

---

# **Report of the sixth, seventh and eighth meetings of the Technical Advisory Group on Malaria Elimination and Certification**

20 March, 9–10 September  
and 3–4 December 2024



---

# **Report of the sixth, seventh and eighth meetings of the Technical Advisory Group on Malaria Elimination and Certification**

20 March, 9–10 September  
and 3–4 December 2024

Report of the sixth, seventh and eighth meetings of the Technical Advisory Group on Malaria Elimination and Certification, 20 March, 9-10 September and 3-4 December 2024

ISBN 978-92-4-011345-9 (electronic version)  
ISBN 978-92-4-011346-6 (print version)

© World Health Organization 2025

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization (<http://www.wipo.int/amc/en/mediation/rules/>).

**Suggested citation.** Report of the sixth, seventh and eighth meetings of the Technical Advisory Group on Malaria Elimination and Certification, 20 March, 9-10 September and 3-4 December 2024. Geneva: World Health Organization; 2025. Licence: CC BY-NC-SA 3.0 IGO.

**Cataloguing-in-Publication (CIP) data.** CIP data are available at <https://iris.who.int/>.

**Sales, rights and licensing.** To purchase WHO publications, see <https://www.who.int/publications/book-orders>. To submit requests for commercial use and queries on rights and licensing, see <https://www.who.int/copyright>.

**Third-party materials.** If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

**General disclaimers.** The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

This publication contains the report of the sixth, seventh and eighth meetings of the Technical Advisory Group on Malaria Elimination and Certification and does not necessarily represent the decisions or the policies of WHO.

# Contents

<b>Acknowledgements</b>	<b>iv</b>
<b>Abbreviations</b>	<b>v</b>
<b>Executive summary</b>	<b>vi</b>
<b>1. Background</b>	<b>1</b>
<b>2. Sixth and seventh meetings of TAG-MEC</b>	<b>2</b>
2.1 Declarations of interest	2
2.2 Objectives	2
2.3 Process	2
2.4 Certification of malaria elimination in Egypt	2
2.5 Progress on certification of malaria elimination in Timor-Leste	4
2.6 Progress on certification of malaria elimination in Georgia	6
<b>3. Eighth meeting of TAG-MEC</b>	<b>6</b>
3.1 Declarations of interest	6
3.2 Objectives	6
3.3 Process	6
3.4 Global update on malaria elimination	6
3.5 Certification of malaria elimination in Georgia	7
3.6 <i>P. knowlesi</i> and malaria elimination	8
3.7 Review of data from recently certified countries	8
3.8 Update of the elimination framework	9
3.9 Regional certification	9
3.10 Updated guidance on certification of malaria elimination	10
3.11 Workplan of TAG-MEC	11
3.12 Meeting closure	11
<b>References</b>	<b>12</b>
<b>Annex 1. Agendas</b>	<b>13</b>
<b>Annex 2. List of participants</b>	<b>15</b>

## Acknowledgements

The World Health Organization (WHO) would like to thank all the members of the Technical Advisory Group on Malaria Elimination and Certification (TAG-MEC) who dedicated their time and expertise to reviewing the background documents before the meetings and contributing to the discussions during the meetings.

The TAG-MEC meeting report was prepared by Dr Xiaohong Li (Technical Officer) and reviewed by Dr Elkhan Gasimov (Unit Head), Elimination Unit of the WHO Global Malaria Programme. The following staff contributed to the report: Dr Deepa Pindolia (WHO Global Malaria Programme); Dr Ebenezer Baba (WHO Regional Office for Africa); Dr Blanca Escribano Ferrer (WHO Regional Office for the Americas); Dr Ghasem Zamani (WHO Regional Office for the Eastern Mediterranean); Dr Risintha Premaratne (WHO Regional Office for South-East Asia); Dr James Kelley (WHO Regional Office for the Western Pacific), and Stela Bivol (WHO Regional Office for Europe). The members of TAG-MEC who reviewed and contributed to the report included: Professor Pedro Alonso (University of Barcelona, Spain); Professor Fred Binka (University of Health and Allied Sciences, Ghana); Dr Keith H. Carter (Independent consultant, United States of America); Professor Brian Greenwood (London School of Hygiene & Tropical Medicine, United Kingdom of Great Britain and Northern Ireland); Dr Anatoly Kondrashin (Sechenov First Moscow State Medical University, Russian Federation); Professor Rossitza Ivanova Kurdova-Mintcheva (Independent consultant on malaria control and elimination, Bulgaria); Professor Reza Majdzadeh (University of Essex, United Kingdom of Great Britain and Northern Ireland); Dr Kamini Mendis (Independent consultant on malaria and tropical medicine, Sri Lanka); Professor Martha L. Quiñones (Universidad Nacional de Colombia, Colombia); Dr Frank Richards (Independent consultant, United States of America); Dr Allan Schapira (Independent consultant, Philippines); Dr Laurence Slutsker (Independent consultant, United States of America); and Professor Linhua Tang (Chinese Center for Disease Control and Prevention, China).

WHO would like to thank the Ministries of Health of Egypt, Georgia and Timor-Leste for preparing the national elimination reports and supporting documents for consideration for certification. Special thanks go to Professor Pedro Alonso for conducting the certification missions to Egypt, to Dr Allan Schapira and Dr Kamini Mendis for carrying out the mission in Georgia and for their efforts in preparing the evaluation reports.

## Abbreviations

E-2025      Elimination-2025

TAG-MEC    Technical Advisory Group on Malaria Elimination and Certification

WHO        World Health Organization

## Executive summary

On 20 March, 10 September and 3–4 December 2024, the World Health Organization (WHO) convened the Technical Advisory Group on Malaria Elimination and Certification for its sixth, seventh and eighth meetings to discuss potential certification of malaria elimination in Egypt and Georgia and to review the progress on certification of malaria elimination in Timor-Leste. The members also reviewed and discussed plans for regional certification and for updates to the WHO guidance on malaria-free certification, including guidance related to zoonotic malaria. The updated version of *A framework for malaria elimination* (draft) and the situation of malaria elimination at the global level were also reviewed and discussed.

