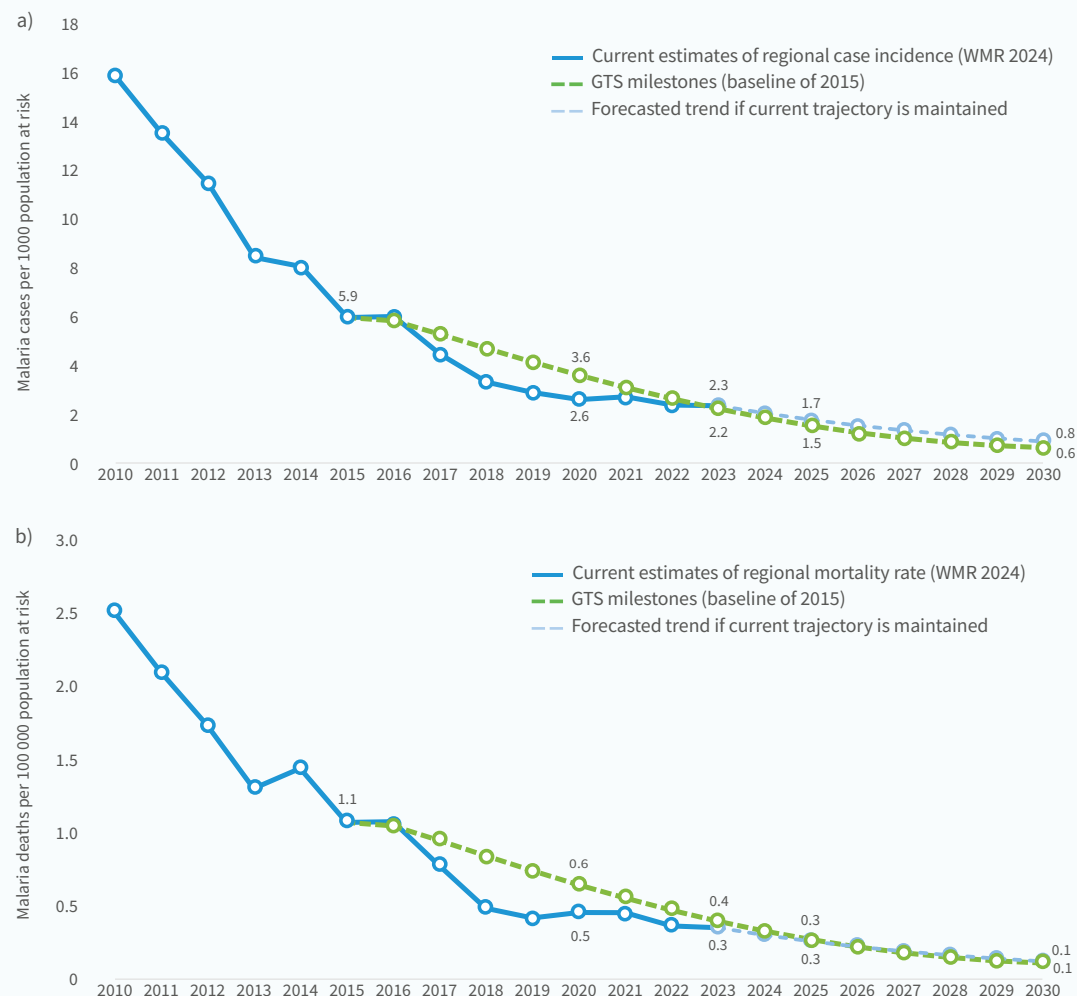
Trends in Myanmar have impacted the malaria burden in neighbouring Thailand, where reported indigenous cases more than tripled between 2021 and 2023 (2426 cases to 9169 cases) and imported cases also significantly increased over the same period (from 800 to 7276). Most of the imported cases are diagnosed and treated at the Thai border with Myanmar, where displaced populations from Myanmar can more easily access health care services.

Despite setbacks in some countries, the WHO South-East Region remains on track to reach the GTS 2030 targets

Since 2015, the baseline of the WHO global malaria strategy, estimated case incidence and mortality rates have fallen in the WHO South-East Asia Region by 61% and 73%, respectively. The Region met the GTS 2020 milestones for reductions in both mortality and morbidity and is on track to meet the GTS 2025 and GTS 2030 targets (**Fig. 3.7**).

Sri Lanka was certified malaria-free by WHO in 2016 and, to date, has stayed free of the disease. In 2023, after reporting 3 consecutive years of zero indigenous cases of malaria, Timor-Leste requested an official malaria-free certification from WHO; an independent advisory will evaluate the country's readiness for certification in the coming months. Meanwhile, Bhutan reported zero indigenous cases for the second consecutive year in 2023, and Nepal reported only 15 indigenous cases.

