



World malaria report 2021

ISBN 978-92-4-004049-6 (electronic version) ISBN 978-92-4-004050-2 (print version)

## © World Health Organization 2021

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 (https://www.wipo.int/amc/en/mediation/rules/).

**Suggested citation.** World malaria report 2021. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

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

**Sales, rights and licensing.** To purchase WHO publications, see https://apps.who.int/bookorders. To submit requests for commercial use and queries on rights and licensing, see https://www.who.int/about/licensing.

**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.

Layout: Claude Cardot/designisgood.info Cover design: Lushomo (Cape Town, South Africa)

Map production: WHO Global Malaria Programme and WHO Data, Analytics and Delivery for Impact team (DDI).

Please consult the WHO Global Malaria Programme website for the most up-to-date version of all documents (https://www.who.int/teams/global-malaria-programme).

## **Contents**

Fo	rewo	rd	vi
Ac	know	vledgements	ix
Ab	brev	iations and acronyms	xii
Th	is yed	ar's report at a glance	xiv
1.	Intro	oduction	1
2.	<ul><li>2.1</li><li>2.2</li><li>2.3</li><li>2.4</li></ul>	rview of key events in 2020–2021 Global strategies Guideline development process and the consolidated WHO guidelines for malaria WHO recommendation on the use of the RTS,S malaria vaccine Emergence of artemisinin partial resistance in the WHO African Region Humanitarian and health emergencies Malaria response during the COVID-19 pandemic	2 7 8 10 11
3.	3.1	cal trends in the burden of malaria Global estimates of malaria cases and deaths, 2000–2020	22
	3.2	Estimated malaria cases and deaths in the WHO African Region, 2000–2020 Estimated malaria cases and deaths in the WHO South-East Asia Region, 2000–2020	<ul><li>26</li><li>28</li></ul>
	3.4	Estimated malaria cases and deaths in the WHO Eastern Mediterranean Region, 2000–2020	30
		Estimated malaria cases and deaths in the WHO Western Pacific Region, 2000–2020	32
		Estimated malaria cases and deaths in the WHO Region of the Americas, 2000–2020	34
	3.8 3.9	Estimated malaria cases and deaths in the WHO European Region, 2000–2020 Cases and deaths averted since 2000, globally and by WHO region Severe malaria: age patterns and phenotypes by transmission intensity	36 36 38
		Burden of malaria in pregnancy	42
4.	4.1 4.2 4.3 4.4	ination  Malaria elimination certification E-2020 initiative E-2025 initiative The Greater Mekong subregion Prevention of re-establishment	46 48 48 48 50
5.		burden to high impact approach Programmatic progress in HBHI countries in 2020–2021 Malaria burden in HBHI countries	52 52 55
6.	Inve 6.1 6.2	stments in malaria programmes and research Funding trends for malaria control and elimination Investments in malaria-related R&D	56 56 64
7.	7.1 7.2 7.3 7.4	Distribution and coverage of malaria prevention, diagnosis and treatment Distribution and coverage of ITNs Population protected with IRS Scale-up of SMC Coverage of IPTp use by dose Malaria diagnosis and treatment	66 66 69 70 72

R	Glob	pal progress towards the GTS milestones	78	
Ο.	8.1	Global progress	78	
	8.2	WHO African Region	82	
	8.3	WHO Region of the Americas	84	
	8.4	WHO Region of the Americas WHO Eastern Mediterranean Region	86	
	8.5		87	
		WHO South-East Asia Region		
	8.6	WHO Western Pacific Region	88	
9.	Biolo	ogical threats	90	
	9.1	Deletions in <i>P. falciparum</i> histidine-rich protein 2 and protein 3 genes	90	
	9.2	Status of antimalarial drug efficacy and resistance (2015–2020)	91	
	9.3	Vector resistance to insecticides	96	
	9.4	Anopheles stephensi invasion and spread	100	
10.	Key	findings and conclusion	102	
		Countries made strenuous and impressive efforts to mitigate the impact		
		of service disruptions during the COVID-19 pandemic	102	
	10.2	Malaria is an acute disease and even moderate disruptions in services		
		have a considerable impact on the burden of malaria	103	
	10.3	New WHO methodology for quantifying CoD in children aged under		
		5 years suggests that malaria has had a bigger toll on children than		
		previously estimated	103	
	10.4	The COVID-19 pandemic started at a time when the progress in malaria	100	
	10 5	had plateaued and a global response was taking shape	103	
	10.5	Despite the stalling of progress and disruptions during the pandemic,	103	
	100	some countries continue to make progress		
		There are significant and growing coverage gaps for WHO-recommended tools	104	
	10.7	Convergence of threats could thwart the fight against malaria in sub-Saharan Africa	104	
	10.8	What is needed to reach global malaria targets	104	
Re	References			
ΑN	Annexes			

## **Foreword**



**Dr Tedros Adhanom Ghebreyesus**Director-General
World Health Organization

This year's *World malaria report* surveys the extent of damage wrought by the COVID-19 pandemic to the global malaria response, and outlines what is needed to get back on track and accelerate progress in the fight against one of our oldest and most deadly diseases.

There were an estimated 14 million more malaria cases and 47 000 more deaths in 2020 compared to 2019, due to disruptions to services during the pandemic. However, things could have been far worse if not for the efforts of malaria endemic countries to maintain services.

Even before the pandemic, global progress against malaria had levelled off, and countries with a high burden of the disease were losing ground. Since 2015, the baseline of WHO's global malaria strategy, 24 nations have registered *increases* in malaria mortality. Now, critical 2020 milestones of WHO's global malaria strategy have been missed, and without immediate and dramatic action, the 2030 targets will not be met.

Compounding the need for urgent action, this report also includes sobering new estimates of malaria's toll on children under 5 years of age in sub-Saharan Africa, where a vast majority of malaria deaths occur each year. Using better data and more accurate methodology, it suggests the disease has claimed many more young lives over the past two decades than previously reported

预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5\_23461