## Conclusions and recommendations

- The Group concluded that both Egypt and Georgia had met the WHO criteria for certification of malaria elimination and recommended that both countries be certified as malaria-free.
- A third list, following the official register and supplementary list, may be created to enter countries where transmission of the human malaria parasites has been interrupted but zoonotic malaria is still transmitted.
- Using a regional approach to certify the WHO European Region as malaria-free may be considered, assuming that additional resources can be mobilized, due procedures can be followed and the necessary data required for certification are available.
- Incomplete reporting from countries that have been certified as malaria-free should be documented and published in the World Malaria Report.
- The updated version of *A framework for malaria elimination* should describe the conditions for embarking on an elimination programme; the different scenarios in which a focus approach might or might not apply; and expand guidance on how to implement entomological surveillance and vector control as transmission declines.
- Because the quality of surveillance is crucial for certification and its systematic documentation will boost confidence in the surveillance system, countries should carry out surveillance assessments regularly when they are very close to elimination and in the years leading up to certification. Results should be provided for consideration for certification.
- Subnational verification represents an opportunity for countries where national elimination is not yet achievable in the short term. WHO should actively support countries interested in subnational verification of elimination by providing guidance and technical assistance.



# 1. Background

The *Global technical strategy for malaria 2016–2030* (1), endorsed by the World Health Assembly, set two specific goals related to malaria elimination: the elimination of malaria in at least 35 countries by 2030 and the prevention of re-establishment of transmission in all malaria-free countries. To support countries in reaching these goals, the World Health Organization (WHO) launched the Elimination-2020 and Elimination-2025 (E-2025) initiatives, which provided tailored support to targeted countries. In addition, WHO developed guidance to support countries in achieving elimination, preparing for certification and preventing re-establishment.

## 1.1 Progress on individual countries' certification of malaria elimination

WHO certification of malaria elimination officially recognizes a country's malaria-free status. In 2023, Egypt and Timor-Leste submitted official requests to WHO to certify their malaria-free status. This was followed by Türkiye, Georgia and Suriname, who submitted the same request in 2024. Significant progress was made in Egypt, Georgia and Timor-Leste in completing the certification process, and these three countries submitted their national elimination reports to the WHO Global Malaria Programme in 2024. WHO organized pre-certification and certification missions to these countries according to defined procedures (2).

## 1.2 Regional approach to certify WHO European Region as malaria-free

WHO created a supplementary list in 1962 to complement its official malaria-free register (3). While both the official register and supplementary list recognized malaria-free status, the latter lacked clear entry procedures, leading to dissatisfaction among some listed countries. Since 2012, no new countries have been added to the supplementary list. Following the 2017 establishment of the Malaria Elimination Certification Panel, the WHO Global Malaria Programme proposed regional certification of the European Region to transition countries from the supplementary list to the official register, gradually phasing out the supplementary list. A technical consultation, jointly organized by WHO Global Malaria Programme and WHO Regional Office for Europe, was convened to discuss the criteria and procedures for regional certification in 2018 in Baku, Azerbaijan. The Malaria Elimination Certification Panel reviewed the consultation outcomes and recommended that while regional certification could be considered, priority should be given to individual country certifications due to the increasing number of requests and the reliance on national governments to maintain malaria-free status (4). With Azerbaijan and Tajikistan certified in 2023 and Georgia and Türkiye submitting requests in 2024, WHO may now need to reconsider regional certification of Europe.

## 1.3 Progress and plan to update guidance on malaria elimination and certification

Since the fifth meeting of the Technical Advisory Group on Malaria Elimination and Certification (TAG-MEC) in Cairo, WHO has continued work on updating *A framework for malaria elimination* (5). WHO also plans to update the guidance on certification of malaria elimination to include methods and procedures to recognize malaria elimination in countries affected by zoonotic malaria and to expand guidance for countries interested in implementing subnational verification.

Since 2022, TAG-MEC has been the technical body advising WHO on malaria-free certification. TAG-MEC acts as an advisory body on policy recommendations in the field of malaria elimination and prevention of re-establishment of transmission. WHO convened the sixth, seventh and eighth meetings of TAG-MEC in 2024 to discuss potential certifications, the global situation on malaria elimination and updates to WHO guidance.

## 2. Sixth and seventh meetings of TAG-MEC

### 2.1 Declarations of interest

All TAG-MEC members participating in the meetings submitted Declaration of Interest forms, which were assessed by the WHO Secretariat. Based on the assessment, Dr Allan Schapira was recused from the decision on certification of Timor-Leste.

### 2.2 Objectives

TAG-MEC members met virtually on 20 March and 10 September 2024 to discuss the national elimination reports of Timor-Leste, Egypt and Georgia; to reach a consensus on whether Egypt could be certified as a malaria-free country; and to advise on the process of certification in Timor-Leste.

### 2.3 Process

Prior to the TAG-MEC meetings, the national elimination reports submitted by the Ministries of Health of Timor-Leste, Egypt and Georgia were shared with all members of the Group. The report of the independent evaluation mission to Egypt, prepared by the certification mission team, and the report of the pre-certification mission to Timor-Leste, prepared by the WHO Secretariat, were shared with all members.

Dr Daniel Ngamije Madandi, Director of the Global Malaria Programme, opened the meeting. He highlighted the significance of malaria elimination and certification in sustaining the momentum of the global fight against malaria. He expressed his appreciation for the contributions and advice from TAG-MEC in this regard.

