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**2001–2010: Decade to Roll Back Malaria in Developing  
Countries, Particularly in Africa**

### **Consolidating gains and accelerating efforts to control and eliminate malaria in developing countries, particularly in Africa, by 2030**

#### **Note by the Secretary-General**

The Secretary-General has the honour to transmit to the General Assembly the report of the Director General of the World Health Organization, submitted in accordance with Assembly resolution [74/305](#).



**Report of the Director General of the World Health Organization on consolidating gains and accelerating efforts to control and eliminate malaria in developing countries, particularly in Africa, by 2030**

*Summary*

The present report is submitted in accordance with General Assembly resolution [74/305](#). It provides a review of progress in the implementation of the resolution, focusing on the adoption and scaling-up of interventions recommended by the World Health Organization in malaria-endemic countries. It also serves to elaborate on the challenges limiting the full achievement of the targets and provides recommendations to ensure that progress towards achieving the goals of the Global Technical Strategy for Malaria 2016–2030 is accelerated in the coming years.

## I. Introduction

1. While malaria is a preventable and treatable disease, it continues to have a devastating impact on the health and livelihood of people around the world. In 2019, there were an estimated 229 million cases of malaria and 409,000 malaria-related deaths in 87 countries. Children under the age of 5 in sub-Saharan Africa continue to account for approximately two thirds of global deaths from malaria.

2. The present report highlights progress and challenges in the control and elimination of malaria in the context of General Assembly resolution [74/305](#). It draws heavily on the *World Malaria Report 2020: 20 Years of Global Progress and Challenges*, a World Health Organization (WHO) analysis based on the latest available data (2019) received from malaria-endemic countries and organizations supporting global efforts to combat malaria. Data from 2020 are currently being consolidated and reviewed by WHO.

3. In May 2015, the World Health Assembly endorsed the Global Technical Strategy for Malaria 2016–2030, a technical framework for all countries working to control and eliminate malaria. The Strategy sets the goals of reducing malaria case incidence and death rates by at least 90 per cent by 2030 (compared with 2015 levels), eliminating malaria in at least 35 countries and preventing the re-establishment of malaria in all countries that are malaria-free. Milestones for 2020 include reductions in case incidence and mortality rates of at least 40 per cent and the elimination of malaria in at least 10 countries. For 2025, the milestones are a reduction in case incidence and mortality rates of at least 75 per cent and the elimination of malaria in at least 20 countries. In June 2021, WHO will publish an updated global strategy that reflects experiences and lessons learned from the past five years.

4. Malaria is included under target 3.3 of the Sustainable Development Goals. The target is aimed at ending the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases by 2030. With respect to malaria, WHO interprets that target to mean the attainment of the goals of the Global Technical Strategy. Expanded access to malaria interventions will also contribute to the broader health and development agenda embodied in the Goals and to global efforts to move towards universal health coverage.

5. In recent years, the pace of progress in the global malaria response has levelled off and, in many countries hardest hit by the disease, malaria is on the rise. In view of recent trends, the strategic mortality and morbidity milestones for 2020 will not be met – a challenge that is compounded by insufficient funding for malaria control. Urgent and concerted action is needed to set the global response to malaria back on track, particularly in countries with a high burden of malaria. In order to accelerate progress, starting in 2018, WHO and the RBM Partnership to End Malaria catalysed the “High burden to high impact” approach aimed at intensifying support for countries that have the highest burden of malaria.

6. In 2020, the coronavirus disease (COVID-19) pandemic emerged as a serious additional challenge to malaria responses and to the delivery of essential health services worldwide. Since the early days of the pandemic, WHO and its partners have raised concerns that lockdowns and other COVID-19 restrictions could lead to major disruptions to essential services for the prevention, detection and treatment of malaria. WHO has been leading a cross-partner effort to mitigate the impact of COVID-19 in malaria-affected countries.

7. The success of efforts to control and eliminate malaria is measured through an analysis of trends in the disease burden, access to key malaria control tools and progress towards the goals of the Global Technical Strategy. WHO recommends a

multi-pronged strategy to reduce the malaria burden, including the scaling-up of vector control interventions, preventive therapies, diagnostic testing, quality-assured treatment and robust malaria surveillance. The strengthening of health systems and the provision of a multisectoral response are also critical elements of the Strategy.

