

E-2020

UPDATE ON THE E-2020 INITIATIVE OF 21 MALARIA-ELIMINATING COUNTRIES

REPORT AND COUNTRY BRIEFS



**World Health
Organization**

E-2020

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Preliminary data for 2017 (sources: national malaria control programme reports) for all country briefs except Botswana, which shows confirmed data for 2016; final figures will be published in the *World malaria report 2018*.

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Table of contents

Foreword	ii
E-2020: the brief	1
Common challenges, shared solutions	2
E-2020 countries: snapshot of indigenous malaria cases in 2017	4
Elimination progress	6
Getting to 2020	7
Widening the elimination net	7
The WHO elimination certification process at a glance	8
Malaria Elimination Oversight Committee	9
Malaria Elimination Certificatio Panel	9
 Country briefs	
Africa	10
(Algeria, Botswana, Cabo Verde, Comoros, Eswatini, South Africa)	
Americas	22
(Belize, Costa Rica, Ecuador, El Salvador, Mexico, Paraguay, Suriname)	
Eastern Mediterranean	36
(Islamic republic of Iran, Saudi Arabia)	
South-East Asia	40
(Bhutan, Nepal, Timor-Leste)	
Western Pacific	46
(China, Malaysia, Republic of Korea)	

Foreword

The final mile for 21 countries

This document captures the progress of a group of diverse countries, spanning five regions, on the path to malaria elimination. What they have in common is an end goal: to achieve zero indigenous cases of the disease by 2020.

These countries – 21 in total – were identified by WHO in 2016 as having the potential to eliminate malaria by 2020. They were selected based on an analysis that looked at the likelihood of elimination across key criteria.

Reaching malaria-free status is a critically important public health and sustainable development goal. It is also a core objective of the WHO *Global Technical Strategy for Malaria 2016–2030*, which calls for the elimination of malaria in at least 10 countries by the year 2020.

A key milestone featured in this report is the WHO certification of malaria elimination in Paraguay, the first country in the Americas to be granted this status in 45 years. The reporting of zero indigenous cases in 2017 by China and El Salvador, a first for both nations, and zero cases in Algeria for the fifth consecutive year are also highlighted in the coming pages.

However, the report shows that a number of countries are experiencing increases, a development that could jeopardize headway in many of them. Now at the midpoint to 2020, we seek not only to assess the progress made across the malaria-eliminating countries, but also to bring a level of urgency to address the elimination issues and bottlenecks identified in this report.

Fortunately, the challenges countries are facing are not necessarily new, and we know they can be tackled with added resources, resolve and political commitment. WHO is proud to support the 21 malaria-eliminating countries; we hope their journey will inspire others to get to zero, no matter where they are in the elimination continuum.

“ Reaching
malaria-free status is
a critically important
public health
and sustainable
development goal.”

Dr Pedro Alonso

Director, Global Malaria Programme
World Health Organization

In May 2015, the World Health Assembly endorsed a new *Global Technical Strategy for Malaria 2016–2030*. The strategy set ambitious goals aimed at dramatically lowering the global malaria burden over this 15-year period, with milestones along the way to track progress.

A key milestone for 2020 is the elimination of malaria in at least 10 countries that had the disease in 2015. To meet this target, countries must report zero indigenous cases in 2020. According to a WHO analysis published in 2016, 21 countries have the potential to reach this target. The analysis was based on three criteria:

- ✓ **Trends in malaria case incidence**
between 2000 and 2014
- ✓ **Declared malaria objectives**
of affected countries
- ✓ **Informed opinions** of WHO experts
in the field

Through the E-2020 initiative, WHO is working with these countries to scale up efforts to achieve elimination within the 2020 timeline. This includes a new *Framework for malaria elimination*, launched by WHO in March 2017, that provides countries with an updated set of tools, activities and strategies for interrupting transmission and preventing re-establishment of the disease. The framework also offers a clear and streamlined process for countries to obtain malaria-free certification from WHO.

To keep elimination high on both the programmatic and political agendas in E-2020 countries, WHO convened a global forum in March 2017, bringing together malaria programme managers from the 21 eliminating countries. The inaugural E-2020 meeting mapped progress, reviewed countries' elimination strategies, and enabled the sharing of lessons and solutions to common challenges.

For WHO, the forum resulted in two new independent bodies to better support countries on their elimination journey: the Malaria Elimination Oversight Committee, which guides countries in their efforts to eliminate malaria, and the Malaria Elimination Certification Panel, tasked with verifying a country's malaria-free status.

Building on the success of this first global forum, a second forum was held in June 2018, hosted by Costa Rica.

Common challenges, shared solutions

The E-2020 countries are part of a concerted effort to eliminate malaria in an ambitious but technically feasible time frame.

To get where they are today, the 21 countries have focused on improving the systems and tools needed to capture and treat remaining pockets of indigenous cases, and to prevent onward transmission from imported malaria. The combined impact of these and other efforts have resulted in many E-2020 countries reporting significant declines in malaria burden.

Good progress has been realized across many eliminating countries. Most notably, in June 2018, Paraguay was the first in the E-2020 group to be certified malaria-free by WHO. In 2017, Algeria reported zero indigenous cases for the fifth consecutive year and kick-started the certification process, while both China and El Salvador noted zero cases for the first time. Several other countries recorded important declines in malaria transmission, bringing them even closer to elimination.

However, achieving elimination and maintaining zero indigenous cases is not without its challenges. As shown in this report, eight E-2020 countries reported increases in indigenous malaria cases in 2017. For several countries, these increases were substantial.

Where progress has slowed, there are several common factors that may have hampered the ability of countries to stay on track. These include:



INSUFFICIENT FUNDING

Reductions in malaria burden often result in reduced malaria funding. Decreases in investments towards national malaria programmes threaten continuity of elimination activities, including preventing the re-establishment of the disease.



LAPSES IN SURVEILLANCE

Inadequate investments in surveillance systems impede the ability to identify, treat, track and respond to every infection, or clusters of infections, in a rapid and effective manner.



COMPETING PRIORITIES

Different demands within ministries of health may shift the focus away from malaria elimination, diverting resources and political commitment.



INADEQUATE TRAINING

Healthcare personnel may not have the specific skills required in elimination settings.



DISRUPTIONS IN VECTOR CONTROL MEASURES

Shortages in prevention tools such as long-lasting insecticidal nets, or inefficient, poor quality, and ill-timed spraying campaigns reduce the effectiveness of core interventions.



EXPIRED STRATEGIES

Out-of-date national strategic malaria plans or elimination strategies may no longer reflect the country's current elimination context.



ILL-TARGETED ACTIONS

The absence of fine-scale maps of malaria risk, at the lowest levels possible ('stratification'), result in missed opportunities to target interventions.



LIMITED OUTREACH

In areas with ongoing malaria transmission, community mobilization may be inadequate, particularly for groups known to be at high risk of infection.

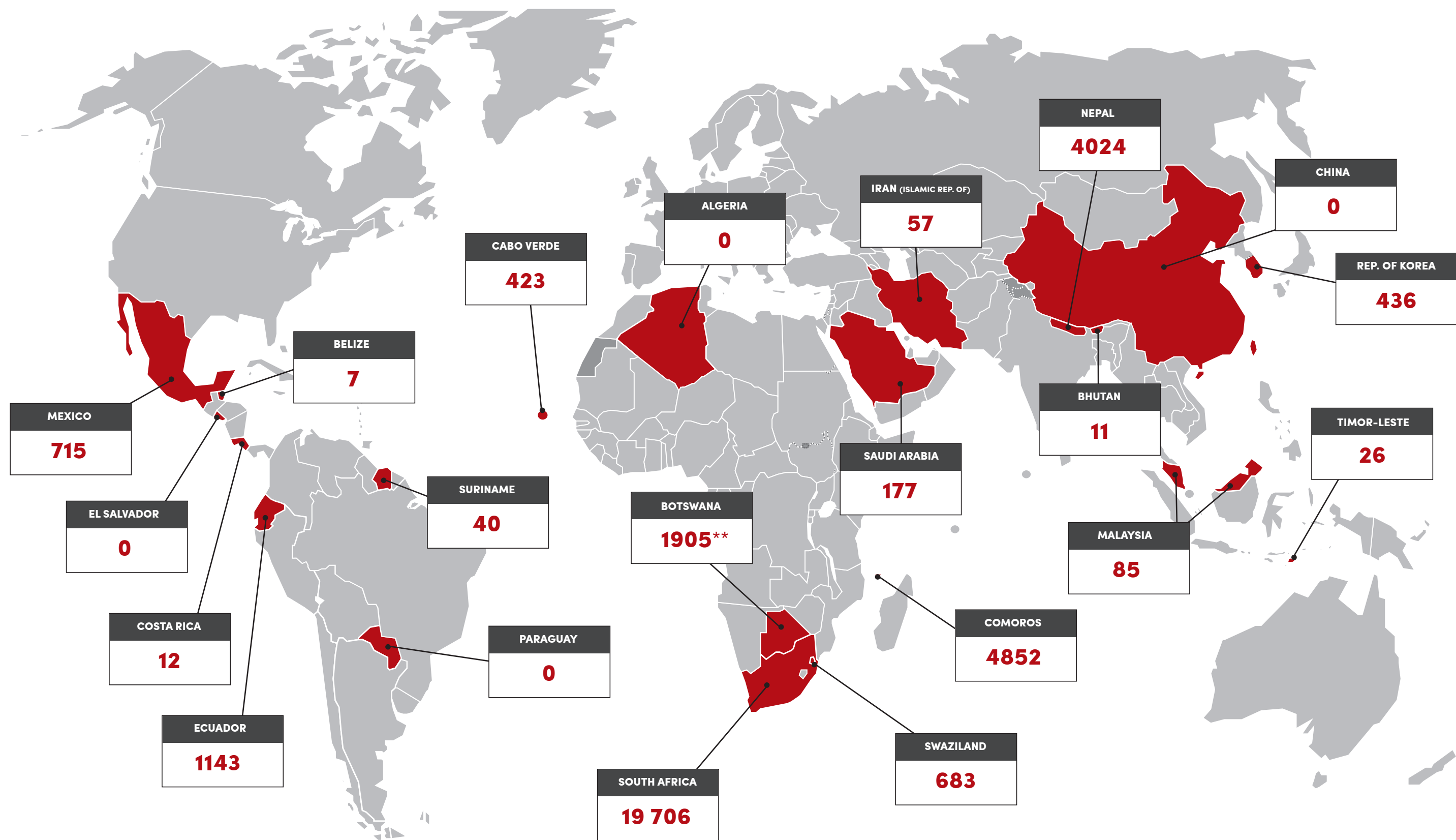


WEAK CROSS-BORDER COLLABORATION

Poor communication and cooperation with malaria programmes in neighbouring countries make it difficult to protect communities on both sides of the border, especially in malaria-endemic areas with high migration flows.

E-2020 countries

Snapshot of indigenous malaria cases in 2017*



* Preliminary figures
** 2016 figure (data not available for 2017)

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ELIMINATION PROGRESS

	Country*	2010	2011	2012	2013	2014	2015	2016	2017**	Change 2016 to 2017	2020***
Africa	Algeria	1	1	55	0	0	0	0	0	↔	●
	Botswana	5 222	1 225	536	1 224	3 592	877	1 905	not available	not available	●
	Cabo Verde	47	7	1	22	26	7	48	423	↑	●
	Comoros	36 538	24 856	49 840	53 156	2 203	1 300	1 066	4 852	↑	●
	Eswatini	268	549	562	962	711	157	350	683	↑	●
	South Africa	8 060	9 866	5 629	8 645	11 705	555	4 323	19 706	↑	●
Americas	Belize	150	72	33	20	19	9	4	7	↑	●
	Costa Rica	110	10	6	0	0	0	4	12	↑	●
	Ecuador	1 888	1 219	544	368	242	618	1 191	1 143	↓	●
	El Salvador	19	9	13	6	6	3	13	0	↓	●
	Mexico	1 226	1 124	833	495	656	517	551	715	↑	●
	Paraguay	18	1	0	0	0	0	0	0	↔	●
	Suriname	1 712	771	356	729	401	81	76	40	↓	●
Eastern Mediterranean	Iran (Islamic Republic of)	1 847	632	756	479	358	167	81	57	↓	●
	Saudi Arabia	29	69	82	34	30	83	272	177	↓	●
South-East Asia	Bhutan	436	192	82	15	19	34	15	11	↓	●
	Nepal	43 363	32 660	20 523	16 232	8 067	6 609	4 224	4 024	↓	●
	Timor-Leste	113 269	36 187	8 081	1 563	521	122	143	26	↓	●
Western Pacific	China	4 990	3 367	244	86	56	39	3	0	↓	●
	Malaysia	5 194	3 954	3 662	2 921	3 147	242	266	85	↓	●
	Republic of Korea	1 267	505	394	383	557	627	601	436	↓	●

* Argentina and Uzbekistan have reported zero indigenous cases of malaria since 2011 and have requested WHO certification of elimination.

** Preliminary data for 2017 (Source: national malaria control programme reports); final figures will be published in the *World malaria report 2018*.