### 2.4 Certification of malaria elimination in Egypt

#### 2.4.1 History of malaria in Egypt and review of the national elimination report

Egypt is one of the oldest civilizations in the world. It has a long history of malaria, dating back to 4000 BC. Organized malaria control activities began in the 1930s when malaria was declared a notifiable disease and the first malaria control and research station was established. A major eradication project was launched in response to the invasion of *Anopheles gambiae* during the Second World War. By February 1945, no *An. gambiae* mosquitoes were found, although other *Anopheles* species remained uncontrolled. In 1956, malaria control and elimination activities were integrated into the newly established Endemic Diseases Department of the Ministry of Health. The number of malaria cases in Egypt fluctuated between 2000 and 8000 per year between 1965 and 1975. The Malaria and Filariasis Control and Laboratory Division was established in 1976 to improve disease control and reporting. Concerted efforts led to a significant reduction in malaria cases, with only 192 cases reported in 1982. Between 1991 and 1997, transmission became highly localized, with all locally acquired cases identified in two districts of Fayoum governorate. Following the application of intensive control measures and an integrated approach involving the Ministries of Agriculture and Education, progress on elimination continued, with only four indigenous cases (all *Plasmodium falciparum*) reported in 1997. No indigenous malaria cases have been reported since 1998. Small outbreaks occurred in 2005 in the village of Youssef El Seddik, Fayoum governorate (17 cases), and in 2014, in the village of El-Sheikh Mostafa, Aswan governorate (20 cases). Egypt faces significant malaria importation. Since 2012, the number of imported cases has increased significantly and is currently around 700 per year, with the crisis in Sudan being a major contributor.

Professor Pedro Alonso facilitated the review and discussion of the national elimination report by TAG-MEC during its meeting. The following issues were identified as priorities for the final mission: the situation in areas bordering Sudan; strategies for managing the risk of importation from Sudan; and the surveillance and response system, including the role of the private sector.

#### **2.4.2 Independent evaluation mission**

The independent evaluation mission, led by Professor Alonso, took place from 20 to 29 June 2024. Key members included Dr Xiaohong Li, Technical Officer from the Elimination Unit of the WHO Global Malaria Programme; Dr Ghasem Zamani, Regional Malaria Advisor, and Dr Samira Al-Eryani, entomologist from the WHO Regional Office for the Eastern Mediterranean. Ms Lina Azkoul from the WHO Regional Office for the Eastern Mediterranean and Dr Noha El Qareh from the WHO Country Office in Egypt also participated in and contributed to the mission.

The team visited several institutions in Cairo, including the Ministry of Health, the national malaria programme, a fever hospital and a community health centre. Field visits were conducted to selected sites in the governorates of Fayoum and Aswan. The team reviewed and assessed the epidemiological and entomological services provided by the malaria control unit, vector control unit and reference laboratories at all levels. The team also visited a number of public and private hospitals and community health centres to review case management services. The team spent several days in Aswan and visited Sudanese communities, reviewing and investigating a cluster of imported cases detected among Sudanese in Aswan. The team debriefed the Minister of Health on the last day of its mission.

#### **2.4.3 Summary of discussion at the TAG-MEC meeting**

Professor Alonso presented the findings from the mission. He concluded that Egypt had met the two criteria required for certification. The mission team considered that Egypt had demonstrated strong political commitment and multisectoral collaboration in eliminating diseases such as malaria, supported by effective leadership and legislation. The health system is well equipped, with fever hospitals providing free, quality care and community health workers enhancing surveillance and access. Free malaria diagnosis and treatment are available, along with traveller health services, including chemoprophylaxis. An integrated electronic surveillance system (NEEDS) ensures rapid detection and response to cases, while entomological surveillance and vector control strategies have been implemented to mitigate the receptivity. Risk factors are mapped in each receptive district and governorate and regularly updated, guiding mitigation efforts through cross-sector collaboration.

The following issues were discussed: the need for vector control needs assessment and the preparedness for detecting and responding to introduction of *An. stephensi* and *An. arabiensis*; the need to take measures to ensure access to diagnosis during the transition phase of the National Insurance Scheme; and the need to update surveillance standard operating procedures. The Group made recommendations accordingly to improve these areas.

#### **2.4.4 Recommendation**

The TAG-MEC recommended that Egypt be certified as malaria-free.

## 2.5 Progress on certification of malaria elimination in Timor-Leste

### 2.5.1 Malaria history in Timor-Leste and review of national elimination report

Timor-Leste gained independence on 20 May 2002. At the time of independence, malaria was a major problem in the country. It was prevalent throughout Timor-Leste and transmission was perennial. In 2006, 223 000 cases were clinically diagnosed, while 24 219 *P. falciparum* cases and 13 477 *P. vivax* cases were confirmed with a malaria test. The number of confirmed cases was similar in subsequent years, despite improvements in case detection. From 2010 to 2011, the number of confirmed cases was reduced from nearly 48 000 cases to 20 000 cases, possibly due to the large scale implementation of vector control and the expansion of diagnosis and treatment. Cases continued to decline rapidly – with only 5262 cases in 2012, 1025 in 2013 and 342 in 2014. In 2018, Timor-Leste reported zero indigenous cases for the first time. However, an outbreak occurred in Oecusse in 2020, which resulted in 14 cases, including a few indigenous cases. In 2023, a cluster of nine cases, including five introduced cases, was detected in Tilomar. The number of imported cases in Timor-Leste has been very low, ranging from eight imported cases in 2018 to zero in 2021.

Dr Kamini Mendis facilitated the review and discussion of the national elimination report. The issues discussed included the border with Indonesia; sustainability of the programme; quality-assured diagnosis; and case classification. TAG-MEC also suggested that countries should be advised to follow the template created by WHO when developing their national elimination report.

### 2.5.2 Review of the cluster of cases

Timor-Leste reported a cluster of cases from July to November 2023 in Covalima, which included a few introduced cases. As classifying cases as introduced is subjective, the Global Malaria Programme established a subgroup of TAG-MEC to review case classification. The following members joined the subgroup: Professor Rossitza Kurdova-Mintcheva, Dr Mendis, Professor Linhua Tang, Dr Keith Carter and Dr Laurence Slutsker. The subgroup members reviewed the case reports prepared by the national malaria programme before meeting virtually on 11 March 2024. Members discussed case classification on a case-by-case basis to reach consensus. Professor Kurdova-Mintcheva was appointed to chair the discussion. Dr Xiaohong Li was the rapporteur for the subgroup discussion who drafted the meeting minutes. The subgroup concluded that the occurrence of this cluster of cases presented a unique situation: the cases were distributed along the main road leading to West Timor (Indonesia); therefore, the area was close to the international border, where population movements are frequent and undocumented. The subgroup agreed with the original classification of most cases. However, for at least one introduced case, secondary transmission could not be ruled out with the information provided.