## II. Current situation

8. Despite a period of unprecedented success in global malaria control, with an estimated 1.5 billion cases and 7.6 million deaths averted over the past two decades, progress in recent years has stalled and many high-burden countries are losing ground. Between 2015 and 2019, no significant gains were made in reducing the total number of cases worldwide.<sup>1</sup> The estimated number of malaria deaths in 2019 stood at 409,000, compared with 453,000 in 2015.

9. The WHO African region accounted for an estimated 94 per cent of all malaria cases and deaths in 2019. More than half of all cases were in five countries: Nigeria (27 per cent of cases), Democratic Republic of the Congo (12 per cent), Uganda (5 per cent), Mozambique (4 per cent) and the Niger (3 per cent). About 3 per cent of all malaria cases were reported in the WHO South-East Asia region and 2.2 per cent in the WHO Eastern Mediterranean region. The WHO Western Pacific region and the WHO region of the Americas each accounted for fewer than 1 per cent of all cases. The WHO European region has been free of malaria since 2015.

10. Malaria continues to take a heavy toll on pregnant women and on children, particularly in Africa. Left untreated, malaria in pregnancy can lead to maternal death, anaemia and low-birth-weight, which is a major cause of infant mortality. In 2019, some 11.6 million pregnant women living in 33 African countries with moderate to high malaria transmission rates were infected with malaria, as a result of which, an estimated 822,000 children in those countries were born with a low birth weight.

11. Despite a global levelling off in progress, many countries with a low burden of malaria are moving quickly towards elimination. Ten countries reached the 2020 elimination milestone of the Global Technical Strategy. In addition, all countries that had been malaria-free in 2015 prevented the re-establishment of the disease. In February 2021, El Salvador was officially certified malaria-free by WHO. Globally, 38 countries and 1 territory have been awarded the certification.<sup>2</sup>

12. *Plasmodium falciparum* remained the most prevalent malaria parasite in the WHO African and South-East Asia regions in 2019, accounting for 99.7 per cent and 48 per cent of malaria cases, respectively. *P. vivax* was the predominant parasite in the WHO region of the Americas, representing 72 per cent of malaria cases. The *P. vivax* parasite accounted for approximately 34 per cent of malaria cases in the WHO Western Pacific region and for 23 per cent of cases in the WHO Eastern Mediterranean region.

### Vector control

13. Since 2000, expanded access to and use of insecticide-treated mosquito nets have made a major contribution to the reductions seen in the global malaria burden. However, current levels of insecticide-treated net coverage still fall far short of needs: in 2019, just over half of the people at risk of malaria in sub-Saharan Africa slept

<sup>1</sup> According to the *World Malaria Report 2020: 20 Years of Global Progress and Challenges*, there were an estimated 229 million cases in 2019, compared with 218 million cases in 2015.

<sup>2</sup> See [www.who.int/teams/global-malaria-programme/elimination/countries-and-territories-certified-malaria-free-by-who](https://www.who.int/teams/global-malaria-programme/elimination/countries-and-territories-certified-malaria-free-by-who).

under an insecticide-treated net. Coverage of nets has improved only marginally since 2015 and has been at a standstill since 2016.

14. Spraying the inside walls of homes with insecticides (indoor residual spraying) is another powerful way to reduce malaria transmission. Globally, indoor residual spraying protection declined from a peak of 5 per cent in 2010 to 2 per cent in 2019, with decreases seen in all WHO regions. The declines are occurring as countries switch from using pyrethroid insecticides to more expensive alternatives to mitigate mosquito resistance to pyrethroids.

15. While the use of DDT in agriculture is banned under the Stockholm Convention on Persistent Organic Pollutants, countries can continue to use DDT for malaria vector control, provided that the guidelines and recommendations of WHO and the Stockholm Convention are met and until locally appropriate alternatives are available for a sustainable transition away from DDT. It should be noted, however, that while DDT continues to be covered by a WHO policy recommendation, no WHO pre-qualified product is available, which means that WHO cannot guarantee the safety, quality or anticipated entomological efficacy of any DDT product used for vector control. WHO issued a position statement on DDT in 2011; an updated statement is expected in 2021 following an in-depth review of the evidence base.