Fig. 3.7. 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)



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3 Eastern Mediterranean Region

Malaria cases and deaths, as well as case incidence and mortality rates, have all surged in the WHO Eastern Mediterranean Region since 2015

Estimated malaria cases in the Region fell by 37.7% between 2000 and 2015, from 6.9 million to 4.3 million, but have since increased by 137%, reaching 10.2 million cases in 2023. Between 2021 and 2023, the Region experienced a 62% rise in cases, largely attributed to a malaria outbreak in Pakistan, where catastrophic flooding led to an increase of 3.7 million cases (**Fig. 2.6**).

The upsurge in cases in Pakistan contributed³ to trends in the Islamic Republic of Iran, which shares a border with Pakistan; after reporting zero indigenous cases of malaria between 2018 and 2021, the country reported 1439 confirmed cases in 2022 and 2528 cases in 2023 (locally acquired cases, including both indigenous and introduced cases). Afghanistan also saw a significant increase in cases between 2022 and 2023, from 288 000 in to 424 000.

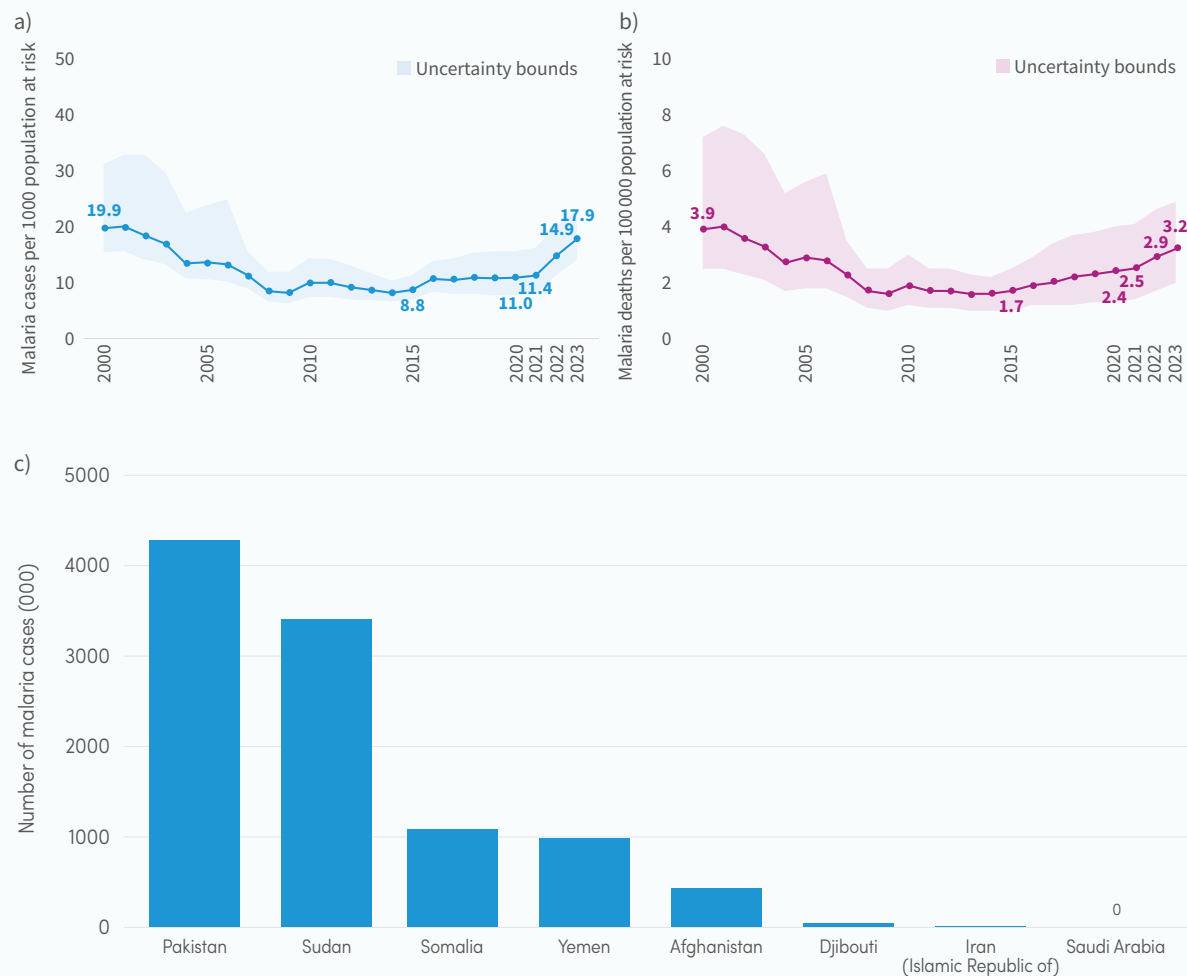
Due to instabilities and serious security issues in Sudan, incompleteness of reporting in Yemen, and concerns about data quality in Somalia, it has been difficult to obtain sufficiently reliable data to estimate recent malaria burden trends in these countries.