*** ● on track, less than 100 indigenous cases ● somewhat off track, between 100 and 999 indigenous cases ● off track, more than 1000 indigenous cases ● certified malaria-free by WHO

These thresholds are based on an analysis in the *World malaria report 2016* that indicated that 75% of 17 countries that successfully eliminated malaria had fewer than 100 indigenous cases three years before reaching zero.

Getting to 2020

With less than three years to go to meet the 2020 milestone, the road ahead is clear for eliminating countries: reaching zero indigenous cases will require an added sense of urgency resulting in decisive actions. For those experiencing setbacks, extra focus will be needed to overcome the hurdles they encounter.

But the journey does not end with elimination: preventing re-establishment of the disease requires keeping robust technical capabilities

and skilled know-how in place. Integrating malaria activities into public health programmes is a way to ensure central functions are sustained.

The 21 eliminating countries are engaged in a potentially historic effort that demonstrates what is possible when a joint end goal is identified and pursued. The combined actions of the E-2020 countries are helping to bring the international community closer to the common vision of a malaria-free world.

Widening the elimination net

Looking beyond the 21 countries, the Global Technical Strategy provides a basis for all malaria-endemic countries to work towards elimination. This progress is vital if WHO Member States are to achieve the 2030 elimination target of the strategy: eliminating malaria from at least 35 countries in which the disease was transmitted in 2015.

For countries with a high malaria burden, elimination – undoubtedly – is a longer-term goal, requiring a longer-term view. Yet, it is still the ultimate end goal. The Global Technical Strategy outlines the critical requirements needed to achieve and maintain elimination at every level of malaria transmission intensity in every endemic country. It is founded on five core principles that highlight the need for:

1. Country ownership

For elimination efforts to succeed, government stewardship in malaria-endemic countries is essential, together with the engagement and participation of affected communities. Malaria responses within national borders can be optimized through cross-border and regional collaboration.

2. Tailored responses

All countries can accelerate progress towards elimination through an effective mix of interventions and strategies tailored to local contexts.

3. Strengthened surveillance

Malaria surveillance helps countries identify gaps in coverage of malaria control tools and take action based on the data received. As countries approach elimination, detecting every infection, or clusters of infections, becomes increasingly important to halt any remaining areas of transmission.

4. Equity in access to health services

As some countries approach elimination, a high proportion of cases are found among vulnerable populations living in rural and remote areas. Progress can be accelerated by ensuring access to malaria prevention, diagnosis and treatment for all at-risk groups. This is particularly key for hard-to-reach populations like undocumented migrants.

5. Innovation in malaria control tools

Eliminating malaria in all countries, especially those with a high disease burden, will likely require new tools that are not available today. Investing in the research and development of improved diagnostics, more effective medicines, new insecticides and innovative vector control tools must be a priority.

The WHO elimination certification process at a glance

Certification of malaria elimination is the official recognition by WHO of a country's malaria-free status.



WHO grants this certification when a country has proven, beyond reasonable doubt, that the chain of indigenous malaria transmission by *Anopheles* mosquitoes has been interrupted nationwide for at least the past three consecutive years. Additionally, the country must demonstrate the capacity to prevent the re-establishment of transmission.

The burden of proof falls on the country requesting certification. A national surveillance system capable of rapidly detecting and responding to malaria cases (if they were occurring) must be operational, together with an appropriate programme to prevent re-establishment of transmission.

The final decision on granting certification of malaria elimination rests with the WHO Director-General, based on a recommendation by the Malaria Elimination Certification Panel.

Certification of malaria elimination is managed by the WHO Global Malaria Programme and involves rounds of expert reviews, field assessments and the compilation of a final evaluation report that determines, based on evidence gathered, if a country is ready to be certified as free of malaria.

This process is voluntary and can be initiated only after a country has submitted an official request to WHO.

Malaria Elimination Oversight Committee

Helping countries get to zero

The Malaria Elimination Oversight Committee (MEOC) works with countries to achieve malaria-free status. Established in April 2018, the committee aims to maintain a 360-degree overview of how countries and regions are advancing towards malaria elimination. Progress is assessed in line with the milestones and timelines set by countries, through programme reviews and occasional field visits carried out by the committee. An important function of the MEOC is identifying issues that could threaten elimination. By sharing such findings, potential risks can be addressed by WHO, regional initiatives or the country's national malaria programme. Further, as an independent body, the committee can raise difficult issues while remaining impartial.

Malaria Elimination Certification Panel

Verifying malaria-free status

Countries that have interrupted indigenous malaria transmission for at least the past three consecutive years may request WHO certification of elimination. Tasked with reviewing such requests – and making a recommendation to the WHO Director-General – is the Malaria Elimination Certification Panel (MECP). Formed in December 2017, the panel assesses evidence submitted by countries (e.g. national malaria reports), analyses independent sources (e.g. articles, research, country visit reports) and conducts evaluation missions, all to arrive at a recommendation either to certify the country as malaria-free or postpone certification based on its assessment.

For more information on the members and functions of the MEOC and the MECP, please visit: <http://www.who.int/malaria/areas/elimination/advisory-committees/>

ALGERIA

0

indigenous malaria cases
since 2014

445

imported malaria cases
in 2017

0

malaria deaths
since 2010



With three consecutive years of zero indigenous malaria cases since 2014, Algeria kick-started the WHO certification process in 2017.

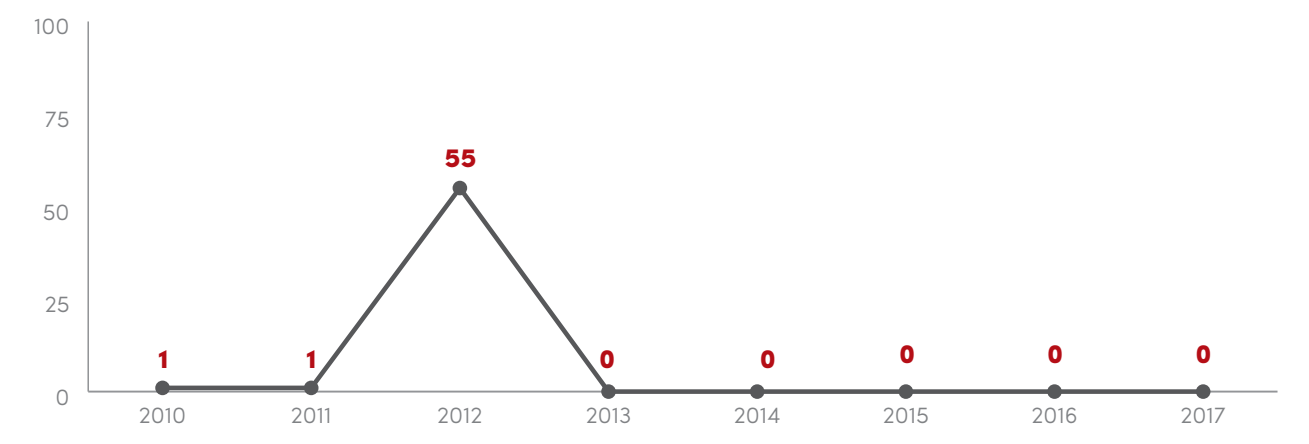
In early 2017, Algeria's Ministry of Health established a national malaria certification committee ("*Comité national de certification du paludisme*") to guide the country's elimination certification process. The committee is equally entrusted with overseeing efforts to prevent re-establishment of transmission and maintain robust surveillance systems. These aspects are critical to sustain the progress achieved as importation from neighbouring countries remains a significant threat. In 2017, 445 imported cases of malaria were reported, with the majority of cases in the southern regions of the country where Algeria shares borders with two countries that have high levels of malaria disease burden, Mali and Niger. By early 2019, Algeria could become the first country in the WHO African Region to be declared malaria-free.

AT A GLANCE

- > Dominant malaria species prior to reaching zero indigenous cases:
Mixed *Plasmodium falciparum* & *P. vivax*
- > Populations at greater risk:
Inhabitants in the southern region bordering the malaria-endemic countries Mali and Niger, and along the trans-Saharan migration route
- > Number of areas (foci) with active malaria transmission: **not applicable**
- > Number of people at risk of malaria in these areas: **not applicable**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Algeria will need to:

- **Allocate adequate** human resources to continue driving forward its country-led and country-owned elimination certification process.
- **Ensure sustainability** of its programme to prevent re-establishment of malaria transmission by providing sufficient financial resources and committing national malaria experts and services delivery personnel to the effort.
- **Keep malaria surveillance and response** systems robust and up to date to prevent outbreaks and reduce the risk of re-establishment.
- **Complete** the WHO requirements for certification of malaria-free status.

BOTSWANA

1905

indigenous malaria cases
in 2016

64

imported malaria cases
in 2016

3

malaria deaths
in 2016



Botswana has achieved an impressive reduction in its malaria burden since the beginning of the millennium: from an estimated 71 000 indigenous cases in 2000 to 1905 cases in 2016.

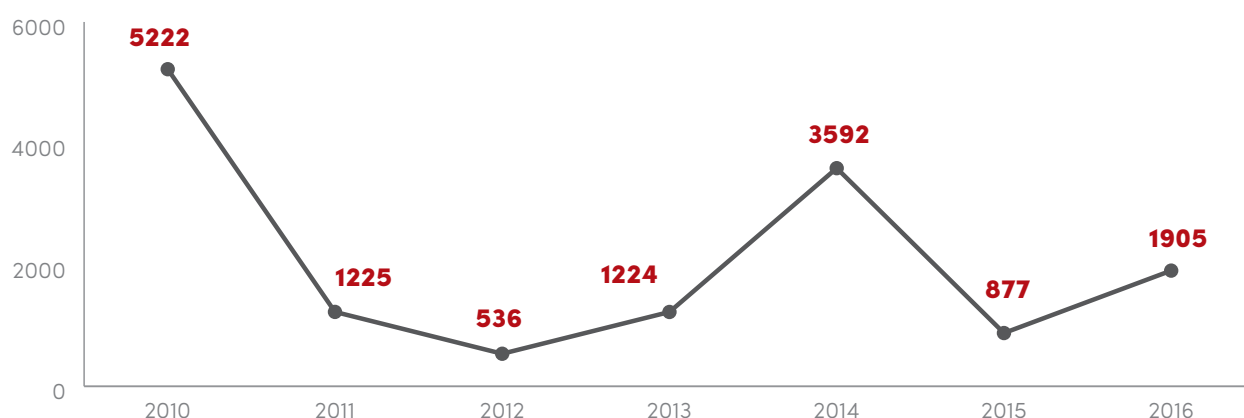
However, the challenge of progressing towards elimination has been evident between 2010 and 2017, with outbreaks recorded during rainy seasons over this period. The national programme has experienced challenges in providing rapid responses to outbreaks and in ensuring people have access to malaria prevention tools, especially in remote regions where coverage rates remain low. In 2017, the country conducted a mid-term review of its malaria strategy and is finalizing recommendations to address gaps and upgrade its overall programme in line with WHO malaria elimination guidelines. National commitment to realize this goal remains high, and Botswana's aggressive plan to step up progress over the coming years can help make elimination a reality.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (100%)**
- > Populations at greater risk:
Inhabitants of northern Botswana, and migratory cattle herders
- > Number of areas (foci) with active malaria transmission: **not reported**
- > Number of people at risk of malaria in these areas: **not reported**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2016



GETTING BACK ON COURSE

Botswana will need to:

- **Renew focus** on interrupting indigenous transmission by strengthening surveillance and the follow up of cases.
- **Boost the technical capacities** of its national malaria programme to better respond to the seasonal nature of malaria transmission and reduce the risk of outbreaks; a special focus is needed at the subnational level.
- **Allocate more resources** to the national malaria programme. With the country's last malaria-focused Global Fund grant ending in late 2018, innovative approaches to resource mobilization will be crucial, including from diverse sectors like the private sector.
- **Revise current epidemiological** maps to zoom in at the lowest administrative level. This will help better track malaria cases and target interventions.
- **Continue its engagement** in the Elimination 8 initiative of the Southern Africa Development Community to enhance regional and cross-border collaboration and increase activities with neighbouring malaria-endemic countries.

CABO VERDE

423

indigenous malaria cases
in 2017

23

imported malaria cases
in 2017

2

malaria deaths
in 2017



The West African archipelago nation of Cabo Verde has eliminated malaria twice in its history, and the disease has twice re-established.