16. The WHO *Global Vector Control Response 2017–2030* contains a plan to support countries in mounting coordinated efforts to counter the increasing burden and threat of all vector-borne diseases, including malaria. The strategic approach proposed in the response was strongly supported by member States at the seventieth World Health Assembly, held in May 2017. In a three-year progress report,<sup>3</sup> published by the WHO secretariat in 2020, it was found that, to date, most regions have developed strategic frameworks for global vector control response and conducted various normative and capacity-building activities.

## Preventive therapies

17. Since 2012, seasonal malaria chemoprevention has been recommended by WHO for children under the age of 5 in high-burden areas and areas with highly seasonal malaria transmission. Providing effective antimalarial treatment at monthly intervals during the high-transmission season has a protective effect of approximately 75 per cent against malaria among children under 5 years of age. In 2019, 21.5 million children in 13 African countries received this preventive malaria therapy, compared with 0.2 million in two countries in 2012.

18. Intermittent preventive treatment in infants is another WHO-recommended approach for protecting young African children in malaria-affected areas from disease and death. In 2019, Sierra Leone became the first country to roll out this effective prevention strategy. That same year, the International Drug Purchase Facility, UNITAID, issued a call for proposals aimed at accelerating the adoption and scaling up of the treatment in other sub-Saharan African countries, in response to the priorities outlined in recent editions of the *World Malaria Report*. In 2020, the Global Fund to Fight AIDS, Tuberculosis and Malaria agreed to provide support to five countries to integrate programmes for that treatment into their national malaria control activities.

19. To protect women in areas of moderate and high malaria transmission in Africa, WHO recommends at least three doses of intermittent preventive treatment in pregnancy with the antimalarial drug sulfadoxine-pyrimethamine. Doses should be given at monthly intervals starting as early as possible in the second trimester during

<sup>3</sup> WHO, *Global Vector Response: Progress in Planning and Implementation* (Geneva, 2020).

antenatal care visits. In 2019, just over one third (34 per cent) of pregnant women in 33 African countries received the recommended three or more doses, up from 31 per cent in 2018 and 2 per cent in 2010. Barriers to access to the treatment include the long distances that many pregnant women must travel to reach antenatal clinics and related transportation costs. Those who reach health facilities may have difficulty obtaining the preventive medicine owing to stock-outs or to insufficient information provided by health workers.

## Diagnostic testing and treatment

20. Diagnosing malaria infection and providing prompt treatment with an effective antimalarial drug are critical to reducing malaria-related disease and death. According to household surveys from 21 countries in sub-Saharan Africa, treatment-seeking rates for children with a fever have changed very little over the past 15 years. Surveys conducted in the period from 2015 to 2019 show that nearly one third (31 per cent) of febrile children under the age of 5 did not receive care, compared with 36 per cent in the period from 2005 to 2011.

21. Among febrile children who were taken to a health provider for care, the rate of diagnosis has increased considerably, from a median of 15 per cent in the 2005 to 2011 baseline surveys to 38 per cent in the latest surveys, conducted in the period from 2015 to 2019. Among children with a fever who benefited from malaria treatment, the use of artemisinin-based combination therapies more than doubled, from 39 per cent in the 2005 to 2011 baseline surveys to 81 per cent in the 2015 to 2019 surveys.

22. Integrated community case management is an effective strategy for providing children with access to the diagnosis and treatment of malaria, pneumonia and diarrhoea in hard-to-reach and underserved communities. It involves extending the reach of peripheral health facilities by using trained community health workers who are able to assess, manage and refer children affected by these diseases and malnutrition. Although around 30 countries have implemented an integrated community case management approach at various levels, its roll-out in most sub-Saharan African countries remains very limited, mainly owing to bottlenecks in the financing of primary health-care systems.

## Biological threats to malaria control

23. WHO continues to closely monitor four biological threats to malaria control and elimination: (a) mosquito resistance to insecticides used in vector control tools; (b) parasite resistance to antimalarials; (c) histidine-rich protein 2/3 (HRP2/3) gene deletions in *P. falciparum* parasites; and (d) invasive vector species. All available data can be found on the WHO website through the Malaria Threats Map tool.<sup>4</sup>

### Insecticide resistance

24. Global progress in malaria control is threatened by the rapid development and spread of mosquito resistance to the insecticides used in insecticide-treated nets and indoor residual spraying. Of the 82 malaria-endemic countries that provided data for the period from 2010 to 2019, resistance to at least one of the four insecticide classes in one malaria vector from one collection site was detected in 73 countries. In 28 countries, resistance to all of the main insecticide classes was reported.