Estimated malaria deaths fell by about 39% between 2000 and 2015 – from 13 500 to 8200. An increase in fatalities has been observed annually since 2015, reaching 18 300 deaths in 2023. About half of the estimated deaths in 2023 were in Sudan. Pakistan experienced a 10-fold increase in malaria-related deaths between 2021 and 2023, from 460 to 4956.

Case incidence dropped from **19.9** to 8.8 cases per 1000 people at risk from 2000 to 2015. However, this trend reversed between 2021 and 2023, with incidence rising from 11.4 to **17.9** cases per 1000 population at risk (**Fig. 2.6**).

³ Other contributing factors include flash flooding and mudslides as well as a lack of funding and difficulties in procuring malaria control commodities.

Fig. 2.6. Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2023; and c) malaria cases by country in the WHO Eastern Mediterranean Region, 2023



Note: Saudi Arabia is no longer considered as a malaria endemic country with zero indigenous cases reported for at least 3 consecutive years.

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3. Eastern Mediterranean Region

The **mortality rate** declined from **3.9** to 1.7 deaths per 100 000 people at risk from 2000 to 2015, but also increased thereafter. The 2021–2023 period saw a 28% rise in mortality rate, from 2.5 to **3.2** per 100 000 people at risk (**Fig. 2.6**).

Cases and deaths averted: in total, more than 100 million cases and nearly 200 000 deaths have in the Eastern Mediterranean Region since 2000.

Progress towards the 2025 GTS targets in the Eastern Mediterranean Region is substantially off track

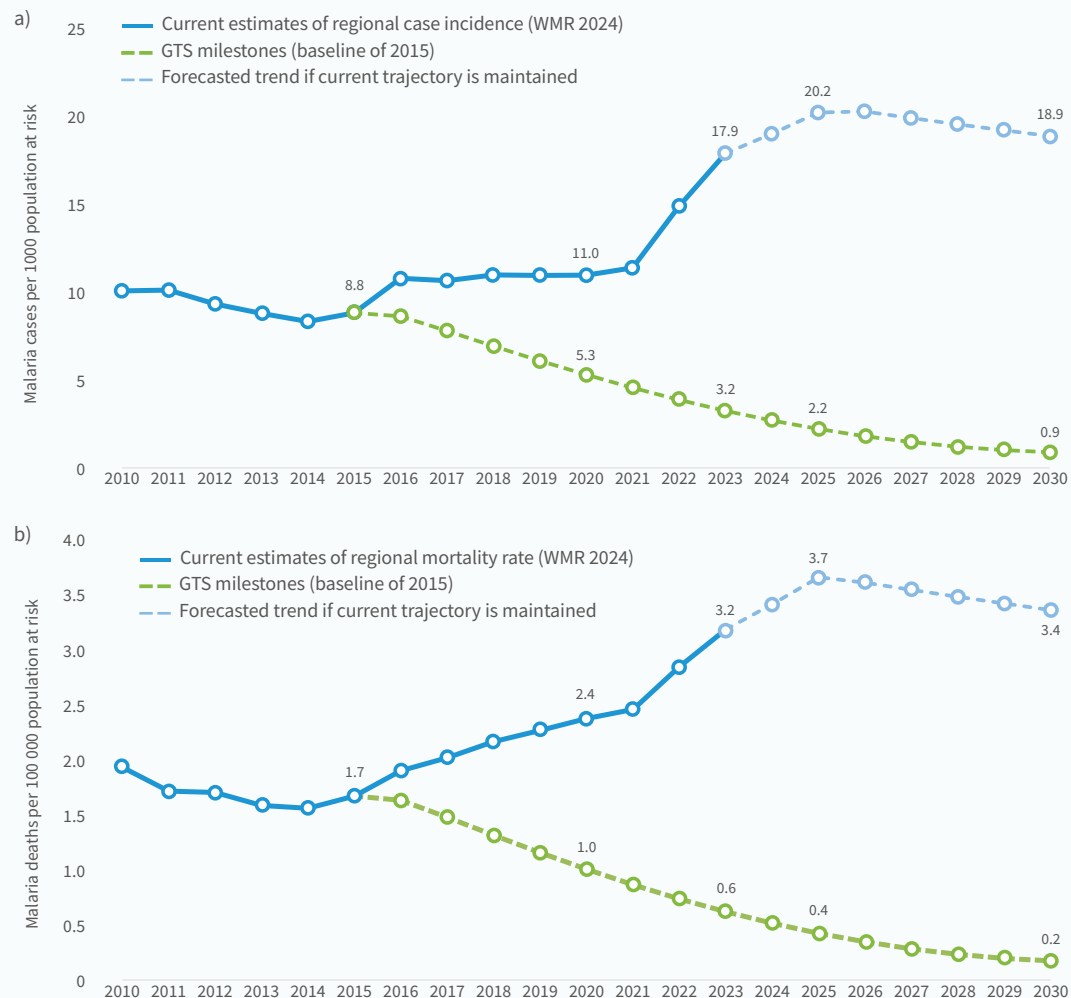
In 2023, Saudi Arabia reported zero indigenous malaria cases for the third consecutive year, ending the malaria epidemic. Iraq, Morocco, Oman and the Syrian Arab Republic last reported indigenous malaria cases in 2008, 2004, 2007 and 2004, respectively. In 2023, all countries in the Region, apart from Djibouti, Pakistan, Sudan and Yemen, reported zero malaria deaths.