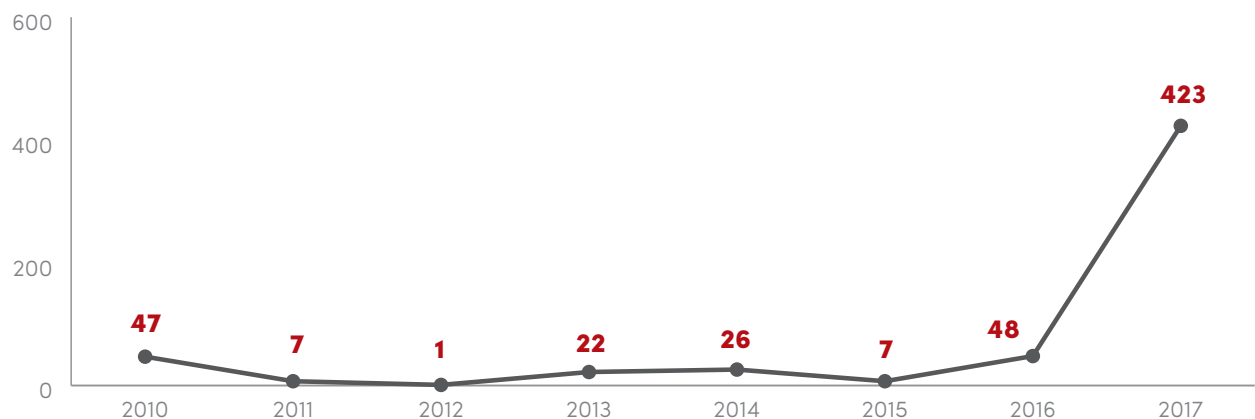
After reductions in transmission to only seven indigenous cases in 2015, a resurgence in 2016 of 48 reported cases led to an epidemic in 2017, with 423 indigenous cases – all located in the municipality of Praia. An investigation found that decreasing coverage of indoor residual spraying (IRS) and overall poor quality of the intervention were likely the main factors leading to the rise in infections. In response, officials deployed an improved and more targeted IRS approach. Imported cases also remain a concern for Cabo Verde; a steady migration flow between the archipelago and mainland Africa has resulted in considerable importation of infections leading to indigenous transmission. The national strategic plan for elimination covered the period 2014–2017, and efforts are now underway to revise the strategy with greater emphasis on reaching the country's 2020 elimination goal in light of the recent epidemic.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (100%)**
- > Number of areas (foci) with active malaria transmission: **20**
- > Populations at greater risk:
Migrant workers and residents of Praia
- > Number of people at risk of malaria in these areas: **171 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Cabo Verde will need to:

- **Strengthen surveillance** and vector control to prevent indigenous transmission. The 2017 epidemic demonstrated the risk posed by lapses in essential malaria interventions.
- **Set in motion** a new elimination strategy that builds on the successes of the 2014–2017 period with added emphasis on preventing re-establishment.
- **Increase community participation** in malaria control measures across all 10 islands. Even though, historically, malaria has been concentrated on the main island of Santiago, the degree of movement of people between the other islands requires improving public awareness about malaria in general.

COMOROS

4852

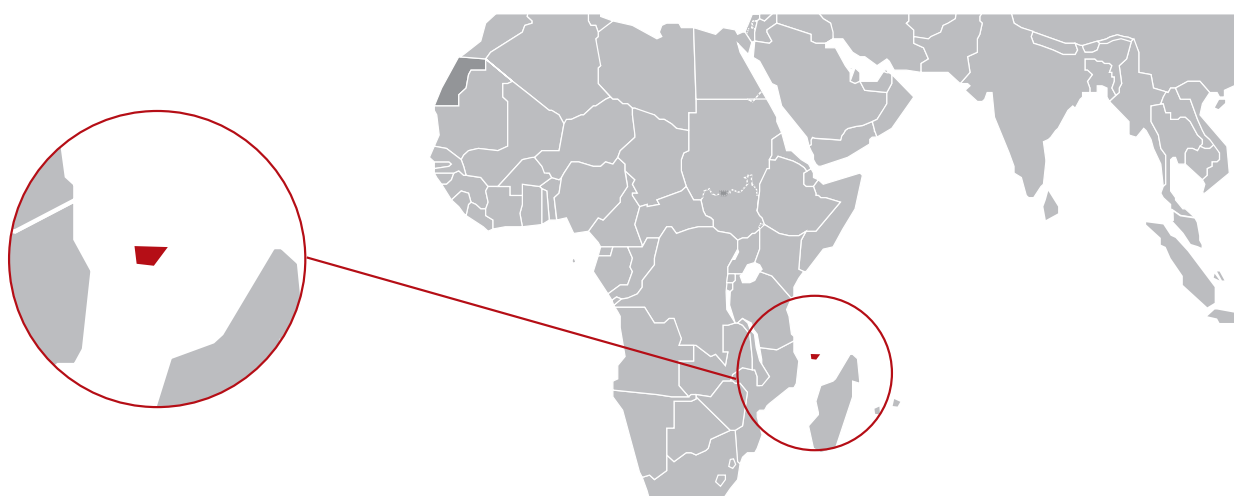
indigenous malaria cases
in 2017

41

imported malaria cases
in 2017

3

malaria deaths
in 2017



Comoros has witnessed a sharp decline in its malaria burden in recent years: this archipelago off the south-east coast of Africa reported nearly 1100 indigenous cases in 2016, down from over 53 000 in 2013.

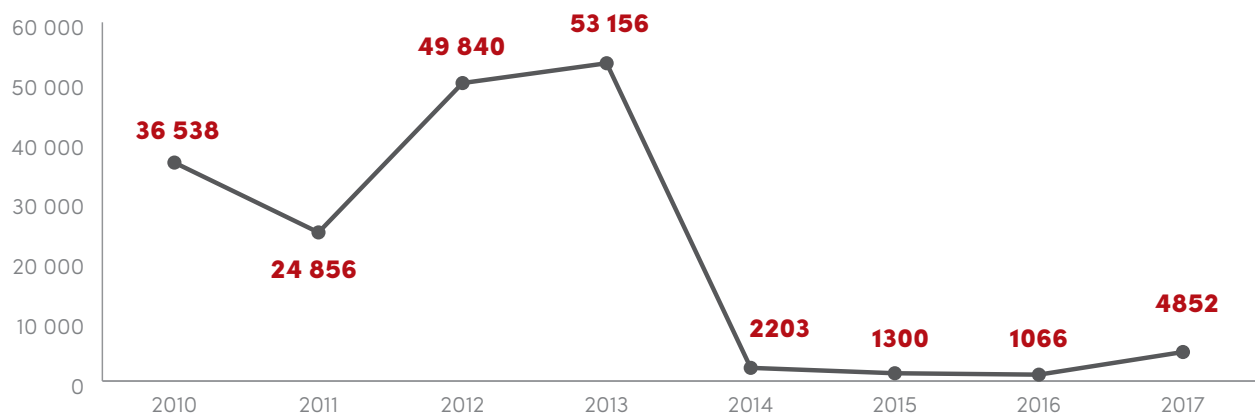
Over the same period, deaths dropped from 53 to one. Yet, in 2017, Comoros noted a significant increase in malaria transmission with nearly 5000 indigenous cases reported and three deaths. The significant increase in 2017 signals the volatility of fighting malaria in an elimination country, as well as the fragility of gains. Nonetheless, the strong progress experienced in Comoros was made possible through a concerted approach that involved a mass anti-malarial treatment campaign, distribution of long-lasting insecticidal nets, and implementation of indoor-residual spraying. In the wake of the successful phase of malaria interventions, the national programme was reoriented towards reaching elimination status by 2020. While the government of Comoros had envisaged zero indigenous cases in 2017, the overall downward trajectory in infections in recent years bodes well for its malaria-free ambitions.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (100%)**
- > Populations at greater risk:
Inhabitants of Grande Comore (Ngazidja) and Mohéli (Mwali)
- > Number of areas (foci) with active malaria transmission: **throughout Grand Comore**
- > Number of people at risk of malaria in these areas: **More than 316 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Comoros will need to:

- **Update the national malaria strategic plan** to articulate Comoros' elimination roadmap as well as the steps needed to achieve interruption of transmission and prevention of re-establishment of the disease.
- **Strengthen and ensure political commitment** for elimination remains high. As malaria burden decreases, leaders may be inclined to shift attention and resources to other public health issues. Achieving elimination requires full backing across all levels of government, civil society and other key partners.
- **Finalize and implement** a malaria case-based surveillance system and bolster the technical and programmatic capacities of staff in detecting and responding to outbreaks.
- **Forge strategic partnerships** across different sectors – including the private sector – to strengthen elimination efforts.
- **Build community support** for eliminating malaria and participation in elimination activities; this includes increased use of long-lasting insecticidal nets.

ESWATINI (Kingdom of)

683

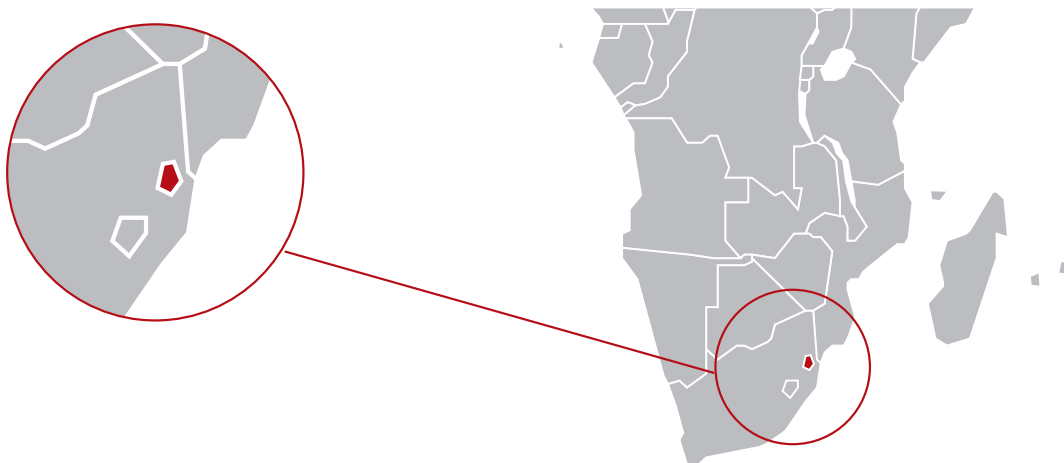
indigenous malaria cases
in 2017

403

imported malaria cases
in 2017

20

malaria deaths
in 2017



Eswatini continues to push towards elimination with intensive efforts underway to see the country become malaria-free as soon as possible, or by 2020 at the latest.

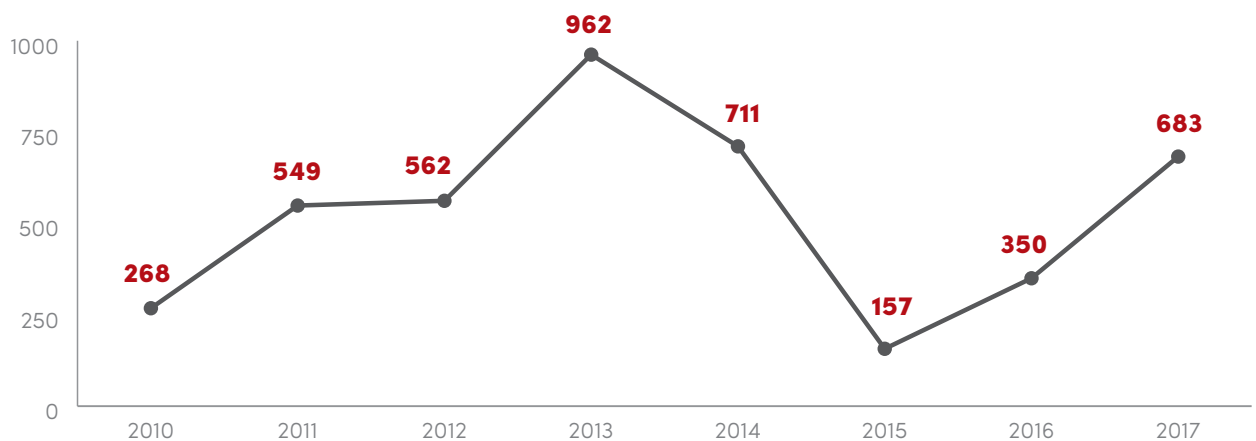
The path to zero indigenous malaria cases is clearly outlined in Eswatini's 2015–2020 national strategic plan for elimination. With support provided for this roadmap at the highest levels of government, Eswatini has all requisite tools and systems in place to get to zero by 2020. However, the 683 indigenous malaria cases in 2017 is nearly double the number reported in 2016, demonstrating the difficulty in achieving elimination even in a low-transmission setting. As Eswatini nears elimination, the country is focusing its efforts on identifying all suspected infections through rapid diagnostic tests and ensuring cases are treated and reported within a 24-hour period. As more than one third of the country's population lives in areas where malaria transmission occurs, mainly during the rainy season, this rapid response approach, combined with intensified surveillance and targeted vector control, are required if Eswatini is to reach and sustain its elimination goal.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (100%)**
- > Populations at greater risk:
Inhabitants of the Lubombo region bordering Mozambique
- > Number of areas (foci) with active malaria transmission: **not provided**
- > Number of people at risk of malaria in these areas: **376 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Eswatini will need to:

- **Focus on** interrupting indigenous transmission by: ensuring access to diagnostic tools; proactively screening populations with an increased risk of infection, particularly people living and working in high-transmission areas; sensitizing people to sleep under long-lasting insecticidal nets; and implementing indoor residual spraying in communities in high-transmission areas.
- **Strengthen** mosquito surveillance to better inform malaria control strategies.
- **Expand use** of geospatial mapping to zero in on malaria hotspots and tailor response interventions accordingly.
- **Use its leadership role** in regional malaria elimination initiatives, such as the African Leaders Malaria Alliance (ALMA) and the Elimination 8 initiative of the Southern Africa Development Community, to promote greater cross-border collaboration, particularly with Mozambique.