<sup>4</sup> Available at <http://apps.who.int/malaria/maps/threats/>.

25. Despite an increasing number of reports of insecticide resistance, evidence of its public health impact is scarce. A large WHO multi-country evaluation conducted between 2011 and 2015 found that insecticide-treated nets continued to provide significant protection against malaria, even in areas in which mosquitoes had developed resistance to pyrethroids (the most common insecticide class used in such nets).<sup>5</sup>

26. To maintain the impact of existing vector control tools, WHO has underscored the critical need for all malaria-endemic countries to develop and apply effective insecticide resistance management strategies. In parallel, WHO encourages greater investment in the development of new and improved vector control tools, as well as the comprehensive evaluation of such new tools, in order to inform the development of WHO recommendations.

### Drug resistance

27. Protecting the efficacy of antimalarial drugs is another critical priority for WHO. In a recent WHO report,<sup>6</sup> published in November 2020, it was found that, overall, first- and second-line artemisinin-based combination therapies have been effective in curing *P. falciparum* malaria over the past decade. In areas where high rates of drug failure were reported, treatment policy changes of the first-line treatment have been made or are ongoing. In general, the immediate threat of antimalarial drug resistance is low, and drug failure is unlikely to have played a role in the recent global trends documented in the *World Malaria Report*.

28. Within the Greater Mekong subregion, partial resistance to artemisinin and partner drugs of artemisinin-based combination therapies has been detected in five countries over the past decade, namely, Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand and Viet Nam. In response, ministers of health in the subregion adopted the Strategy for Malaria Elimination in the Greater Mekong Subregion (2015–2030); priority actions are targeted to areas in which multidrug-resistant parasites have been detected.

29. Outside the Greater Mekong subregion, findings from two countries, Guyana and Rwanda, are a cause for concern. In 2010 and 2017, Guyana reported a validated molecular marker associated with partial artemisinin resistance (C580Y). In Rwanda, studies from 2018 also showed an increase in the prevalence of a validated marker of partial artemisinin resistance (R561H). However, to date, artemisinin-based combination therapies remain effective in both countries.

30. WHO is working with national malaria programmes, research institutions and other partners, within and outside the Greater Mekong subregion, to map the presence of antimalarial drug resistance, monitor drug efficacy and ensure that patients have access to effective treatment. With support from WHO and its partners, all countries in the Greater Mekong subregion have aligned their national malaria plans with the WHO subregional strategy and are reporting monthly malaria surveillance data to a regional data-sharing platform funded by the Global Fund.

31. By accelerating efforts to prevent, diagnose and treat malaria among at-risk communities, many countries have seen a steep downward trend in their malaria burden: between 2012 and 2019, the number of malaria cases in the subregion fell by

<sup>5</sup> WHO, "Implications of insecticide resistance for malaria vector control", November 2016. The findings of the study are available at [www.who.int/malaria/publications/atoz/insecticide-resistance-implications/en/](http://www.who.int/malaria/publications/atoz/insecticide-resistance-implications/en/).

<sup>6</sup> WHO, *Report on Antimalarial Drug Efficacy, Resistance and Response: 10 Years of Surveillance (2010–2019)* (Geneva, 2020).

83 per cent and the number of malaria deaths fell by 95 per cent.<sup>7</sup> Notably, there has been a steep decline in cases of *P. falciparum* malaria, a primary target in view of the ongoing threat of antimalarial drug resistance.

### **Histidine-rich protein 2/3 gene deletions**

32. In some countries, increasing levels of HRP2/3 gene deletions threaten the ability of health providers to diagnose and appropriately treat people infected with *P. falciparum* malaria. An absence of the gene enables parasites to evade detection by HRP2/3-based rapid diagnostic tests. HRP2/3 gene deletions by parasites were first identified in 2010 in the Amazon Basin in Peru and have been documented in recent years outside South America, including in parts of Asia, the Middle East and Africa, especially in the Horn of Africa. Prevalence estimates vary widely both within and between countries. WHO has developed a global response plan and is working with countries to measure the prevalence of gene deletions and to help them to address the implications for case management. Manufacturers are responding to the challenge by developing tests that target alternative antigens; at least three products will undergo WHO pre-qualification assessment in 2021.