As the third-most populous country in Africa, Egypt's recent [malaria-free certification](#) by WHO is a notable milestone for the Region. Malaria had been detected in Egypt as early as 4000 B.C., with genetic markers of the disease identified in the mummies of figures like Tutankhamun.

However, the recent increases in case incidence and mortality rates in other countries have put the Region further away from the global malaria targets. Of the remaining malaria-endemic countries, all are off track to reach the 2025 GTS targets, with increases in case incidence and mortality rates of more than 63% in Djibouti, the Islamic Republic of Iran, Pakistan and Sudan (**Fig. 3.6**).

Meanwhile, Yemen saw increases in both indicators of between 25% and 63%. Afghanistan reduced estimated case incidence and mortality rates by less than 25% in 2023 compared with 2015, although these estimates need to be verified. There was no estimated change in incidence or mortality rates in Somalia.

Fig. 3.6. 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)



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4 Region of the Americas

The WHO Region of the Americas has made notable progress against malaria since 2000

Estimated malaria cases in the Region dropped by 65% between 2000 and 2023, from nearly 1.6 million to 0.55 million. In 2023, Brazil, the Bolivarian Republic of Venezuela and Colombia accounted for nearly 77% of all cases in the Region (**Fig. 2.5 c**).

Estimated malaria deaths fell by approximately 61.8%, from 896 to 342. The year 2023 saw an estimated 342 deaths in the Region, mostly among adults (78%).

Since 2000, **case incidence** fell by 73.7%, from **13.5** to **3.6** cases per 1000 population at risk. The regional **mortality rate** fell by 71%, from **0.8** to **0.2** deaths per 100 000 population at risk (**Fig. 2.5 a & b**).

Cases and deaths averted: since 2000, more than 23 million cases and nearly 12 000 deaths have been averted in the Region of the Americas.

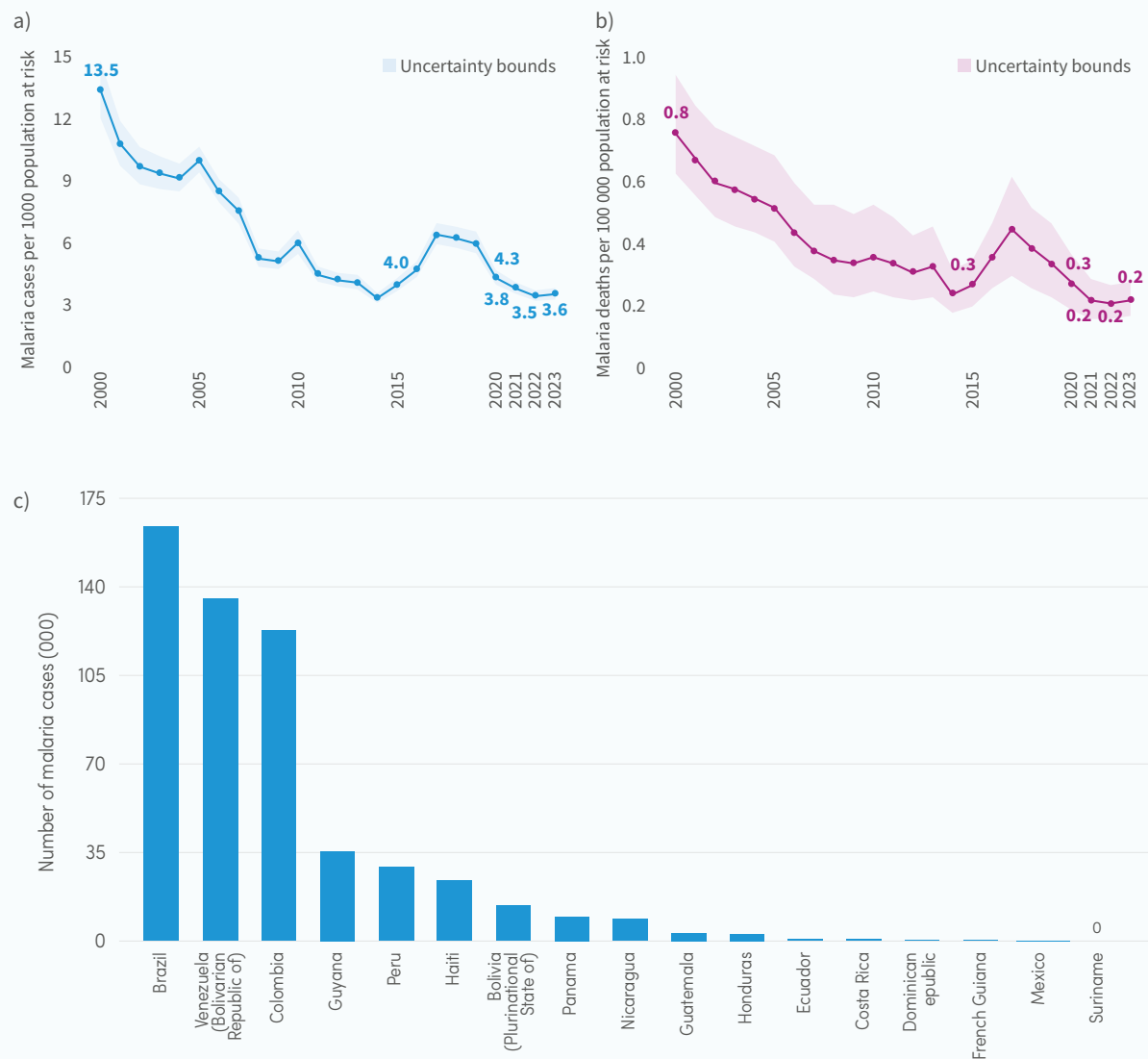
Progress has varied significantly across the Region