Professor Kurdova-Mintcheva presented the outcomes of the subgroup in the plenary meeting. Given the uncertainties of some case classifications, the members were asked to provide their opinion on the next steps of the certification process in Timor-Leste. The consensus was that the Global Malaria Programme should carry out a pre-certification mission to Timor-Leste that includes a field visit to the outbreak site and report back to TAG-MEC.

### 2.5.3 Pre-certification mission to Timor-Leste

As recommended by TAG-MEC, a second pre-certification mission to Timor-Leste, led by the Global Malaria Programme, was carried out from 30 May to 7 June 2024. Dr Li, who led the pre-certification mission and authored the pre-certification mission report,

presented the findings of the mission. She stated that the team considered Timor-Leste to have a well-managed malaria programme headed by a capable manager. As a newly independent country, the health system has yet to be developed. Nonetheless, free diagnosis and treatment for malaria is provided to all population groups. The surveillance system, comprising hospitals, community health centres, health posts, volunteers and mobile clinics, is well designed and functional. Vector control, such as indoor residual spraying, is rigorously implemented, with supervision and quality checks by vector control staff. A cross-border collaboration mechanism is in place, although improvements could be made. The pre-certification mission visited Tilomar, Covalimar, where the cluster of cases occurred. The additional information obtained by the mission team neither rejected nor reinforced the conclusion of the subgroup. However, important weaknesses were identified and the mission made recommendations accordingly to address these gaps.

TAG-MEC thanked the Secretariat for carrying out the pre-certification mission and recommended that WHO continue to support Timor-Leste in capacity-building for prevention of re-establishment.

## **2.6 Progress on certification of malaria elimination in Georgia**

### **2.6.1 Malaria history in Georgia and review of national elimination report**

Malaria has long been endemic in Georgia, with historical records indicating significant morbidity and mortality, particularly in the lowland regions, prior to the 20th century. By the 1920s, systematic surveillance revealed a malaria prevalence of approximately 30%, predominantly driven by *P. vivax*. Early control measures under the former Soviet Union, including environmental management and biological vector control, reduced transmission significantly by 1940; however, progress was disrupted by the Second World War. A comprehensive post-war eradication campaign using dichlorodiphenyltrichloroethane, improved therapeutics and robust surveillance eliminated *P. falciparum* by 1953 and *P. vivax* by 1970. Georgia was free of malaria transmission for over two decades (1971–1995). However, the collapse of the Soviet Union weakened the public health infrastructure, leading to a resurgence of *P. vivax* in the late 1990s, with more than 400 cases recorded at its peak in 2002. Renewed elimination efforts under the Tashkent Declaration (2005) successfully contained the outbreak, with the last indigenous case reported in 2009. Since then, Georgia has documented only sporadic imported cases, with fewer than 10 imported cases each year.

Dr Allan Schapira led the review and discussion of the national elimination report. TAG-MEC members considered the report to be well written and provided comprehensive information. The focus of the discussion was on the situation in Abkhazia and South Ossetia, which are referred to as occupied territories by the Government of Georgia.

### **2.6.2 Pre-certification mission to Georgia**

Professor Kurdova-Mintcheva and Dr Elkhana Gasimov, who carried out the pre-certification mission to Georgia from 19 to 23 August 2024, presented their findings to TAG-MEC. The team started its mission in Tbilisi and then made field visits to Sighnaghi, Tsnori, Rustavi and Batumi. The team visited ministries, institutions, health centres, hospitals and laboratories to review and assess the programme for prevention of re-establishment. Thematic areas, such as malaria diagnosis and the external quality assurance/control system, vector control and entomological surveillance, case management, epidemiological investigation and travellers' health, were reviewed in detail. The team also gathered information on the occupied territories from different sources.

## 3. Eighth meeting of TAG-MEC

### 3.1 Declarations of interest

All TAG-MEC members submitted Declaration of Interest forms.

### 3.2 Objectives

The objectives of the eighth TAG-MEC meeting were:

- to review progress towards malaria elimination in the E-2025 countries;
- to review the findings of the independent evaluation mission to Georgia and reach a consensus on potential certification of malaria elimination in Georgia;
- to review and discuss the updated version of *A framework for malaria elimination (5)*;
- to review the outcomes of the technical consultation on *P. knowlesi* and progress on guidance related to recognizing malaria elimination in countries where *P. knowlesi* is transmitted but where *P. falciparum*, *P. vivax*, *P. ovale* and *P. malariae* have been eliminated;
- to review the plan to update WHO guidance on certification, including subnational verification;
- to review the data from malaria-free countries; and
- to discuss the plan for regional certification and the plan for country certification missions for 2025.

### 3.3 Process

The following reports and documents were shared with meeting participants before the eighth meeting: the report of the independent evaluation mission to Georgia; the updated version of *A framework for malaria elimination*; and the meeting report of the technical consultation on regional certification.

The eighth meeting of TAG-MEC was held on 3–4 December 2024 in Copenhagen, Denmark. The meeting commenced with welcoming remarks by Dr Stela Bivol, Unit Head, Joint Infectious Diseases, WHO Regional Office for Europe, and Dr Gasimov, Head of Elimination Unit, WHO Global Malaria Programme. The two thanked the TAG-MEC members for their dedication and contributions to the crucial work of malaria elimination and certification on behalf of WHO.