### **Invasive vector species**

33. The recent detection of *Anopheles stephensi* in Sri Lanka and the Horn of Africa underscores the potential for vector species to spread and establish themselves in new geographical areas. *An. stephensi* is a highly efficient urban malaria vector traditionally reported from certain countries in South-East Asia and the Arabian Peninsula. Since 2012, it has been detected in Djibouti (2012), Ethiopia (2016), Sri Lanka (2017) and, most recently, in the Sudan (2019). The invasion of *An. stephensi* has contributed to the resurgence of malaria in Djibouti City. In Sri Lanka, the recent invasion of this vector could jeopardize efforts to prevent the re-establishment of malaria. In Africa, given the rapid growth of cities, the further spread and establishment of *An. stephensi* in urban environments could put the gains in malaria burden reduction made since 2000 at risk.

### **Elimination and certification**

34. While progress in the global response to malaria has levelled off, a subset of countries with a low burden of malaria is moving swiftly towards elimination. Between 2000 and 2019, the number of countries with fewer than 100 indigenous malaria cases – a strong indicator that malaria elimination is within reach – increased from 6 to 27. Over the same period, 21 countries reported at least three consecutive years of zero indigenous malaria cases.

35. Ten countries reached the 2020 elimination milestone of the Global Technical Strategy: Algeria, Azerbaijan, Belize, Cabo Verde, China, El Salvador, Iran (Islamic Republic of), Malaysia, Sri Lanka and Tajikistan. To reach that milestone, a country that had been malaria-endemic in 2015 had to report, by the end of 2020, that indigenous malaria cases had been reduced to zero for at least one year. Since 2017, many countries have been supported in reaching their elimination goals through the WHO “E-2020 initiative”. In April 2021, WHO published a report charting progress and lessons learned by the 21 member countries of the initiative.

36. The 2020 milestone of the Global Technical Strategy, concerning prevention of the re-establishment of malaria, was also achieved. None of the countries that had

<sup>7</sup> WHO, “Countries of the Greater Mekong ready for the ‘last mile’ of malaria elimination”, Mekong Malaria Elimination Programme Bulletin, No. 9 (December 2020).



been malaria-free in 2015 reported having three or more years of indigenous malaria transmission by the end of 2020.

37. Countries that achieve at least three consecutive years of zero indigenous cases of malaria are eligible to apply for an official WHO certification of malaria elimination. In February 2021, El Salvador became the first country in Central America to be awarded the malaria-free certification. In 2020, after reporting zero indigenous cases of malaria for the fourth consecutive year, China applied for the certification.

38. In 2017, WHO released a framework for malaria elimination to provide guidance on the activities and strategies required to achieve the elimination of malaria and prevent the re-establishment of transmission in all countries, regardless of where they lie on the spectrum of transmission intensity. A new WHO manual,<sup>8</sup> published in January 2021, provides extended guidance to countries that are nearing elimination or preparing for WHO certification of malaria elimination.

## **Eradication**

39. In August 2016, WHO established the Strategic Advisory Group on Malaria Eradication to advise it on the feasibility, potential strategies and cost of eradicating malaria over the next decades, building on the goals and targets set in the Global Technical Strategy and in the context of the Sustainable Development Goals. In 2017, the group developed an initial set of recommendations that clarified current terminology on “elimination” and “eradication” and affirmed the long-standing commitment of WHO to the goal of eradication. The recommendations were captured in a report to the WHO Executive Board at its 141st session.

40. In April 2020, after a three-year study of trends and future projections, members of the Advisory Group released a detailed report<sup>9</sup> on the group’s key findings and recommendations. The group identified six areas that would underpin a successful malaria eradication effort: reinforcement of the Global Technical Strategy; research and development of new tools; access to affordable, high-quality, people-centred health care and services; adequate and sustained financing; strengthened surveillance and response; and community engagement. While reaffirming the WHO vision of a world free of malaria, members of the Advisory Group recognized that current progress towards critical global targets is off track, and that the goal of eradication is still far from reach.