From 2022 to 2023, estimated cases rose in French Guiana (+800%, to 189), Panama (+100%, to 9485), Guatemala (+64.1%, to 3046), Costa Rica (+33.7%, to 543), Guyana (+33.1%, to 35 255) and Colombia (+20.4%, to 122 467).

The Bolivarian Republic of Venezuela experienced a dramatic rise in cases, climbing from 35 500 in 2000 to over 467 000 by 2019. Cases then dropped by more than half, to 223 000 in 2020. This downward trend continued over the next 3 years, with an estimated 135 000 cases reported in 2023.

In remote regions of the Amazon basin, gold-mining activities attract migrant and local populations with limited access to health care, increasing their vulnerability to malaria and heightening the risk of severe disease. This has likely sustained malaria transmission in countries such as Guyana, Brazil, Colombia and the Bolivarian Republic of Venezuela, with Indigenous Peoples and Afro-descendant populations disproportionately affected.

Fig. 2.5. Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2023; and c) malaria cases by country in the WHO Region of the Americas, 2023



Note: Suriname is still malaria endemic with zero indigenous cases reported for the last 2 years.

Meanwhile, seven countries in the Region achieved substantial reductions in malaria cases in 2023 compared to 2022: Mexico (-74%), Nicaragua (-58%), Ecuador (-55%), Honduras (-27%), the Dominican Republic (-21%), Peru (-18%) and Haiti (-9%). In 2023, Suriname reported zero indigenous cases for the second consecutive year.

Regional progress towards the GTS targets is off track

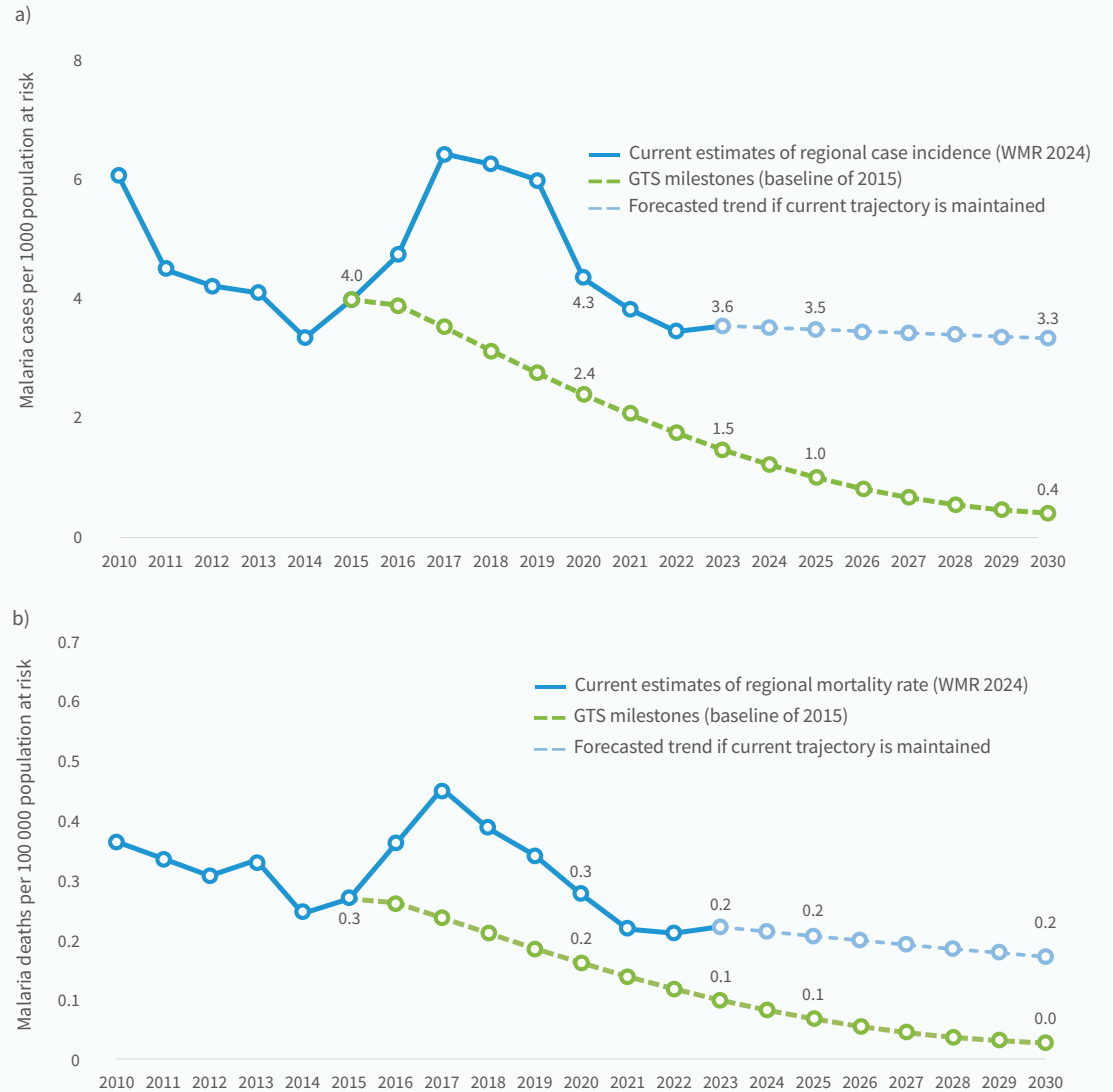
Since 2015, four countries in the Americas have been certified malaria-free by WHO: Paraguay (2018), Argentina (2019), El Salvador (2021) and Belize (2023).