SOUTH AFRICA

19 706

indigenous malaria cases
in 2017

7897

imported malaria cases
in 2017

315

malaria deaths
in 2017



In 2017, South Africa experienced a setback in its efforts to eliminate malaria with nearly 20 000 cases of indigenous malaria transmission; four times the number reported in 2016.

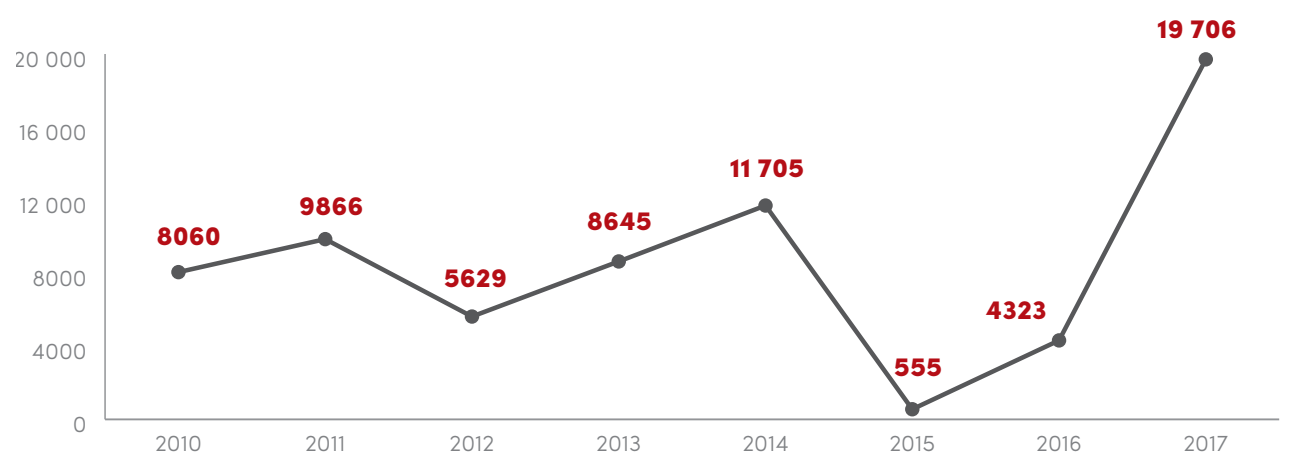
Seasonal outbreaks in Limpopo and Mpumalanga provinces in 2017 spotlight the need for greater investments in surveillance and increased coverage of core malaria prevention tools – like long-lasting insecticidal nets and indoor residual spraying – in these malaria-endemic areas. Imported malaria is another concern, with nearly 8000 cases reported in 2017. However, the government remains optimistic towards reaching its elimination goal. Cases and deaths have fallen substantially since the early 2000s, highlighting the overall effectiveness of the country's national malaria control programme and its focus on reducing malaria burden in the provinces where the disease has been most prevalent. Much of South Africa's success in reducing its malaria burden over the years can be attributed to strong cross-border collaboration, including with Mozambique and Eswatini. In view of the country's upsurge in indigenous and imported malaria cases, it is clear that reinforcing this regional approach will be critical to eliminating malaria among the three elimination countries in southern Africa: Botswana, South Africa and Eswatini.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (100%)**
- > Number of areas (foci) with active malaria transmission: **not provided**
- > Populations at greater risk:
Inhabitants of Limpopo and Mpumalanga provinces, especially in areas bordering Mozambique and Zimbabwe
- > Number of people at risk in these areas:
795 000

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

South Africa will need to:

- **Revise its national malaria elimination strategy**, which expires at the end of 2018. The current plan will need to build on progress and realign efforts to address gaps in vector control and surveillance.
- **Emphasize the importance** of real-time community-level data paired with detailed stratification to better target resources and enhance programme delivery and efficiency.
- **Increase public awareness** and behavior communication campaigns to reach high-risk populations such as travelers and migrants.
- **Scale up funding** for the forthcoming malaria elimination strategy.

BELIZE

7

indigenous malaria cases
in 2017

1

imported malaria case
in 2017

0

malaria deaths
since 2006



This Central American country has achieved a 99% reduction in indigenous cases between 2000 and 2017, from 1486 to seven.

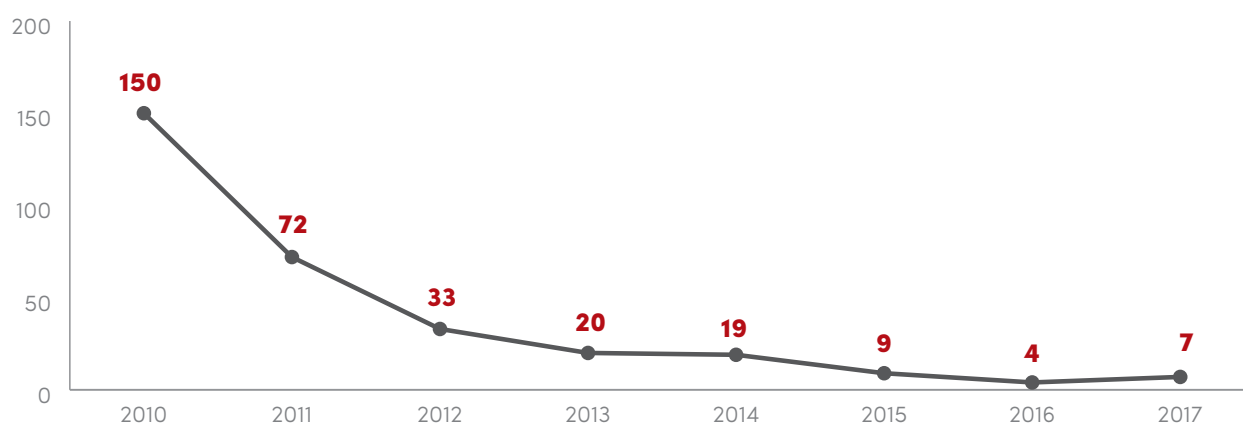
The substantial decline in cases can be attributed to effective investments in early detection and treatment and preventative measures such as indoor residual spraying (IRS) and long-lasting insecticidal nets (LLIN). With a view towards elimination by 2020, Belize's national malaria programme reoriented its activities in 2015 to enhance surveillance through a greater focus on locating where malaria transmission is most likely to occur, known as risk stratification. This approach aims to make malaria interventions more targeted and reach the communities and people most likely to become infected. The country is intent on achieving full coverage of IRS and LLINs in these priority locations. An important pillar of Belize's elimination strategy is engaging civil society in reaching the 2020 elimination target, with community health workers and volunteers trained in knowing how to correctly detect malaria-related symptoms.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (100%)**
- > Populations at greater risk:
Inhabitants in the central and southern districts, mainly related to work in agriculture, and in the northern districts, largely linked to the trade in contraband goods
- > Number of areas (foci) with active malaria transmission: **15**
- > Number of people at risk of malaria in these areas: **41 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Belize will need to:

- **Focus on greater cross-border cooperation** with neighbouring Guatemala and Mexico to keep the risk of malaria importation low.
- **Follow through on its plans** to strengthen surveillance and diagnosis, and provide universal access to preventive tools in targeted areas.
- **Provide sufficient financing** to ensure the continuity of its elimination programme.

COSTA RICA

12

indigenous malaria cases
in 2017

5

imported malaria cases
in 2017

0

malaria deaths
since 2009



After experiencing no reported cases of indigenous malaria transmission in 2015, Costa Rica noted four confirmed cases in 2016 and 12 in 2017.

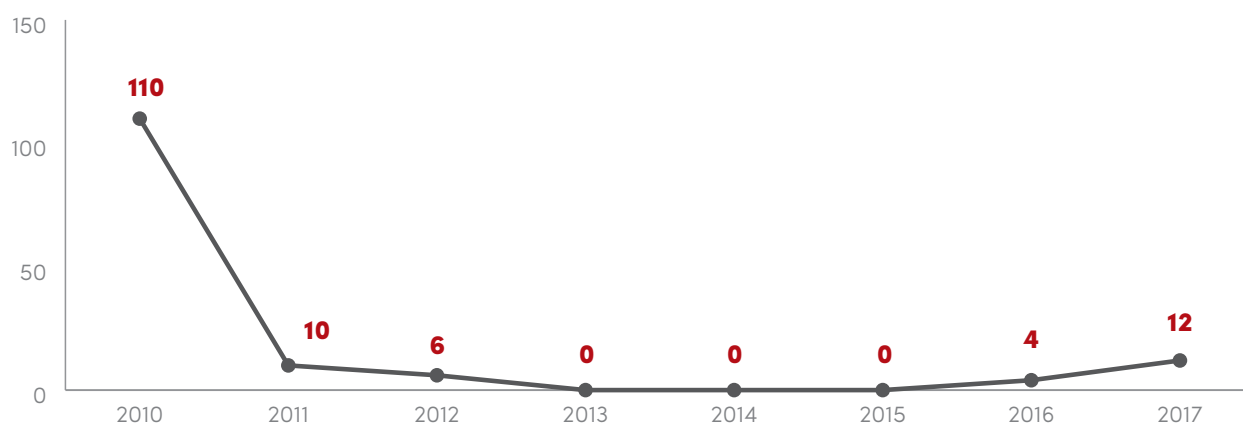
Despite the reoccurrence of malaria in some areas, through steadfast implementation of its national plan, the country has achieved remarkable progress in decreasing its malaria burden and putting in place alert and response capabilities. The success of Costa Rica's activities has hinged on its overall approach of diagnosing and treating all people at risk of malaria. This includes supervised treatment and home visits by Basic Comprehensive Care Teams (EBAIS, in the Spanish acronym), who – on horseback, motorcycle, boat or foot – visit communities. The country's network of 126 laboratories and the integration of malaria activities in the health care system have permitted the swift detection and prevention of disease outbreaks. In recognition of its progress, Costa Rica was one of three countries in the Americas to win the 2016 Malaria Champions Award, presented by the Pan American Health Organization. The award recognized the country for its success in malaria prevention and control and its push towards elimination. With elimination on the horizon, Costa Rica is ramping up surveillance to ensure early detection and treatment of all malaria cases so that once it becomes malaria-free it can maintain this status even if the disease continues outside its own borders.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (100%)**
- > Number of areas (foci) with active malaria transmission: **3**
- > Populations at greater risk:
Undocumented workers from nearby endemic countries engaged in the agricultural sector
- > Number of people at risk of malaria in these areas: **44 700**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Costa Rica will need to:

- **Ensure immigrant workers** have access to free malaria services at the local level.
- **Maintain a sharp focus** on elimination. As Costa Rica's malaria activities are integrated in its health system, health staff need to maintain malaria detection skills and undergo elimination training, even as other health priorities compete for attention and resources.
- **Continue to zero** in on the areas of the country at greatest risk and monitor the various factors – ecological, social, cultural and occupational – that put people at risk of infection. This focus on 'stratification' will be important in achieving the elimination goal.

ECUADOR

1143

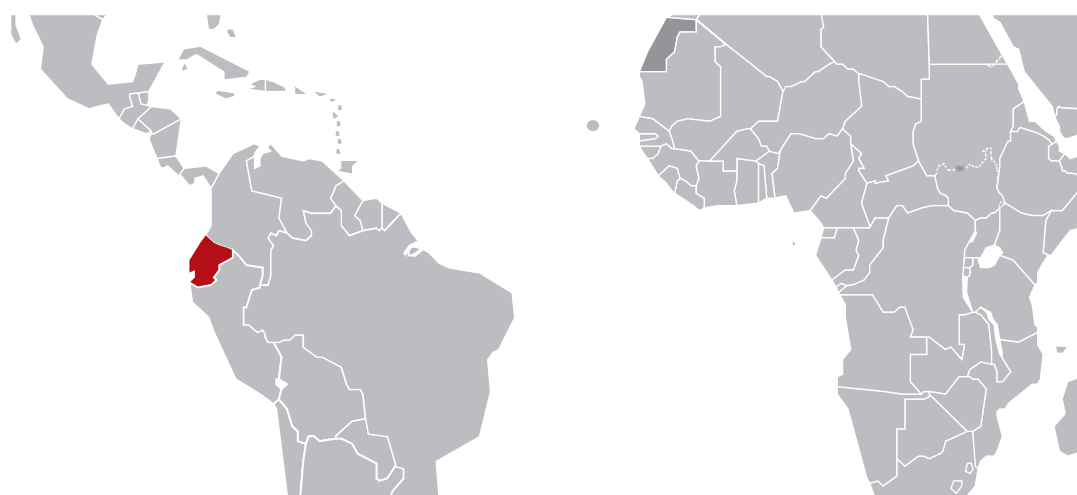
indigenous malaria cases
in 2017

164

imported malaria cases
in 2017

0

malaria deaths
since 2015



After experiencing a steep decline in its malaria burden, reaching 242 cases in 2014 – the lowest ever recorded – Ecuador is experiencing a resurgence of the disease, with 1143 indigenous cases in 2017.