### 3.4 Global update on malaria elimination

Dr Gasimov presented the global progress on malaria elimination and the challenges facing eliminating countries. He noted that there has been a setback in the E-2025 countries. Collectively, there has been an increase in cases – from over 25 000 reported cases in 2020 to over 64 000 in 2023 – due to epidemics in a few countries (6). Some countries have remained on track, with the Dominican Republic, Ecuador, Mexico and Nepal continuing to reduce transmission; Bhutan and Suriname have continued to report zero indigenous cases. In the Greater Mekong subregion, malaria cases have risen sharply in the Thailand–Myanmar border area, accounting for 34% of total cases reported in the subregion. At the same time, Cambodia, Lao

People's Democratic Republic and Viet Nam have made impressive progress, reporting only a few hundred cases in 2024 (7). Two countries, Cabo Verde and Egypt, have been certified as malaria-free (8, 9). Georgia, Suriname and Türkiye are undergoing the certification process, while Bhutan, Oman and Saudi Arabia are eligible to apply for certification. Dr Gasimov shared information about the malaria elimination course published on WHO Academy and recently published case studies on elimination. Finally, he mentioned the financial situation of the elimination unit to the committee.

TAG-MEC thanked Dr Gasimov for his comprehensive update and took note of the progress and challenges. TAG-MEC recommended that WHO consider two priorities for documenting the success of elimination with good data analysis: the elimination of *P. falciparum* in Cambodia, and how the elimination of *P. falciparum* contributes to the reduction of *P. vivax* transmission.

## **3.5 Certification of malaria elimination in Georgia**

### **3.5.1 Independent evaluation mission**

The independent evaluation mission to Georgia took place from 8 to 16 October 2024. The mission was carried out by Dr Schapira and Dr Mendis, supported by Dr Gasimov. The team visited the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs, Parliament, the Ministry of Agriculture and the Ministry of Defence. Key institutions such as the National Center for Disease Control and Public Health, Research Institute of Medical Parasitology and Tropical Medicine, General Hospital and research institutes were also visited. During site visits in Zugdidi and Rustavi, the team visited hospitals, public health centres and a private company that recruits workers from endemic countries. They discussed with the workforce practices and activities for the prevention of re-establishment. To assess the situation in Abkhazia, the team prepared a questionnaire to collect information through the WHO field office in Sukhumi, Abkhazia, and visited Ministry of Health of Abkhazia Autonomous Republic in Exile.

### **3.5.2 Summary of discussion at the TAG-MEC meeting**

Dr Schapira presented the findings from the mission. The team considered that Georgia has a strong health system with a well informed and well distributed workforce, which ensures the provision of good-quality diagnosis and treatment for the population. The case surveillance and response systems are well developed and follow WHO standards with regard to case and focus classification. It is evident that intersectoral collaboration is functioning and vector control measures to mitigate receptivity and risk of re-establishment are in place. The programme for prevention of re-establishment is fully funded by domestic funding. All data, reports, and observations collected by the mission team from Abkhazia, an unoccupied territory, indicate that no malaria transmission has occurred. South Ossetia, another unoccupied territory, is an isolated, sparsely populated highland area where malaria transmission is virtually impossible.

The key issues discussed included: continued education for general medical practitioners to reinforce their role in suspecting malaria cases; travellers' health; insecticide monitoring; and training for health staff in Abkhazia. TAG-MEC made recommendations based on the findings and the discussion.

### **3.5.3 Recommendation**

TAG-MEC recommended that Georgia be certified as malaria-free.



### 3.6 *P. knowlesi* and malaria elimination

Dr Gasimov outlined the malaria situation in countries where *P. knowlesi* or other zoonotic Plasmodium species are transmitted. In 2023, Indonesia reported 170 *P. knowlesi* cases – a sharp rise from 2020, likely due to improved detection. Cambodia recorded 11 *P. knowlesi* cases among a few hundred total malaria cases, while the Philippines reported zero *P. knowlesi* cases but 3000 total malaria cases. Thailand saw a surge, exceeding 15 000 malaria cases (including 239 *P. knowlesi* cases), and Malaysia continues to report around 3000 *P. knowlesi* cases annually, making up most of its malaria burden. Europe detects 2–3 imported *P. knowlesi* cases each year (10). To address the emerging risk of zoonotic malaria and the associated implications for certification, the Global Malaria Programme convened a TAG-MEC subgroup on zoonotic malaria to discuss the recognition of malaria elimination in countries affected by zoonotic malaria, followed by a technical consultation on 5–7 November 2024 to review case management, vector control and research needs (10). Finally, Dr Gasimov presented several certification options for countries with zoonotic transmission, which were compiled from side discussions during the technical consultation.

TAG-MEC members present at the meeting were in favour of the third option: to establish a third list of countries where the four main human malaria species (*P. falciparum*, *P. vivax*, *P. malariae* and *P. ovale*) have been eliminated, but where zoonotic malaria species continue to be transmitted to humans. No threshold would be set for the transmission or risk of transmission of other species for entry into the third list. The TAG-MEC subgroup on *P. knowlesi* will meet again to finalize deliberations on *P. knowlesi* issues related to certification. The subgroup is expected to report back to the full TAG-MEC, and recommendations will be made to WHO by the whole Group as a rule. The Secretariat will report the recommendations of TAG-MEC at a meeting of the Malaria Policy Advisory Group.

### 3.7 Review of data from recently certified countries

Dr Deepa Pindolia presented an analysis of data from malaria-free countries, focusing on those recently certified since 2007. She presented country data by region, highlighting countries with incomplete information. Most of the cases reported in malaria-free countries have been imported, with occasional introduced or unclassified cases. The reporting rate of malaria-free countries to the World Malaria Report is generally low, standing at 30% globally. However, there are regional variations, with the WHO South-East Asia Region achieving a 100% reporting rate, while the European Region and Western Pacific Region have significantly lower rates at 11% and 12%, respectively (6).

TAG-MEC was concerned about the extensive missing data from malaria-free countries and made the following recommendations:

- In the World Malaria Report, under the chapter on elimination and the section on prevention of re-establishment, WHO should publish a list of certified countries from which data were not received.
- The WHO European Region should work with the European Centre for Disease Prevention and Control to improve the timeliness and completeness of data reporting from malaria-free countries, particularly in the context of regional certification.
- Consider different ways to make it more explicit that reporting to WHO is mandatory for malaria-free countries.
- Consider other simple ways to report data, such as an Excel spreadsheet, as some countries do not have a District Health Information System.