In the period 2015 to 2023, five countries saw a reduction of more than 63% in case incidence: Dominican Republic, French Guiana, Mexico, Peru and Suriname. Guatemala, Honduras and Haiti reduced case incidence by between 25% and 63%, and Brazil, Ecuador and the Bolivarian Republic of Venezuela by less than 25%.

Since 2015, Colombia and the Plurinational State of Bolivia saw increases in case incidence of between 25% and 63%, while Costa Rica, Guyana, Nicaragua and Panama experienced increases of 63% or more.

Overall, case incidence and mortality rates in the Region of the Americas have fallen by 10% and 33%, respectively, since 2015. However, incidence in 2023 was more than twice the target level of the WHO global strategy. The Region is also off track on the GTS mortality rate target, with no expected change in the projected trend between 2023 and 2030 (Fig. 3.5).

Fig. 3.5. 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)



5

Western Pacific Region

While the WHO Western Pacific Region has made significant progress against malaria over the last two decades, there has been a sharp increase in cases and deaths since 2021

Estimated malaria cases in the Region fell by 48.1% between 2000 and 2021, from 2.7 million to 1.4 million. An increase of 36% was observed between 2021 and 2022, to 1.9 million. Malaria cases then fell slightly in 2023, to 1.7 million. Papua New Guinea accounted for 87.5% of all cases in this Region in 2023, followed by Solomon Islands, the Philippines and Cambodia (**Fig. 2.8 c**).

Estimated malaria deaths fell by 57% between 2000 and 2021, from 6300 to 2700. Between 2021 and 2022, deaths increased by 33%, to 3600, before falling back to 3400 in 2023. Papua New Guinea accounted for nearly 92% of deaths in the Region in 2023.

The increases in cases and deaths from 2021–2022 were mainly due to the malaria situation in Papua New Guinea. Trends in Papua New Guinea have been attributed, among other factors, to low treatment seeking and testing rates, stock-outs of commodities, human resource capacity and management constraints, unstable sources of domestic and external funding, and decreased efficacy of insecticide-treated nets.