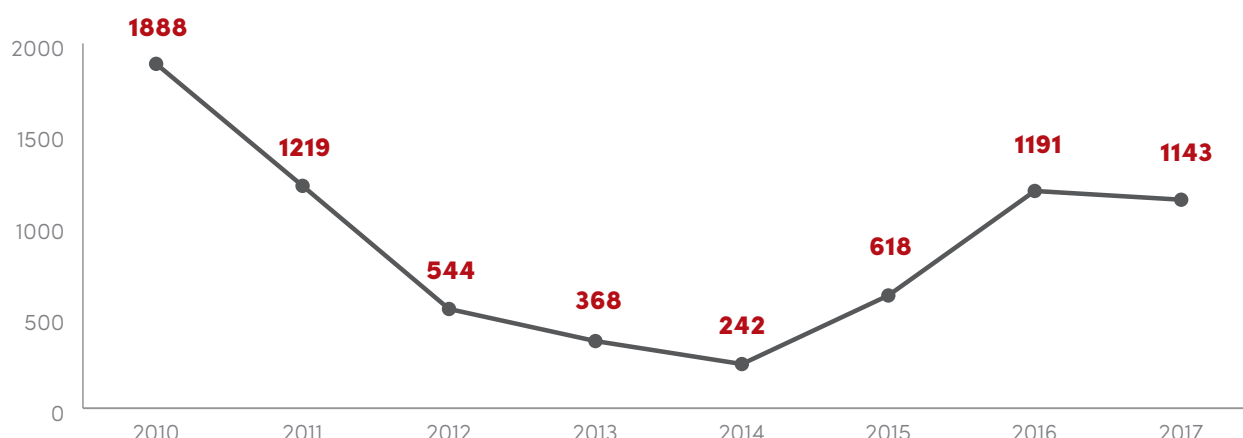
Malarious zones within Ecuador are mainly concentrated in a few provinces along the Amazon border with Peru and in the northwest coastal region bordering Colombia. Ecuador continues to make advances in surveillance, with the programme focusing on strengthening diagnosis, treatment and follow-up; in 2012, Ecuador received a Malaria Champions Award, presented by the Pan American Health Organization, for significantly reducing malaria incidence and focusing on eliminating indigenous transmission where possible. However, Ecuador will now need to step up malaria surveillance activities and prevention, diagnostic and treatment services to reach indigenous populations in Esmeraldas Province and the Amazonas region. Imported cases also remain a concern with sharp increases in the last three years, signaling the need for greater cooperation with neighbouring countries.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (72%) concentrated in the Amazon; *P. falciparum* (28%) concentrated along the coast**
- > Populations at greater risk:
Inhabitants of rural communities along the north-western coast in Esmeraldas Province, and indigenous peoples in the Amazon rainforest
- > Number of areas (foci) with active malaria transmission: **25**
- > Number of people at risk of malaria in these areas: **285 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Ecuador will need to:

- **Strengthen surveillance** and provide universal coverage of prompt diagnosis and treatment services, as well as core prevention tools for mobile populations and hard-to-reach indigenous communities, taking into consideration the context of the different areas.
- **Increase investments** to ensure sustainability of elimination efforts, according to the national elimination strategic plan. In the short-term, an infusion of funding will be required to intensify activities.
- **Heighten cross-border collaboration** to improve surveillance and to coordinate control and elimination efforts in the border areas with Peru and Colombia.

EL SALVADOR

0

indigenous malaria cases
in 2017

14

imported malaria cases
in 2017

0

malaria deaths
since 1998



Since 2000, El Salvador has experienced a steady decline in its malaria burden, reflecting strong political commitment to achieve elimination by 2020.

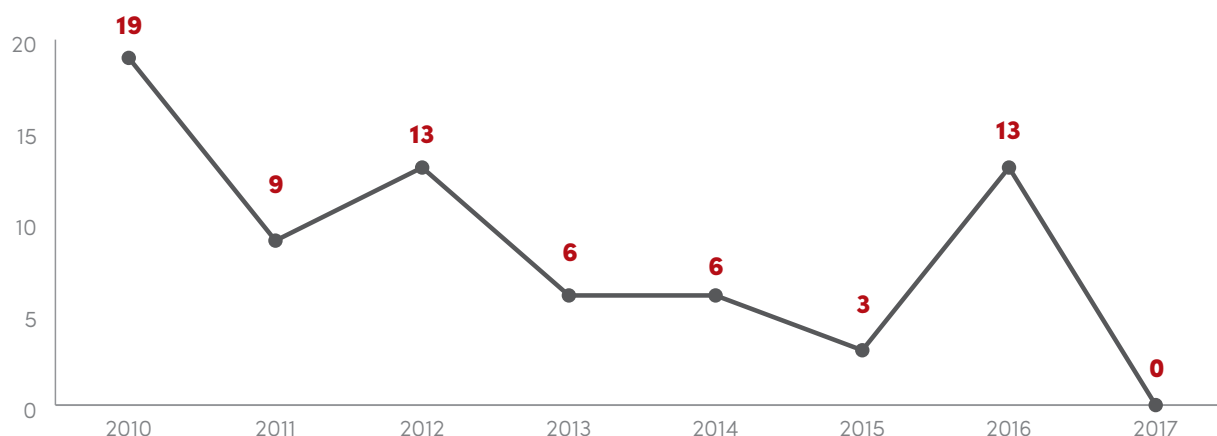
In 2017, the country reported zero indigenous malaria cases for the first time. This success can be attributed to the strengthening of surveillance activities, led by the Ministry of Health, active case detection, supervised treatment and robust national funding. An important characteristic of the national malaria programme is its focus on screening for malaria in high-risk areas, including in communities where temporary employment is found, such as factories and plantations. The use of indoor residual spraying in these areas and along the borders with Guatemala and Honduras has proven to be a highly effective control measure. In recognition of its progress, El Salvador won the 2016 Malaria Champions Award, presented by the Pan American Health Organization. The award recognized the programme's success in malaria prevention and control and significant advances towards elimination. Nonetheless, El Salvador must remain vigilant to maintain zero cases and to prevent re-establishment of malaria transmission.

AT A GLANCE

- > Dominant malaria species prior to reaching zero indigenous cases:
***Plasmodium vivax* (100%)**
- > Populations at greater risk:
Inhabitants of the south-western border region with Guatemala
- > Number of areas (foci) with active malaria transmission: **not applicable**
- > Number of people at risk of malaria in these areas: **not applicable**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

El Salvador will need to:

- **Increase efforts** to address migrants' and mobile populations' vulnerability to malaria. The threat of malaria importation is a significant challenge; the country is home to many immigrants seeking employment opportunities and also serves as a crossroads for those heading further north.
- **Ensure that surveillance efforts** are maintained in communities through the continued engagement of community health volunteers and health promotion agents in health facilities.

MEXICO

715

indigenous malaria cases
in 2017

29

imported malaria cases
in 2017

0

malaria deaths
since 1998



Mexico continues to make strong strides in reducing its malaria burden.

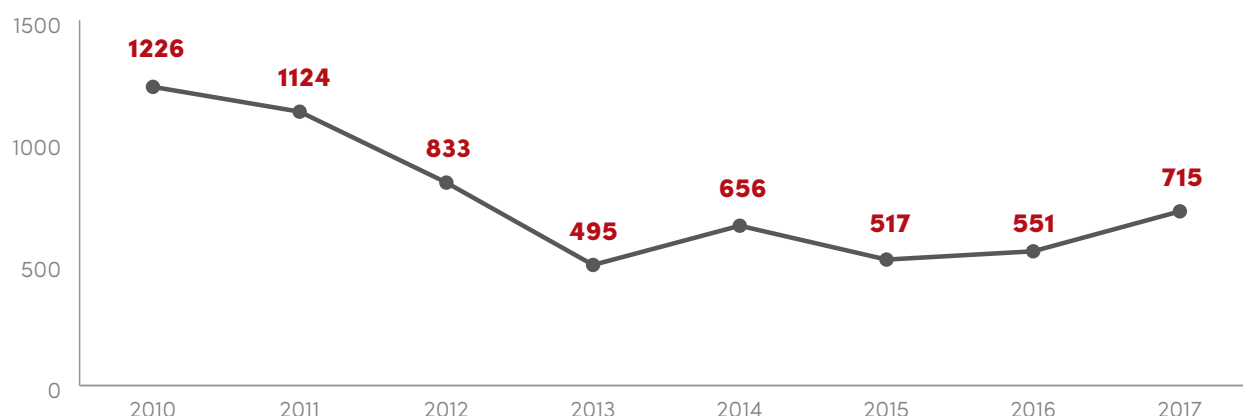
In recent years, the number of confirmed cases has declined significantly, dropping from more than 1200 in 2010 to 715 in 2017. Over two thirds of Mexican states have been malaria-free since 2004, and the State of Tlaxcala received sub-national elimination validation in 2010. Yet, malaria continues to pose a significant risk, particularly among indigenous peoples living in remote inland regions of the country, such as Chiapas State, which is home to 81% of malaria cases in Mexico. The national malaria programme has spearheaded several measures to control and eliminate malaria in the state including through improved access to prompt diagnosis and treatment and intensified vector control interventions. Covering the period 2013–2018, Mexico's national malaria strategy has reinforced diagnosis and treatment, strengthened surveillance and focused on preventing the re-establishment of malaria in areas already declared free of the disease. Like several countries in the Americas, Mexico aims to eliminate malaria by 2020.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (100%)**
- > Number of areas (foci) with active malaria transmission: **284**
- > Populations at greater risk:
Indigenous peoples in Chiapas State; inhabitants of communities along the southwest border with Guatemala
- > Number of people at risk of malaria in these areas: **294 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Mexico will need to:

- **Better target and tailor** malaria awareness programmes and healthcare access for indigenous peoples, mobile populations and other communities most at risk of malaria, particularly in hard-to-reach areas.
- **Prevent re-establishment** of the disease in areas already declared malaria-free by maintaining surveillance, diagnosis, treatment, and response capacities.
- **Ensure funding and human resources** for malaria elimination and preventing re-establishment of the disease within the national health programme.

PARAGUAY

0

indigenous malaria cases
since 2012

5

imported malaria cases
in 2017



With zero reported cases of indigenous malaria since 2012, Paraguay completed the WHO malaria certification process in early 2018 and, in June, was certified malaria-free by the organization – the first country in the Americas to be granted this status in 45 years.

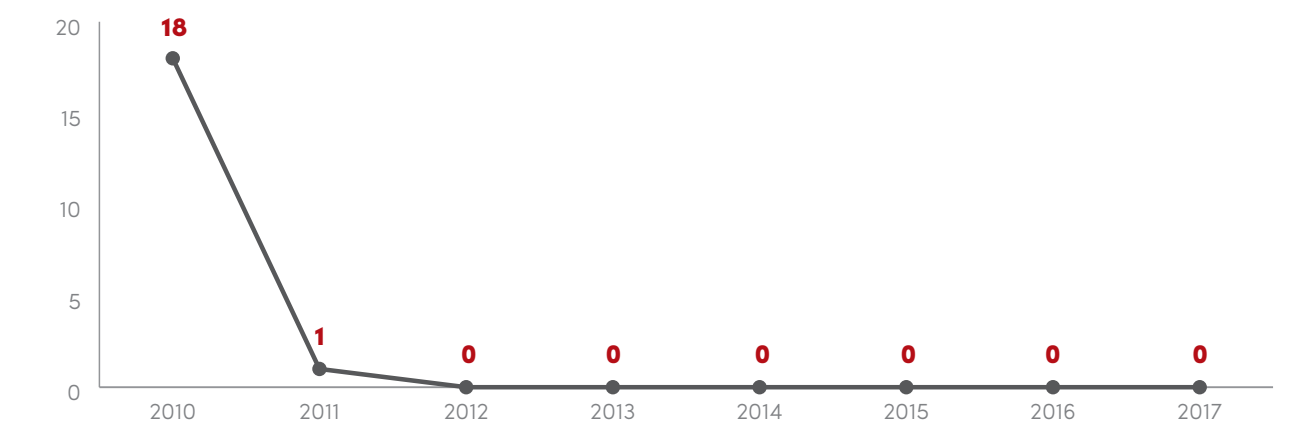
After reporting its last case of malaria in 2011, Paraguay launched a five-year plan to consolidate the gains, prevent re-establishment of transmission and prepare for elimination certification. Activities focused on robust case management, community engagement and education to strengthen self-monitoring and decision-making about malaria. The plan has proven highly effective in interrupting and sustaining zero transmission over the past several years. In support of its drive towards elimination, and maintaining malaria-free status, the Ministry of Public Health and Social Welfare in 2016 launched a three-year initiative to hone the skills of front-line health workers in Paraguay's 18 health regions. Supported by The Global Fund to Fight AIDS, Tuberculosis and Malaria, the project addresses disease prevention, identification of suspected cases, accurate diagnosis and prompt treatment to respond to the ongoing threat of malaria importation from endemic countries in the Americas and Africa.