## **Surveillance**

41. A malaria surveillance system comprises the tools, procedures, people and structures that generate information on malaria cases and deaths. Strong surveillance systems enable national malaria control programmes to: identify gaps in programme coverage and respond effectively to disease outbreaks; guide changes in programme planning so that resources are directed to populations most in need; and regularly assess the impact of control measures in reducing disease burden.

42. Strengthening surveillance systems is a key pillar of the Global Technical Strategy, as part of which countries are urged to substantially expand malaria surveillance and transform it into an intervention that is as important as vector control, diagnostic testing and treatment. In addition to helping to accelerate progress towards

<sup>8</sup> WHO, *Preparing for Certification of Malaria Elimination* (Geneva, 2020).

<sup>9</sup> WHO, *Malaria Eradication: Benefits, Future Scenarios and Feasibility – A Report of the Strategic Advisory Group on Malaria Eradication* (Geneva, 2020).

the 2030 targets, increased investment in malaria surveillance will ease the current reliance on model-based disease estimation methods.

43. While considerable improvements have been made in the past few years, surveillance systems in many countries, in particular those with a high burden of malaria, must be further strengthened. The *World Malaria Report 2020: 20 Years of Global Progress and Challenges* highlights a number of actions that are needed, such as the harnessing of digital solutions to improve the efficiency, timeliness and quality of surveillance, which includes moving away from tallying the aggregate number of cases by hand to, where possible, keeping electronic case records. Among the other actions recommended is the use of data to inform communities about the services that are available to them, their rights regarding access to them and their exposure to risks.

### III. Global framework and partnerships

44. The Global Technical Strategy provides a technical framework for all malaria-endemic countries that are working to control and eliminate malaria. It was developed in close consultation with those countries and their partners, and the process was overseen by the Malaria Policy Advisory Committee and a dedicated steering committee.

45. The document is built on three pillars: (a) ensure universal access to malaria prevention, diagnosis and treatment; (b) accelerate efforts towards the elimination and attainment of malaria-free status; and (c) transform malaria surveillance into a core intervention. The pillars are complemented by two supporting elements: harnessing innovation and expanding research, and strengthening the enabling environment.

46. An upcoming revised global strategy, to be published by the WHO secretariat in June 2021, considers the stalling of progress in recent years, as well as the impact of the COVID-19 pandemic. The guiding principles and supporting elements of the strategy have been updated to re-emphasize the need for country ownership of malaria responses; interventions tailored to local data and evidence; sustainable, resilient health systems; and the acceleration of research and development. The strategy is fully aligned with the thirteenth General Programme of Work (2019–2023) of WHO and the triple billion targets, as well as with the Sustainable Development Goals and the global universal health coverage agenda.

47. The strategy relies upon the adoption and adaptation of the *WHO Guidelines for Malaria*, launched by the WHO secretariat in February 2021. The Guidelines bring together, for the first time, the organization's most up-to-date recommendations on malaria in one user-friendly online platform. The consolidation of WHO malaria guidelines is one of a number of actions that the organization has taken in recent years to make its guidance more accessible to end users in malaria-endemic countries.

48. The revised strategy highlights the subnational tailoring of malaria control interventions through the process of stratification as a key approach to optimizing malaria responses within a country or territory. Stratification is an approach by which a country or area is divided into smaller units in which various combinations of interventions may need to be delivered.<sup>10</sup> On the basis of these analyses, evidence-informed national malaria strategic plans should be developed that are owned and led by countries.

<sup>10</sup> WHO, *WHO Technical Brief for Countries Preparing Malaria Funding Requests for the Global Fund (2020–2022)* (Geneva, 2020).

49. The Global Technical Strategy provides the technical underpinning for *Action and Investment to Defeat Malaria 2016–2030 – For a Malaria-Free World*, a publication issued in 2015 by the RBM Partnership to End Malaria. The publication focuses on supporting the implementation of the Global Technical Strategy through advocacy, resource mobilization, partner harmonization and the engagement of the public and private sectors. The publication is currently under review and is expected to be updated in mid-2021.

### **“High burden to high impact” initiative**

50. The “High burden to high impact” initiative was launched in 2018 by WHO and the RBM Partnership to End Malaria as a mechanism to accelerate progress in the countries that carry the highest burden of malaria. The initiative is founded on four pillars: political will to reduce malaria deaths; strategic information to drive impact; better guidance, policies and strategies; and a coordinated national malaria response. It is being led by 11 countries (10 in Africa, plus India), which in 2017 accounted for approximately 70 per cent of the world’s malaria burden.