### 3.8 Update of the elimination framework

Dr Gasimov first presented the background for the update of *A framework for malaria elimination* (5). Mr Anderson Chinorumba presented the progress chapter by chapter, highlighting the changes made to update the framework. He said that much of the technical content added has been derived from the elimination training curriculum recently published by WHO. Recommendations from the *WHO guidelines for malaria* (11) have also been included. Finally, Dr Gasimov presented the timeline to finalize the second version of the elimination framework.

TAG-MEC had the following discussions and recommendations:

- Provide a high-level summary.
- Chapter 1. Principles and practice of malaria elimination: the principles and rationale should be described at the beginning. The idea that political commitment must translate to human and financial resources must be emphasized and highlighted. The conditions necessary (or readiness assessment) before embarking on a malaria elimination programme should be described in more detail.
- Guidance should be provided on how to prioritize entomological surveillance and vector control as transmission declines.
- The need for regular surveillance assessments should be added in the appropriate place.
- Focus investigation and response: define and describe the different scenarios in which the “focus” concept and approach are feasible and implementable, and the scenarios in which the “focus” concept may be difficult to apply and suggested approaches for dealing with this. Include guidance on how to deal with forest malaria as well as transmission in other typical ecotypes if necessary.
- New tools/innovations (vaccines, serology, molecular tools) can be mentioned for informational purposes, but not presented as WHO-approved/-recommended interventions.
- Include references in the text and reduce the text to be more concise.

### 3.9 Regional certification

Dr Gasimov presented the background and evolution of the regional certification idea. A technical consultation on a regional approach to certification of malaria elimination was jointly convened by the WHO Regional Office for Europe and WHO Global Malaria Programme on 26–27 November 2018 in Baku, Azerbaijan. The outcomes of the technical consultation in 2018 were reviewed and discussed by the Malaria Elimination Certification Panel during its meeting in 2019. Dr Gasimov briefly presented the criteria and procedures for regional certification based on the deliberations from previous meetings. Finally, he presented the workplan for 2025 and 2026.

TAG-MEC was concerned that regional certification may require a significant amount of work and resources, which may not be ideal given the extremely limited resources available for malaria elimination. The Group noted that the WHO Regional Office for Europe is using regional certification as an opportunity to increase the visibility of malaria and improve the work on malaria in the Region (e.g. data collection and reporting). TAG-MEC concluded that WHO can move ahead with regional certification,

assuming that certain conditions can be met, which should include but not be limited to the following:

- Additional resources should be mobilized so that regional certification does not take up the limited resources for malaria elimination activities.
- Given the poor quality of data from countries in the WHO European Region available in the World Malaria Report database, it is envisioned that data collection will be a significant task. As a start, TAG-MEC suggested pilot testing in a few locations to gather the minimum essential data for regional certification. The Secretariat needs to determine how many cases (or proportion of cases) can be classified retrospectively to distinguish among imported, introduced and indigenous cases. If a significant proportion of cases cannot be classified, additional discussions and protocols will be needed to resolve case classification issues, which is essential for regional certification.
- The request for regional certification can only come from the Regional Office, provided that all Member States of the WHO European Region are well informed and agree with the idea of regional certification, possibly through a Regional Committee meeting. This will also facilitate the implementation of related activities (e.g. data collection).
- Including only continental France in the regional certification is acceptable to France and other relevant entities.

### **3.10 Updated guidance on certification of malaria elimination**

Dr Li first presented the principles of WHO certification of malaria elimination: the process should be transparent, fair and consistent; it should be flexible to permit adaptation to different circumstances (e.g. the coronavirus disease pandemic); and the assessment should be rigorous and high-quality to ensure accountability. Finally, it should have added value, and the use of resources should be optimized. She then presented the new trends and challenges in certification of malaria elimination. Because a robust surveillance and response system is important for both certification criteria, countries should provide evidence demonstrating that a good-quality surveillance system is in place. As such, countries are expected to perform surveillance assessments and provide the results of their assessments when they request certification. She also presented the plan to expand guidance on subnational verification and the development of guidance related to certification of malaria elimination in countries where zoonotic malaria is transmitted.

TAG-MEC agreed that the quality of surveillance is crucial for certification, and documenting it systematically will boost confidence in the system when the country is certified. Countries should carry out surveillance assessments when they report zero indigenous cases for the first year, and the results should be made available for certification. The tools for the surveillance assessment may not be specified. Furthermore, while indicators may be described to guide the surveillance assessment for certification, thresholds might not be set.

TAG-MEC was pleased with the progress made by countries on subnational verification and strongly welcomed this approach. TAG-MEC supports subnational verification as a great opportunity for countries where national elimination is not yet achievable in the short term. WHO should actively support interested countries in this endeavour by providing guidance and technical assistance.

### **3.11 Workplan of TAG-MEC**

The regional elimination focal points gave updates on progress on malaria elimination and preparation for certification in eligible countries in their respective regions. The participants discussed the TAG-MEC workplan for 2025. It was envisioned that two meetings would be held in 2025.

### **3.12 Meeting closure**

Dr Gasimov closed the meeting on behalf of the WHO Global Malaria Programme. He thanked all the members of TAG-MEC for their contributions to a productive meeting.