AT A GLANCE

- > Dominant malaria species prior to reaching zero indigenous cases:
***Plasmodium vivax* (100%)**
- > Populations most at risk of malaria reintroduction (based on receptivity and vulnerability):
Inhabitants of Canindeyú, Alto Paraná and Caaguazú departments
- > Number of areas (foci) with active malaria transmission: **none**
- > Number of people at risk of malaria in these areas: **not applicable**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



STAYING MALARIA-FREE

Paraguay will need to:

- **Keep surveillance systems** up to date and ensure health workers at all levels – in both the public and private sectors – are continuously trained on how to detect malaria and the procedures for diagnosis, notification, treatment and patient follow up. This is critical to prevent re-establishment of the disease.
- **Maintain political commitment** and ensure adequate and long-term resources to keep Paraguay malaria-free in the decades to come.
- **Ensure the leadership** and expertise of the national malaria elimination programme – *Servicio Nacional de Erradicación del Paludismo* – remains in the national health system and that malaria activities are integrated into health services.

SURINAME

40

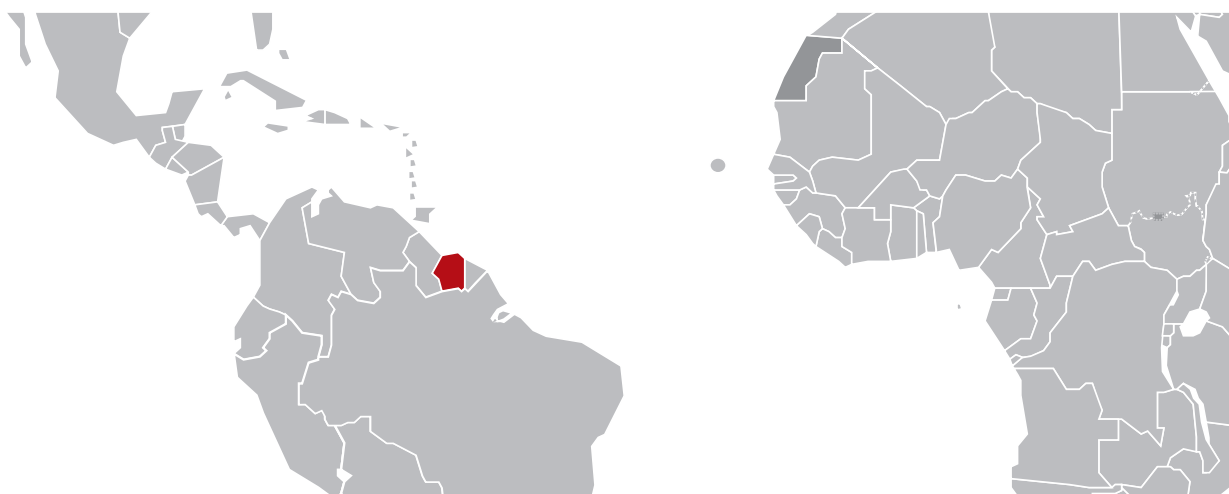
indigenous malaria cases
in 2017

499

imported malaria cases
in 2017

1

death due to imported
malaria in 2017



Malaria has been virtually eliminated in most of inland Suriname, which previously had the highest rates of transmission across the Americas.

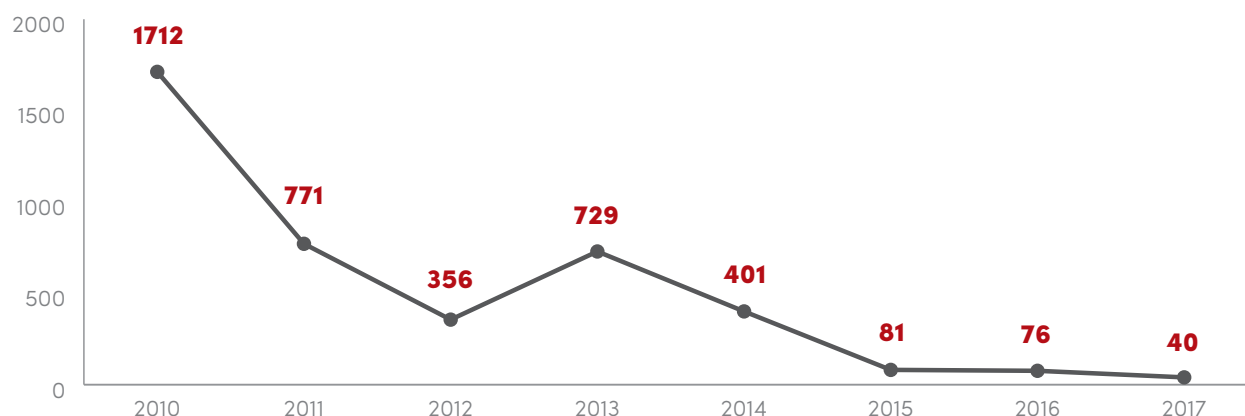
In 2017, 40 cases of indigenous malaria were reported, down significantly from some 1700 cases in 2010. In addition, since 2014, no deaths from locally-acquired malaria have been recorded. These advances were achieved through proactive and innovative interventions focused primarily in the areas and communities at risk, such as people engaged in informal and small-scale mining operations. Suriname improved access to malaria diagnosis and treatment in these difficult-to-access areas, and also opened a dedicated malaria clinic in the capital of Paramaribo. In recognition of its progress, Suriname was one of three countries in the Americas to win the 2016 Malaria Champions Award, presented by the Pan American Health Organization. The award recognized the country for its success in malaria prevention and control and its push towards elimination. To increase momentum, the government has created a task force to implement its elimination strategy of zero indigenous cases of malaria by 2020 and has expressed its commitment to work with neighbouring countries to address the growing number of imported cases.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (68%)**
- > Number of areas (foci) with active malaria transmission: **not provided**
- > Populations at greater risk:
Miners and migrant populations near the border with French Guiana
- > Number of people at risk of malaria in these areas: **80 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Suriname will need to:

- **Contribute its lessons learned** to help strengthen regional efforts to eliminate malaria in nearby Brazil, French Guiana and Guyana.
- **Continue to increase funding** for its elimination strategy and meet its commitment to provide free malaria preventive tools to miners and other hard-to-reach and mobile populations. Since 2013, government contributions towards malaria have declined steadily.
- **Strengthen surveillance and control** measures, especially early detection of suspected cases, and prompt diagnosis and treatment.

IRAN (Islamic Republic of)

57

indigenous malaria cases
in 2017

868

imported malaria cases
in 2017

0

deaths due to
– locally-acquired malaria since 2011
– imported malaria in 2017



Iran has made strong progress in reducing its malaria burden. In 2017, there were 57 indigenous cases, down from more than 1800 in 2010, and significantly less than the 12 000 indigenous cases reported in 2000.

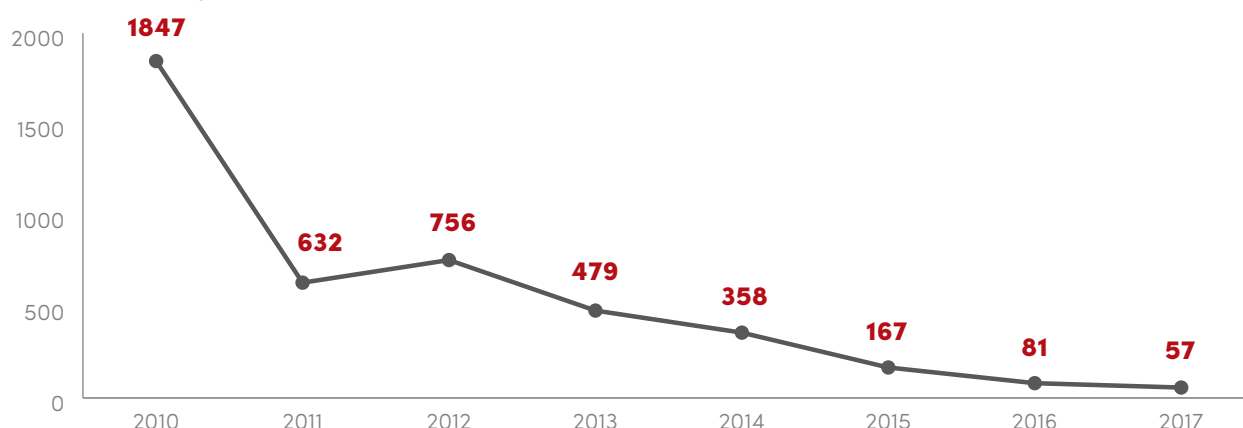
The sustained decline in malaria transmission has been realized through an aggressive national plan that was reoriented towards elimination in 2006, and which set 2025 as the timeline to achieve malaria-free status. An important feature of Iran's approach to tackling malaria has been the robustness of its surveillance system and its focus on establishing emergency sites and rapid response teams to prevent and control malaria outbreaks. This has been important to help contain the resurgence of imported cases in Sistan and Baluchestan Province, bordering Afghanistan and Pakistan. The government views imported malaria as the main challenge it faces in fighting the disease. With significant migration flows across the Iran-Pakistan border, the continued importation of malaria remains high and puts at risk the country's overall progress towards elimination.

AT A GLANCE

- > Dominant malaria species prior to reaching zero indigenous cases: ***Plasmodium vivax* (95%)**
- > Populations at greater risk: **Inhabitants of the southeastern provinces of Kerman (southern areas), Hormozgan, and Sistan and Baluchestan, particularly the border areas with Pakistan**
- > Number of areas (foci) with active malaria transmission: **315**
- > Number of people at risk of malaria in these areas: **456 000**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Iran will need to:

- **Step up cross-border cooperation**, particularly with neighbouring Pakistan, to address the continued threat of malaria importation, which could slow the achievement of Iran's elimination objective.
- **Increase investments** in the malaria response, as Iran no longer qualifies for resources from The Global Fund – its last grant ended in 2017. Greater investments from domestic sources are required to secure predictable funding to sustain the gains made and to prevent re-establishment of malaria once eliminated.
- **Prepare for WHO certification**. As Iran advances towards elimination, it should take the necessary steps to begin a country-owned and country-led certification process.

SAUDI ARABIA

177

indigenous malaria cases
in 2017

2974

imported malaria cases
in 2017

0

malaria deaths
since 2007



Saudi Arabia recorded 177 indigenous malaria cases in 2017, a decrease of almost 100 cases from 2016.

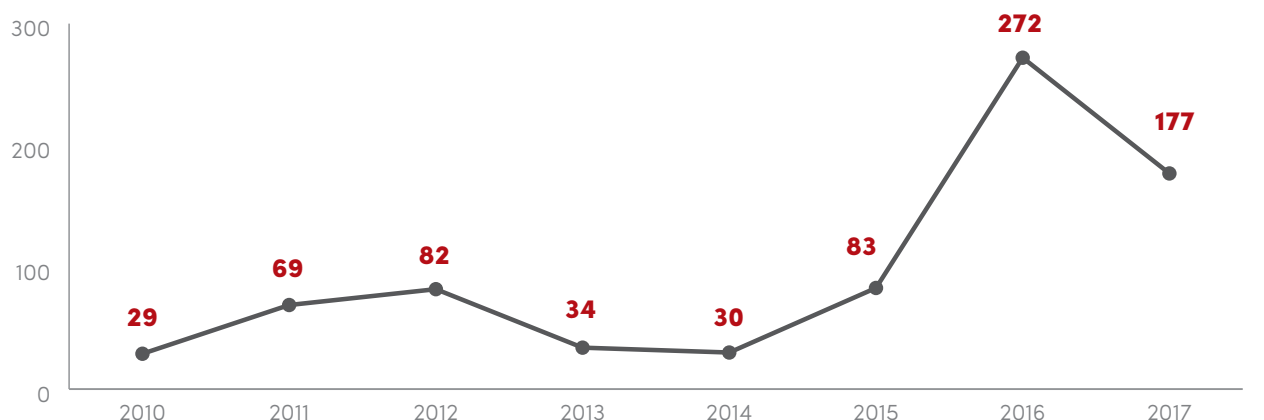
Despite strong progress towards elimination in recent decades, and having a low incidence of malaria overall, the country has struggled in recent years to control and contain transmission in two provinces that share a border with highly endemic areas of war-torn Yemen. In response, and reflecting its regional engagement efforts, the country is working to strengthen malaria control and to prevent further cross-border transmission of the disease. Although the ongoing conflict in Yemen threatens Saudi Arabia's goal of elimination by 2020, the country remains committed to reaching this target.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium falciparum* (97%)**
- > Populations at greater risk:
Inhabitants of the southern border regions of Asir and Jizan provinces
- > Number of areas (foci) with active malaria transmission: **113**
- > Number of people at risk of malaria in these areas: **167 853**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

Saudi Arabia will need to:

- **Use its engagement** in the Gulf Cooperation Council and the Malaria-free Arabian Peninsula Initiative to reinvigorate regional efforts to support Yemen in fighting its malaria epidemic and address other urgent health needs against the backdrop of a protracted conflict.
- **Continue strengthening** its surveillance system to provide real-time data on malaria, down to community and household levels.
- **Ensure financial and political** commitment remains high for its national elimination programme.