51. Since 2018, progress on the four pillars has been made in a number of participating countries. In Uganda, for example, eliminating malaria has been incorporated into the national development plan, which calls for the mainstreaming of efforts to eradicate the disease within the budgets of sectors beyond the health sector and for the championing of initiatives involving engagement with a broader range of partners, including from the private sector and local communities. In the Democratic Republic of the Congo, six high-burden provinces have developed costing operational plans to accelerate the reduction of their malaria burden.

52. While it is too early to measure the impact of the “High burden to high impact” approach, malaria-related deaths in the 11 participating countries were reduced from 263,000 in 2018 to 226,000 in 2019, and the estimated number of cases in those countries increased from 155 million to 156 million. Two of the countries achieved significant reductions in the number of malaria cases in 2019 compared with the previous year: India (1.2 million fewer cases) and Mali (800,000 fewer cases). Two countries reported significant increases: Nigeria (2.4 million more cases) and the Democratic Republic of the Congo (1.2 million more cases).

53. With support from WHO and its partners, the participating countries have been collecting and analysing malaria data to better understand the geographical distribution of the disease and the potential impact of applying prioritized mixes of malaria control interventions. The analyses will enable countries to use available funds in a more effective, efficient and equitable way. In a recent analysis from Nigeria, for example, it was found that through an optimized mix of interventions, rather than a business-as-usual approach, the country could avert tens of millions of additional cases and thousands of additional deaths by 2023.<sup>11</sup>

### **Malaria and the pandemic**

54. In March 2020, WHO initiated a cross-partner effort to mitigate the negative impact of the COVID-19 pandemic in malaria-affected countries and, where possible, contribute to a successful COVID-19 response. The work has been carried out in close collaboration with malaria experts and leaders from nearly 20 partner organizations.

<sup>11</sup> *World Malaria Report 2020*.

55. In the early days of the pandemic, WHO issued an urgent call to malaria-endemic countries to ensure the continuity of essential malaria control services and at the same time to protect health workers and communities against COVID-19 transmission. In an analysis by WHO and partners, published in April 2020 to reinforce this urgent call, it was found that in the worst-case scenario, the number of malaria deaths in sub-Saharan Africa could double in 2020 compared with 2018.

56. Heeding the call, many malaria-endemic countries mounted impressive responses during the pandemic, adapting their delivery of malaria services to the restrictions imposed by Governments as a result of the pandemic. Guidance developed by WHO and its partners, entitled “Tailoring malaria interventions in the COVID-19 response”,<sup>12</sup> has been critical in helping countries to adapt their responses to ensure the safe delivery of services for the prevention, detection and treatment of malaria.

57. Most malaria prevention campaigns moved forward in 2020 without major delays. However, even where these campaigns have been completed, moderate disruptions in access to effective antimalarial treatment could lead to a considerable loss of life. According to WHO projections, for example, a 10 per cent disruption in access to effective antimalarial treatment in sub-Saharan Africa could lead to an additional 19,000 deaths.

## Global partnership and political commitment

58. The world’s first malaria vaccine, known as RTS,S, is now reaching hundreds of thousands of African children in Ghana, Kenya and Malawi through a WHO-coordinated pilot programme. Beginning in 2019, ministries of health in each of the pilot countries led the vaccine introduction in selected areas, in collaboration with in-country and international partners, including WHO; Program for Appropriate Technology in Health (PATH), a non-profit organization; and GlaxoSmithKline, the vaccine manufacturer. Financing for the programme has been secured from three global health funding bodies: the Gavi Alliance, the Global Fund and UNITAID. RTS,S has been shown in a rigorous phase 3 clinical trial to prevent 4 out of 10 malaria cases, including 3 out of 10 cases of severe forms of the disease. Evidence and experience from the pilot programme will inform a policy decision by WHO on the potential wider deployment of the vaccine in Africa in 2021.