## References<sup>1</sup>

1. Global technical strategy for malaria 2016–2030, 2021 update. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/342995>).
2. Preparing for certification of malaria elimination, second edition. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/364535>).
3. Countries and territories certified malaria-free by WHO [website]. World Health Organization (<https://www.who.int/teams/global-malaria-programme/elimination/countries-and-territories-certified-malaria-free-by-who>).
4. Report of the second meeting of the Malaria Elimination Certification Panel, 14–16 May 2019, Geneva, Switzerland. Geneva: World Health Organization; 2019 (<https://www.who.int/publications/m/item/WHO-CDS-GMP-MPAC-2019.11>).
5. A framework for malaria elimination. Geneva: World Health Organization; 2017 (<https://iris.who.int/handle/10665/254761>).
6. World malaria report 2024: addressing inequity in the global malaria response. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/379751>).
7. Mekong Malaria Elimination Programme epidemiology summary, volume 28, October–December 2024. Geneva: World Health Organization; 2025 (<https://iris.who.int/handle/10665/381586>).
8. WHO certifies Cabo Verde as malaria-free, marking a historic milestone in the fight against malaria [news release]. World Health Organization; 12 January 2024 (<https://www.who.int/news/item/12-01-2024-who-certifies-cabo-verde-as-malaria-free--marking-a-historic-milestone-in-the-fight-against-malaria>).
9. Egypt is certified malaria-free by WHO [news release]. World Health Organization; 20 October 2024 (<https://www.who.int/news/item/20-10-2024-egypt-is-certified-malaria-free-by-who>).
10. Technical consultation on control of zoonotic malaria: meeting report, Geneva, Switzerland, 5–7 November 2024. Geneva: World Health Organization; 2025 (<https://iris.who.int/handle/10665/381500>).
11. WHO guidelines for malaria, 30 November 2024. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/379635>).

---

<sup>1</sup> All references were accessed on 22 May 2025

# Annex 1. Agendas

## Sixth TAG-MEC meeting, 20 March 2024

Meeting opening – Moderated by Elkhan Gasimov		
14:00 – 14:10	Welcome and opening of the meeting	Daniel Ngamije Madandi
14:10 – 14:15	<ul style="list-style-type: none"> <li>Declaration of interests</li> <li>Meeting objectives</li> </ul>	Xiaohong Li
Review national elimination reports and supporting documents		
Session 1 – Egypt		
14:15 – 15:00	Review the national elimination report from Egypt	Moderated by Pedro Alonso
Session 2 – Timor-Leste		
15:00 – 15:45	Review the national elimination report from Timor-Leste	
	Outcome of the review of the case investigation report	
15:45 – 16:15	<ul style="list-style-type: none"> <li>Summary by Rossitza Kurdova-Mintcheva</li> <li>Q&amp;A</li> </ul>	Moderated by Kamini Mendis
16:15 – 16:50	Discuss and reach a consensus on the way forward	
16:50 – 16:55	Wrap-up	
16:55 – 17:00	<ul style="list-style-type: none"> <li>Next step – Xiaohong Li</li> <li>Meeting closure – Elkhan Gasimov</li> </ul>	

## Seventh TAG-MEC meeting, 9–10 September 2024

Review findings of the pre-certification mission – chaired by Kamini Mendis		
14:00 – 14:50	<ul style="list-style-type: none"> <li>Findings of the pre-certification mission to Timor-Leste</li> <li>Points for clarification</li> </ul>	Xiaohong Li and the WHO team
14:50 – 15:20	Discussions on the next step and timeline for the certification process in Timor-Leste	All TAG-MEC members
15:20 – 15:30	Wrap up Timor-Leste session	Kamini Mendis
Review national elimination report – chaired by Allan Schapira		
15:30 – 16:30	Review national elimination report from Georgia	All TAG-MEC members
16:30– 16:50	Briefing of the pre-certification mission to Georgia	Rossitza Kurdova-Mintcheva and Elkhan Gasimov
16:50 – 16:55	Wrap-up	Allan Schapira
16:55 – 17:00	Meeting closure	Daniel Ngamije Madandi

## Eighth TAG-MEC meeting, 3–4 December 2024

Day 1 – Tuesday, 3 December 2024		
Opening session – moderated by Elkhan Gasimov		
9:00 – 9:10	Welcome remarks from the WHO Regional Office for Europe	Robb Butler
9:10 – 9:15	Welcome remarks from the Global Malaria Programme	Elkhan Gasimov
9:15 – 9:30	Declaration of interests Meeting objectives	Xiaohong Li
9:30 – 10:10	<ul style="list-style-type: none"> <li>Global update on malaria elimination including progress in E-2025 countries and the Greater Mekong subregion</li> <li>Q&amp;A</li> </ul>	Elkhan Gasimov

Session 1. Certification of malaria elimination in Georgia – chaired by Laurence Slutsker		
10:40 – 11:10	Findings of the certification mission in Georgia	Allan Schapira and Kamini Mendis
11:10 – 11:20	Points of clarification	TAG-MEC
11:20 – 12:30	Discuss the findings of the certification mission and reach a consensus on potential certification in Georgia Recommendations to Georgia	TAG-MEC
Session 2. P. knowlesi and malaria elimination – chaired by Kamini Mendis		
14:00 – 14:40	Outcome of the technical consultation on P. knowlesi and progress of the subgroup of TAG-MEC on P. knowlesi	Elkhan Gasimov
14:40 – 15:45	Progress of the subgroup of TAG-MEC on P. knowlesi	Elkhan Gasimov
Session 3. Review data from malaria-free countries		
16:15 – 16:30	Review data from malaria-free countries	Deepa Pindolia
16:30 – 17:00	Progress on the implementation of recommendations in recently certified countries	Regional focal points
Day 2 – Wednesday, 4 December 2024		
Session 4. Review the updated framework for malaria elimination – chaired by Kamini Mendis		
8:30 – 11:45	<ul style="list-style-type: none"> <li>The updated elimination framework</li> <li>Discussion</li> </ul>	Elkhan Gasimov Anderson Chinorumba
Session 5. Review and discuss the regional certification – chaired by Kamini Mendis		
11:45 – 12:05	Regional certification: background and proposed plan	Elkhan Gasimov
12:05 – 12:35	Discussion	All participants
Session 6. Update guidance on certification of malaria elimination – chaired by Laurence Slutsker		
14:00 – 14:30	Background, proposed updates and workplan	Xiaohong Li
14:30 – 15:30	Discussions	All participants
Session 7. Review and discuss work plan for 2025 – chaired by Laurence Slutsker		
15:45 – 16:00	Workplan of TAG-MEC 2025	Xiaohong Li
16:00 – 17:15	<ul style="list-style-type: none"> <li>Progress on Timor-Leste and Bhutan – Risintha Premaratne</li> <li>Progress in Suriname – Blanca Escribano Ferrer</li> <li>Progress in Oman and Saudi Arabia – Ghasem Zamani</li> <li>Progress in Türkiye – Stela Bivol</li> <li>Progress and bottlenecks for malaria elimination in the region – James Kelly and Ebenezer Sheshi Baba</li> </ul>	Regional elimination focal persons
	Discussion	TAG-MEC members
17:15 – 17:20	Conclusions and next steps	Xiaohong Li
16:15 – 16:30	Closure of the meeting	Elkhan Gasimov