BHUTAN

11

indigenous malaria cases
in 2017

38

imported malaria cases
in 2017

0

malaria deaths
since 2013



Bhutan is on track to achieve its 2020 elimination goal and realize zero indigenous transmission of malaria in 2018: a timeline confirmed through its 2017 national malaria programme review.

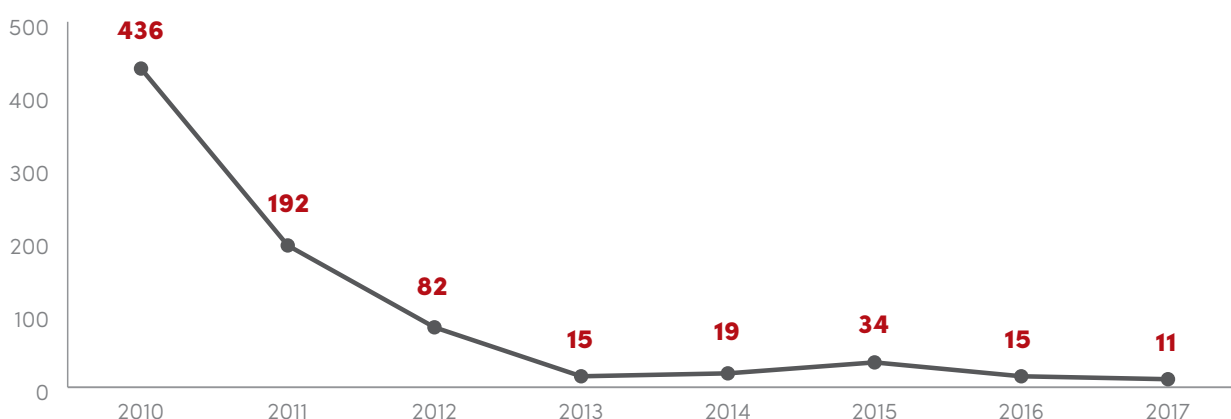
The focus on elimination has been in sight since 2013 when the country reoriented its national plan towards this objective. A key element of Bhutan's strategy is targeting surveillance and prevention efforts at the district and village levels to ensure interventions reach the areas and people most at risk of malaria. The piloting of geolocation and digital mapping tools has been critical in supporting Bhutan's recent progress. As part of its elimination approach, the country aims to introduce real-time malaria data collection in all health centers in the coming year and to strengthen its cross-border engagement with India where importation of malaria poses a significant challenge. This cooperation, supported through the India-Bhutan Friendship Association, includes distributing long-lasting insecticidal nets and other malaria prevention measures in Indian villages near the Bhutan border.

AT A GLANCE

- > Dominant malaria species: ***Plasmodium vivax* (70%)**
- > Populations at greater risk: **Inhabitants in 7 districts along the Bhutan-India border, particularly migrant workers and mobile populations**
- > Number of areas (foci) with active malaria transmission: **7**
- > Number of people at risk of malaria in these areas: **31 500**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Bhutan will need to:

- **Strengthen malaria surveillance** and case management along the southern border region with India. This includes the use of mobile clinics to screen and treat for malaria.
- **Address the needs** of migrant workers and other mobile populations in the southern border region where the risk of malaria transmission remains high.
- **Secure financial resources**, both from domestic and international sources, to achieve elimination and sustain it.

NEPAL

4024
indigenous malaria cases
in 2017¹

636
imported malaria cases
in 2017

3
malaria deaths
in 2017



Nepal has set an ambitious vision of being malaria-free by 2025.

To that end, the country's malaria programme, underpinned by its 2014–2025 elimination strategy, has established two key guideposts: sustain the downward trend in malaria deaths and reduce the overall malaria burden by end 2018; and achieve zero indigenous cases by 2022. Good progress has been made, with indigenous cases of malaria continuing to follow a year-on-year decline and malaria deaths also dropping. However, a key challenge is controlling imported malaria from neighbouring India and other malaria-endemic countries where Nepali citizens work. A malaria programme review conducted in 2017 resulted in recommendations to support the government in fine-tuning efforts towards elimination. This included heightening advocacy and behavior change communication among high-risk communities and populations, and strengthening the technical, programmatic and managerial capacities of the ministry of health to reflect the shift from malaria control towards elimination.

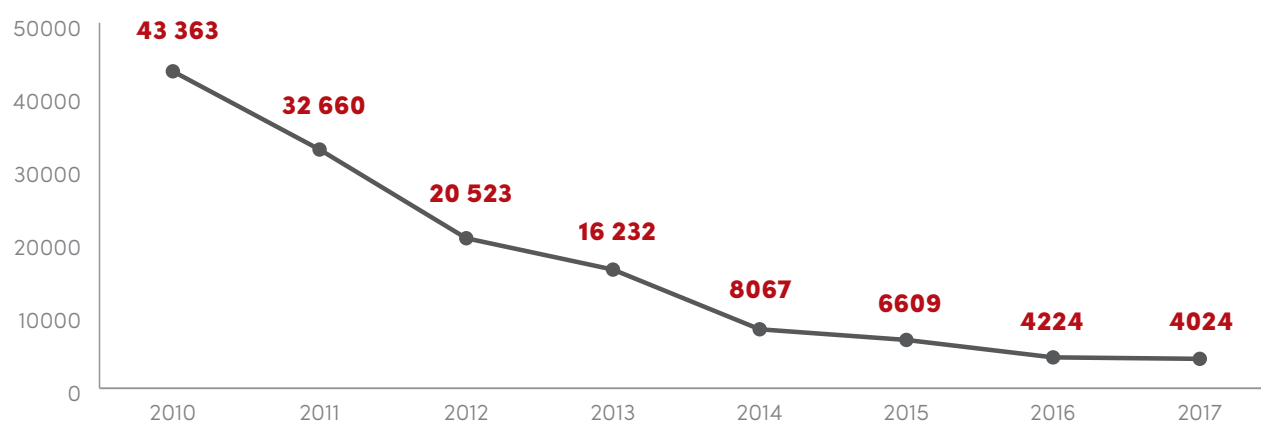
1. Number of indigenous malaria cases was estimated from national reports with adjustments for completeness of reporting, the likelihood that presumed cases were parasite positive and the extent of health-service use.

AT A GLANCE

- > Dominant malaria species:
***Plasmodium vivax* (85%)**
- > Number of areas (foci) with active malaria transmission: **424 wards**
- > Populations at greater risk:
Ethnic minorities, mobile populations, young adults and inhabitants of areas bordering India
- > Number of people at risk of malaria in these areas: **1.52 million**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Nepal will need to:

- **Strengthen the national malaria** programme and introduce heightened surveillance and control measures to ensure a rapid response to positive cases and outbreaks and subsequent tracking. This is particularly pertinent for at-risk populations.
- **Establish a formal mechanism** for cross-border collaboration with India to tackle imported malaria in high transmission areas.
- **Diversify its partnership** base to secure adequate and predictable financing. Closing the current financial gap will be vital to achieve and sustain its elimination programme.

TIMOR-LESTE

26

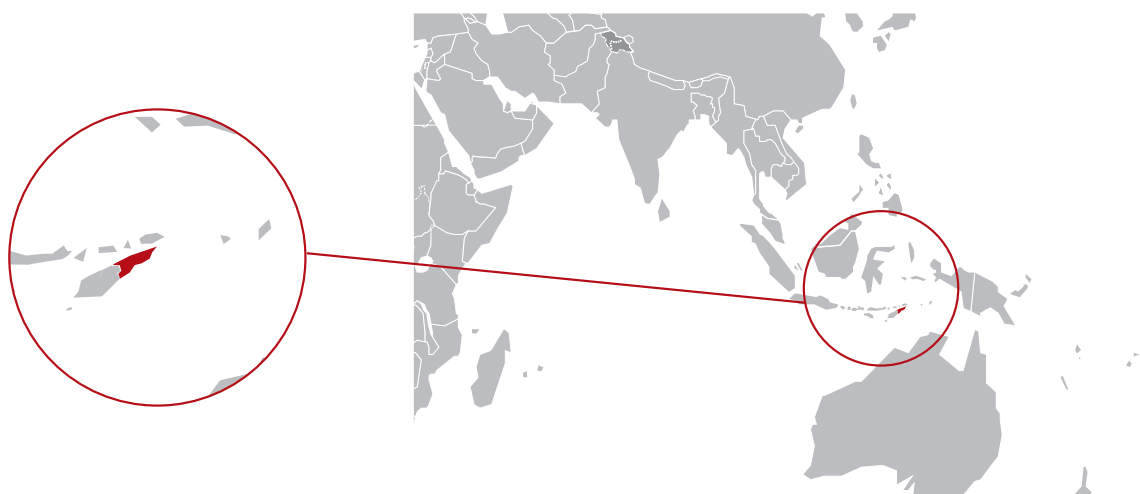
indigenous malaria cases
in 2017¹

13

imported malaria cases
in 2017

0

malaria deaths
since 2015



Timor-Leste has achieved significant progress in reducing its malaria burden in recent years, and the country is on the cusp of elimination.

Its recently-adopted National Strategic Plan for Malaria Elimination 2017–2021 was developed with the goal of interrupting indigenous malaria transmission by the end of 2021 and achieving WHO certification in 2023. The country's elimination plan is focused on universal access to early diagnosis and prompt treatment, and a robust approach to malaria prevention and surveillance. In support of this initiative, the Government of Timor-Leste is focused on establishing and facilitating cross-border collaboration as the majority of cases reported in 2016 originated from Oecusse region, an exclave located in Indonesia's West Timor. The first meeting between the two countries was held in January 2017 under the banner of achieving malaria elimination on the island of Timor. For Timor-Leste, the aim is clear: bring indigenous malaria transmission to zero and prevent re-establishment.

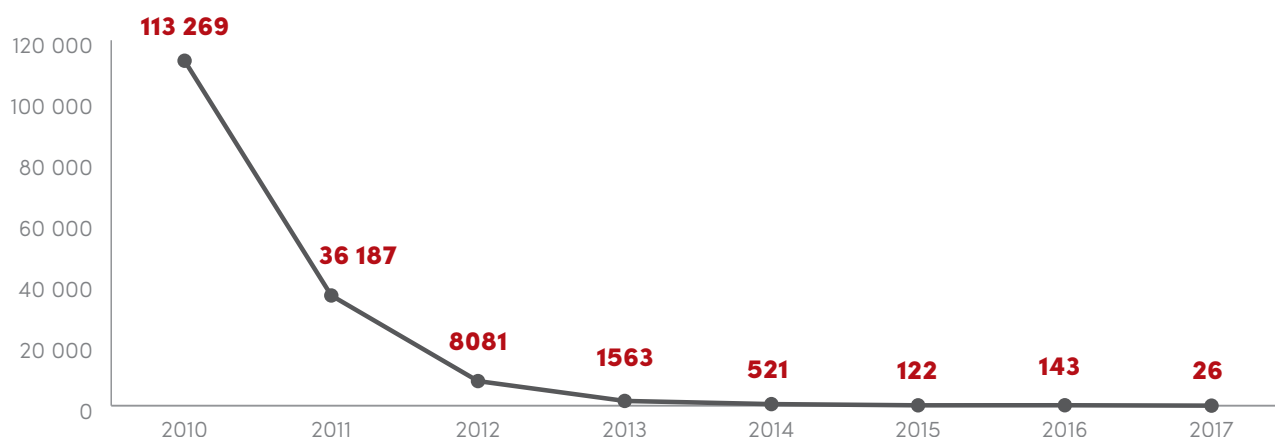
1. Number of indigenous malaria cases was estimated from national reports with adjustments for completeness of reporting and the extent of health-service use.

AT A GLANCE

- > Dominant malaria species: ***Plasmodium vivax* (53%)**
- > Number of areas (foci) with active malaria transmission: **17**
- > Populations at greater risk: **Inhabitants in the east-west Timor border region and travellers to nearby Indonesian islands with high levels of malaria transmission**
- > Number of people at risk of malaria in these areas: **146 648**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Timor-Leste will need to:

- **Enhance cross-border collaboration** with West Timor (Indonesia) to intensify active case detection, treatment and surveillance, particularly for migrant labourers, inhabitants of Oecusse and other at-risk groups.
- **Follow through with plans** to ensure rapid diagnostic tests and/or microscopy facilities for detecting and treating malaria are available at all health care institutions in both public and private sectors and community-based organizations.
- **Quickly switch** to a real-time web-based surveillance system – from the current paper-based approach – to accelerate towards elimination.
- **Maintain political momentum** for elimination by establishing the already-agreed upon National Task Force on Malaria Elimination, under the auspices of the Prime Minister of Timor-Leste.
- **Mobilize domestic and international** financial resources to achieve elimination and sustain it.

CHINA



0

indigenous malaria cases
in 2017

2672

imported malaria cases
in 2017

3 induced malaria cases in 2017

0

local malaria deaths
since 2013

7 deaths due to imported malaria in 2017



In 2017, China reported, for the first time, zero cases of indigenous malaria, down from nearly 5000 cases in 2010.