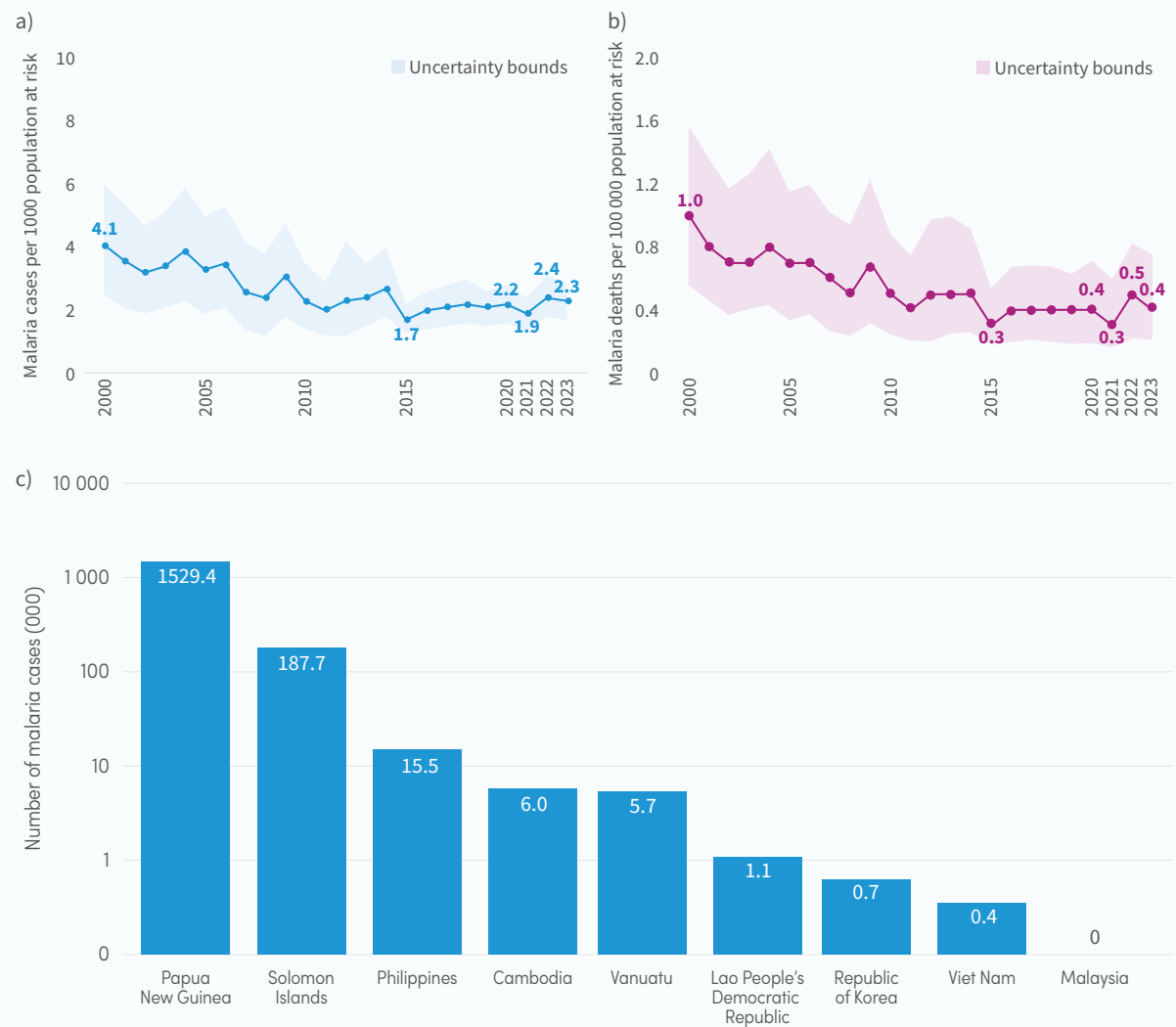
Case incidence dropped between 2000 and 2023 from **4.1** to **2.3** cases per 1000 population at risk. In this same period, the mortality rate fell from **1.0** to **0.4** deaths per 100 000 population at risk (**Fig. 2.8 a & b**).

Cases and deaths averted: in total, nearly 41 million cases and 100 000 deaths have been averted in the Region since 2000.

Country-level progress across the Region has been mixed

In addition to Papua New Guinea, other countries saw increases in estimated cases in the period 2022–2023, including Solomon Islands (+15.1%), Vanuatu (+113%), and the Philippines (+90%). The Republic of Korea also reported an increase in cases, from 382 in 2022 to 622 in 2023.

Fig. 2.8. Trends in a) malaria case incidence (cases per 1000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2023; and c) malaria cases by country in the WHO Western Pacific Region, 2023



Note: Malaysia is no longer considered as a malaria endemic country with zero non-zoonotic indigenous cases reported for at least 3 consecutive years.

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5. Western Pacific Region

Meanwhile, China was certified malaria free in 2021, and five countries reported fewer than 10 000 estimated cases in 2023: Cambodia (6012), the Lao People's Democratic Republic (1143), the Republic of Korea (662), Vanuatu (5748), and Viet Nam (373).

Malaysia has maintained zero cases of human malaria for six consecutive years but reported an increase in the indigenous *P. knowlesi* malaria cases in 2023. This zoonotic malaria parasite, initially found in monkeys, is known for its severe and rapid onset. Since 2018, Malaysia has reported a small number of *P. knowlesi* malaria deaths annually, with 14 fatalities in 2023 alone.

There have been zero reported malaria deaths in the Republic of Korea and Vanuatu since 2012, Cambodia since 2018, and Viet Nam since 2019.

In the face of antimalarial drug resistance, elimination is within reach in three countries of the Greater Mekong

In 2023, Cambodia reported only 34 cases of indigenous *P. falciparum* malaria, compared to more than 20 000 cases in 2017. Lao People's Democratic Republic and Viet Nam reported just 85 and 60 cases, respectively, in 2023, down from more than 4000 and 2800 cases in 2017.