59. The Roll Back Malaria Partnership was transformed in 2016 to enhance its contribution to the fight against malaria. The strategic objectives of the rebranded RBM Partnership are: (a) to keep malaria high on political and development agendas through a robust multisectoral approach, with a view to ensuring continued commitment and investment to achieve the milestones and targets of the Global Technical Strategy and the *Action and Investment to Defeat Malaria 2016–2030* report; (b) to promote and support regional approaches to combating malaria, anchored in existing political and economic platforms, such as regional economic communities; and (c) to promote and advocate sustainable malaria financing, with substantial increases in domestic financing.

60. The Special Programme for Research and Training in Tropical Diseases and UNITAID, hosted by WHO, are other important partners in global efforts to combat malaria. WHO collaborates with the Special Programme on implementation research projects and with UNITAID on scaling up access to innovative health products.

61. Countries in the Asia-Pacific region launched the Asia-Pacific Leaders Malaria Alliance in October 2013, with a mission to support and facilitate the elimination of malaria throughout the region by 2030, or earlier if possible. WHO supports the

<sup>12</sup> WHO, “Tailoring malaria interventions in the COVID-19 response”, 9 April 2020.

secretariat of the Alliance in Singapore through the provision of technical guidance. The Leaders' Dashboard of the Alliance enables countries to track malaria elimination progress and achievements across all sectors; it was developed in close collaboration with WHO, drawing on indicators from the *World Malaria Report*.

## IV. Funding needs

62. Global malaria funding levels have plateaued in recent years and remain insufficient to achieve global targets. In 2019, total funding for malaria control and elimination reached an estimated \$3 billion, falling far short of the \$5.6 billion funding target of the Global Technical Strategy.

63. Of the \$3 billion invested in 2019, \$2.1 billion came from international funders, with over \$1.2 billion (40 per cent) channelled through the Global Fund. The highest contributions came from the United States of America (\$1.1 billion), followed by the United Kingdom of Great Britain and Northern Ireland (\$200 million). France, Germany and Japan each contributed an estimated \$100 million, while other countries and private sector donors contributed a combined \$400 million. In 2019, Governments of malaria-endemic countries contributed about 31 per cent of total malaria funding, with investments of approximately \$900 million.<sup>13</sup>

64. Robust financing will be essential to meeting the targets of the Global Technical Strategy for 2025 and beyond. The historic \$14 billion replenishment of the Global Fund and the increased malaria funding by the President's Malaria Initiative have been important and positive milestones in the past few years. However, with a \$2.6 billion funding gap in 2019, additional commitments are needed.

## V. Recommendations

65. The findings set out in the *World Malaria Report* in recent years signal a clear need for greater investment in malaria control, particularly in countries in the WHO African region that have a high malaria burden. Countries and their development partners should prioritize support for the most vulnerable – pregnant women and children in Africa. Adequate and predictable financing is essential to sustaining progress in efforts to combat malaria.

66. Political commitment to universal health coverage must be translated into domestic resources and actions in malaria-endemic countries to ensure that all those in need have access to the appropriate mix of interventions for malaria, without facing financial hardship. Primary health care is the cornerstone of meeting the health needs of individuals and engaging communities in response efforts.

67. There is an urgent need to make more effective use of the tools currently available for the prevention, diagnosis and treatment of malaria, particularly in high-burden settings. Gaps in the coverage of proven interventions must be found and filled. The “High burden to high impact” initiative is supporting countries in scaling up the appropriate mixes of interventions using accessible and affordable front-line services in primary health-care settings.

<sup>13</sup> *World Malaria Report 2020*.

68. There is also a critical need to strengthen malaria surveillance and data quality in all malaria-endemic regions. Reliable health information is essential for developing sound strategic plans, ensuring that resources are targeted efficiently and equitably, and measuring the impact of interventions.

69. In order to achieve better impact and ensure that successes are sustained, countries are encouraged to increasingly adopt a holistic approach, anchored in the Sustainable Development Goals. A multisectoral approach to malaria control that builds on synergies with other development priorities will be needed in order to optimize malaria interventions, tackle inequities and address the broader determinants of disease.

70. The contributions of the scientific community and the private sector remain essential: new products, such as improved diagnostic tools and vaccines, more effective medicines, new insecticides and more durable insecticide-treated bed nets, are fundamental to ensuring sustained progress in efforts to combat the disease. Progress in combating malaria can be maintained only through a concerted and focused multi-stakeholder effort, built on the foundations of political commitment, continuous scientific advancement and vigorous innovation.

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