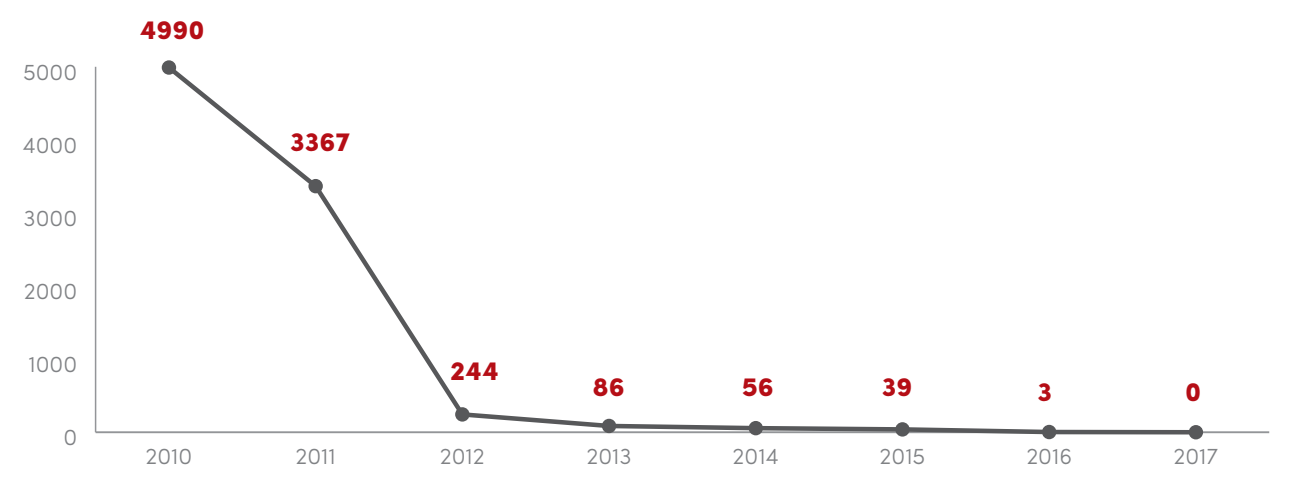
This milestone represents an important phase in the country's malaria elimination programme, as activities intensify to maintain zero indigenous transmission of the disease. While indigenous malaria has been eliminated from most of China, a few zones remain at risk in the border regions of southern Yunnan Province. The area's remoteness and the nomadic lifestyle of many ethnic communities pose challenges in providing health services. Imported cases remain of high concern, originating mostly from Chinese nationals returning from sub-Saharan Africa and migrant workers in the Greater Mekong Subregion. Through engagement and leadership in regional malaria elimination initiatives, China has highlighted the importance of malaria control in neighbouring malaria-endemic countries, such as Myanmar. Building on its 2017 milestone of zero indigenous cases, and backed by strong national commitment, China is on solid footing to be certified malaria-free in the coming years.

AT A GLANCE

- > Dominant malaria species prior to reaching zero indigenous cases:
***Plasmodium vivax* (100%)**
- > Populations at greater risk:
Inhabitants of the southern border areas of Yunnan Province near Myanmar
- > Number of areas (foci) with active malaria transmission: **not applicable**
- > Number of people at risk of malaria in these areas: **not applicable**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

China will need to:

- **Continue to focus** on tracking at-risks zones, such as Yunnan Province, and travellers from malaria-endemic countries.
- **Ensure personnel** at ports of entry/exit and international health clinics receive malaria prevention and treatment knowledge and training, and that they are also informed on the country's elimination efforts.
- **Maintain a high-level** of political and technical engagement in regional malaria control and elimination initiatives.

MALAYSIA

85

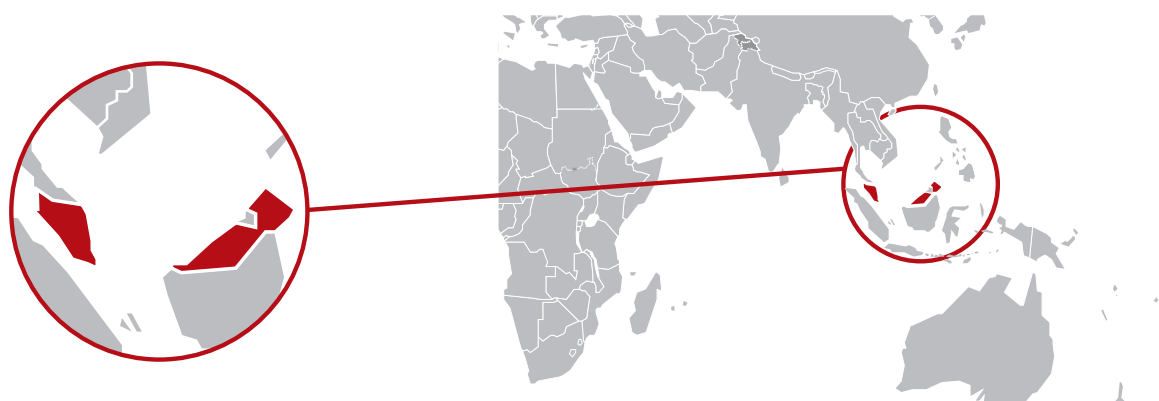
**indigenous human
malaria cases**
in 2017¹

415

**imported human
malaria cases**
in 2017

0

local human malaria deaths
in 2017
12 deaths due to imported malaria
in 2017



As part of its country-owned and nationally-funded malaria strategy, Malaysia has committed to eliminate indigenous human malaria transmission by 2020.

In 2017, the country reported 500 total cases (local and imported) of the human type of malaria, down substantially from 6141 cases in 2010. An important aspect of the disease in the country is the presence of *P. knowlesi* malaria, a parasite normally found in monkeys, now accounting for the majority of local cases. *P. knowlesi* remains a zoonotic disease without documented sustained human-to-human transmission. Overall, malaria transmission in Malaysia is largely confined to Sabah and Sarawak, two states located on the island of Borneo, where a significant proportion of the population is at risk of the disease. In response, the country is stepping up implementation of its national strategic plan for elimination covering the period 2011–2020. Among other measures, the plan aims to strengthen surveillance, intensify vector control and ensure early detection and treatment. Central to the strategy is ensuring prompt malaria diagnosis in remote and hard-to-reach regions where access to health services is limited. Of particular concern are temporary foreign workers who, because of the transient nature of their employment, are difficult to track and screen for malaria. Officials have committed to engaging with employers to distribute long-lasting insecticidal nets, increase indoor residual spraying of housing and accommodations, and provide information on malaria prevention and treatment. With focused attention on current gaps and the full implementation of its national plan, Malaysia remains well positioned to achieve its elimination goal.

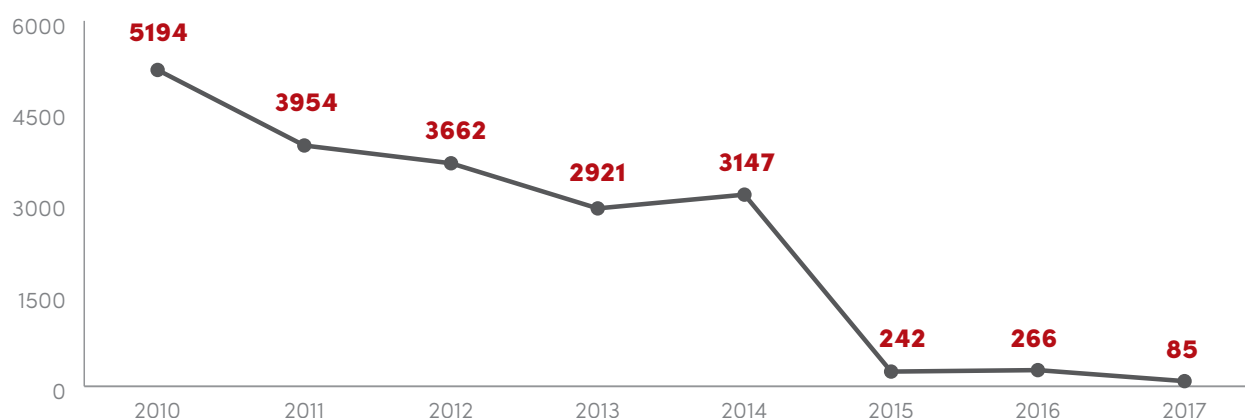
1. **3606** local cases of zoonotic malaria (*P. knowlesi*) in 2017; **8** imported cases of zoonotic malaria in 2017.

AT A GLANCE

- > Dominant local human malaria species: ***Plasmodium vivax* (69%)**
- > Populations at greater risk: **Labourers, including foreign workers, in agriculture, farming and forestry sectors in East Malaysia**
- > Number of areas (foci) with active malaria transmission: **33**
- > Number of people at risk of malaria in these areas: **8666**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



KEEPING ON COURSE

Malaysia will need to:

- **Increase surveillance** of *P. knowlesi* zoonotic infections and strengthen elimination efforts.
- **Intensify surveillance** activities to address the threat of malaria importation and better target foreign and migrant workers engaged in activities such as agriculture, forestry and mining.
- **Continue to invest** in its national malaria strategy to ensure the financing of programmes targeting elimination and prevention of reintroduction.

REPUBLIC OF KOREA

436

indigenous malaria cases
in 2017

79

imported malaria cases
in 2017

0

local malaria deaths
since 2012



Following eradication efforts in the 1960s and 1970s, malaria all but disappeared in the Republic of Korea; by 1984, the country reported just two indigenous cases.

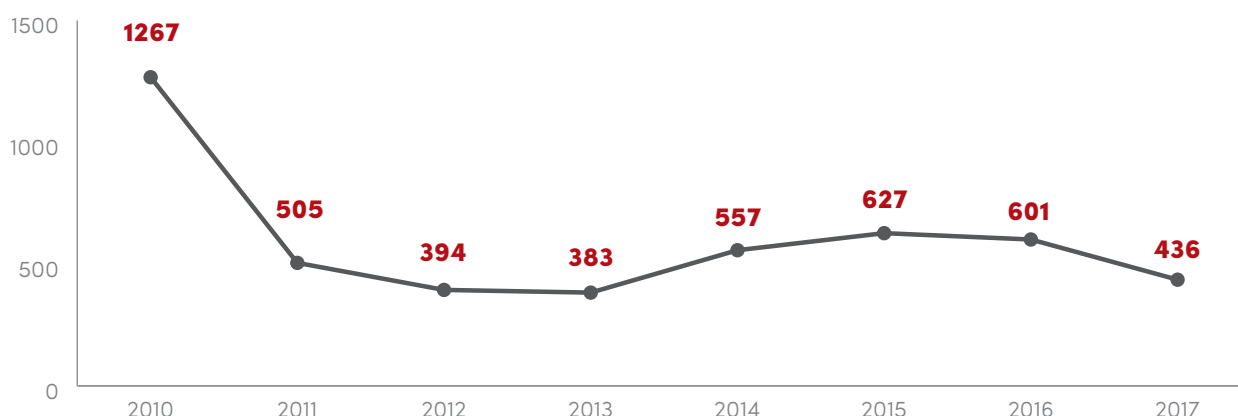
In the 1990s, malaria re-emerged near the demilitarized zone and a protracted outbreak of the disease affected, disproportionately, its northern border region. Through wide-scale malaria control activities, the Republic of Korea has reduced its rate of new malaria cases by 75% since 2000 and by more than 50% since 2010. The country's most recent action plan for malaria elimination was developed in 2010 and set 2015 as the year to achieve this goal. The timeline was pushed to 2017, and as of mid-2018, no update on its elimination timescale had been communicated from the Korea Centers for Disease Control and Prevention (KCDC). However, the significant decline in new cases over the past several years can be credited to strong national funding and the deployment of robust malaria prevention and control measures ushered in under the 2010–2015 strategy. A revitalized elimination plan, building on the successes achieved, would help focus on addressing the remaining gaps as the country advances towards elimination.

AT A GLANCE

- > Dominant malaria species: ***Plasmodium vivax* (100%)**
- > Number of areas (foci) with active malaria transmission: **not reported**
- > Populations at greater risk: **Military personnel in the demilitarized zone and inhabitants of northern Gangwon and Gyeonggi provinces, including northern Incheon Metropolitan City**
- > Number of people at risk of malaria in these areas: **not reported**

MALARIA IMPACT

● number of indigenous malaria cases 2010–2017



GETTING BACK ON COURSE

The Republic of Korea will need to:

- **Reinvigorate efforts** by developing a new strategy restating its elimination goal and how it intends to achieve it by 2020.
- **Increase cooperation** between the Ministry of National Defense and the KCDC to enhance surveillance of military personnel and civilians in areas at risk, and to heighten malaria education and awareness overall.
- **Step up cross-border collaboration** on prevention measures to eliminate malaria from both sides of the demilitarized zone.

ACKNOWLEDGEMENTS



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FOR FURTHER INFORMATION PLEASE CONTACT:

Global Malaria Programme
World Health Organization
20 Avenue Appia
CH-1211 Geneva 27
Switzerland
www.who.int/malaria/