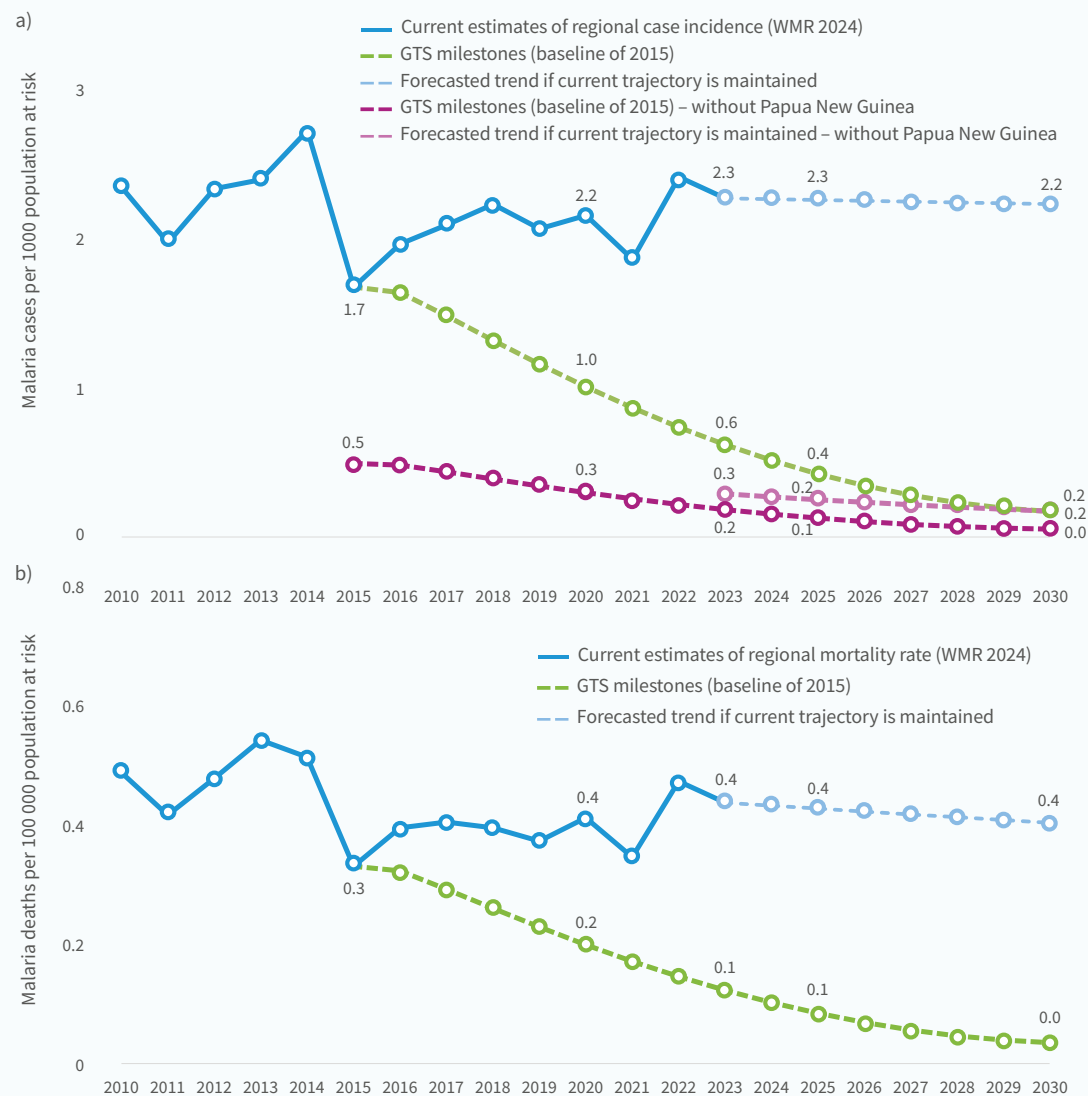
This near-zero level of *P. falciparum* malaria is notable in view of the historic threat posed by drug resistance in the subregion. The availability of effective antimalarial drugs coupled with a marked decline in *P. falciparum* cases present a unique window to defeat malaria in the Greater Mekong.

Despite progress in some countries, the Western Pacific Region as a whole remains substantially off track towards the GTS targets

Between 2015 and 2023, estimated case incidence and mortality rates increased by 35% and 33%, respectively. The Region is not on track to reach the 2025 milestones of the WHO global malaria strategy: in 2023, estimated case incidence and mortality rates were about four times the target levels (**Fig. 3.8**).

Progress in reducing malaria incidence and mortality rates has been hindered primarily by trends in Papua New Guinea. Solomon Islands also saw a significant increase in case incidence from 2015 to 2023.

Fig. 3.8. Comparison of progress in malaria a) case incidence and b) mortality rate in the WHO Western Pacific Region considering four scenarios with and without the inclusion of Papua New Guinea: current trajectory maintained (blue; light purple) and GTS targets achieved (green; dark purple)



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Graphs drawn from the *World malaria report 2024*. For more information on sources, please see the report.

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