## Annex 2. List of participants

### Sixth and seventh meetings, 20 March and 10 June 2024

#### Group members

**Professor Pedro Alonso**

Faculty of Medicine & Hospital Clinic  
University of Barcelona  
Spain

**Professor Fred Binka**

School of Public Health  
University of Health and Allied Sciences  
Ghana

**Dr Keith H. Carter**

Senior Adviser, Malaria  
United States of America

**Professor Brian Greenwood**

Clinical Tropical Medicine  
London School of Hygiene and Tropical  
Medicine  
United Kingdom of Great Britain and  
Northern Ireland

**Dr Anatoly Kondrashin**

Martinovski Institute of Medical  
Parasitology and Tropical Medicine  
Sechenov First Moscow Medical  
University  
Russian Federation

**Professor Reza Majdzadeh**

School of Health and Social Care  
University of Essex  
United Kingdom

**Dr Kamini Mendis**

Independent Consultant on Malaria and  
Tropical Medicine  
Sri Lanka

**Professor Rossitza Ivanova Mintcheva**

Independent Consultant  
Bulgaria

**Dr Martha L. Quiñones**

Department of Public Health  
Medicine Faculty  
Universidad Nacional de Colombia  
Colombia

**Dr Frank Richards**

Senior Advisor  
River Blindness, Lymphatic Filariasis,  
Schistosomiasis and Malaria,  
Carter Center  
United States of America

**Dr Allan Schapira**

Independent Consultant  
Philippines

**Dr Laurence Slutsker**

Independent Consultant on Malaria and  
Global Health  
United States of America

**Professor Linhua Tang**

Former Director and Professor  
National Institute of Parasitic Diseases  
China Center for Disease Control and  
Prevention  
China

#### WHO regional staff

**Dr Risintha Premaratne**

Regional Advisor, Malaria  
WHO Regional Office for South-East Asia

**Dr Ghasem Zamani**

Regional Advisor, Malaria  
WHO Regional Office for the Eastern  
Mediterranean

#### Global Malaria Programme

**Mr Laurent Bergeron**

Project Officer  
Elimination Unit

**Mr Anderson Chinorumba**

Consultant  
Elimination Unit

**Dr Elkhana Gasimov**

Unit head  
Elimination Unit

**Dr Xiaohong Li**

Technical Officer  
Elimination Unit

**Dr Daniel Ngamiye Madani**

Director

**Ms Selome Tadesse Worku**

Team Assistant  
Elimination Unit

## Eight meeting, 3–4 December 2024

### Group members

**Professor Fred Binka**

School of Public Health  
University of Health and Allied Sciences  
Ghana

**Professor Brian Greenwood (virtual)**

Clinical Tropical Medicine  
London School of Hygiene and  
Tropical Medicine  
United Kingdom of Great Britain and  
Northern Ireland

**Professor Reza Majdzadeh**

School of Health and Social Care  
University of Essex  
United Kingdom

**Dr Kamini Mendis**

Independent Consultant on Malaria and  
Tropical Medicine  
Sri Lanka

**Professor Rossitza Ivanova Mintcheva (virtual)**

Independent Consultant  
Bulgaria

**Dr Martha L. Quiñones**

Department of Public Health  
Medicine Faculty  
Universidad Nacional de Colombia  
Colombia

**Dr Frank Richards**

Senior Advisor  
River Blindness, Lymphatic Filariasis,  
Schistosomiasis and Malaria  
Carter Center  
United States of America

**Dr Allan Schapira**

Independent Consultant  
Philippines

**Dr Laurence Slutsker**

Independent Consultant on Malaria and  
Global Health  
United States of America

**Professor Linhua Tang**

Former Director and Professor  
National Institute of Parasitic Diseases  
China Center for Disease Control and  
Prevention  
China

### WHO regional staff

**Dr Stela Bivol**

Head of Joint Infections Diseases Unit  
Division of Communicable Diseases  
Environment and Health  
WHO Regional Office for Europe

**Ms Ayodele Oyedokun-Aivoji**

Programme Assistant  
Joint Infections Diseases Unit  
Division of Communicable Diseases and  
Environment Health  
WHO Regional Office for Europe

**Dr Ebenezer Sheshi Baba**

Malaria Elimination Focal Point  
WHO Regional Office for Africa

**Dr Blanca Escribano Ferrer**

Malaria Elimination Focal Point  
WHO Regional Office for the Americas

**Dr James Kelley**

Team Lead, Malaria  
WHO Regional Office for the Western  
Pacific

**Dr Rsintha Premaratne**

Regional Advisor, Malaria  
WHO Regional Office for South-East Asia

### Global Malaria Programme

**Mr Anderson Chinorumba**

Consultant  
Elimination Unit

**Dr Elkhan Gasimov**

Unit Head  
Elimination Unit

**Dr Xiaohong Li**

Technical Officer  
Elimination Unit

**Dr Deepa Pindolia (virtual)**

Technical Officer  
Information for Response Unit

**Ms Selome Tadesse Worku**

Team Assistant  
Elimination Unit





For further information please contact:

**World Health Organization**

20 avenue Appia

1211 Geneva 27

Switzerland

Email: [GMPinfo@who.int](mailto:GMPinfo@who.int)

