



衛生防護中心
Centre for Health Protection

Scientific Committee on Vector-borne Diseases

Global Malaria Risk Summary February 2016

Introduction

1. Malaria is a notifiable disease in Hong Kong. Since 1998, annual malaria notifications ranged from 20 to 55 cases and the vast majority of these cases were imported from outside Hong Kong. The last local indigenous malaria case was reported in 1998, yet there was no definite source of infection identified.
2. Based on an initial discussion on malaria epidemiology, the Scientific Committee on Vector-borne Diseases (the Committee) developed the “Guidelines on Malaria Chemoprophylaxis for Travellers from Hong Kong” for reference by healthcare professionals.
3. In support of the Guidelines, the Committee also compiled the malaria risk of various countries or administrative areas for healthcare professionals' reference in October 2010. The Committee recommended this “Global Malaria Risk Summary” (the Risk Summary) be updated and reviewed on an annual basis at the Committee meetings. This paper highlights the major changes in the global malaria epidemiology in the past one year.

Objectives

4. This document serves to provide general reference for healthcare professionals in their management of potential travellers to areas with malaria risk. It is to be used together with the “Guidelines on Malaria Chemoprophylaxis for Travellers from Hong Kong”, published by the Committee which is available in the website of the Centre for Health Protection of the Department of Health.

Methods and Explanatory Notes

5. Understanding the global distribution of areas with malaria risk relies on accurate disease and laboratory surveillance information supplied by various countries and administrative areas. Apart from the World Health Organization (WHO), the health authorities in the United States (US), the United Kingdom (UK), and Canada also compile malaria epidemiology information together with recommendation for outbound travellers.



6. This Risk Summary is compiled based on the epidemiology information as well as malaria prevention strategies recommended by these health authorities. While information on malaria risk published by these overseas health authorities most often concurs, there may be different levels of details and occasional discrepancies among different sources. To allow for a better assessment of the risks, the details of such discrepancies are described in the Risk Summary. Nonetheless, as a general principle, even in countries with malaria risk, the risk of malaria infection is generally lower in areas with altitudes greater than 2,000 m or in well-developed city areas.

7. As regards the recommendation, it is notable that mosquito-bite prevention is highlighted in all authorities. In the latest version of guideline, WHO continues to state that *P. falciparum* resistance to chloroquine is nearly universal. WHO, US CDC and Canada recommends chemoprophylaxis by atovaquone-proguanil, doxycycline, or mefloquine for all countries with reported chloroquine-resistant malaria. On the other hand, UK still recommends using chloroquine plus proguanil for chemoprophylaxis in travelers visiting areas with little chloroquine resistance, and atovaquone-proguanil, doxycycline or mefloquine in areas with high risk of chloroquine resistance. Hence, “4C: Emerging chloroquine-resistant malaria exists in certain areas” is removed from risk category 4 while the recommendation remained the same.

8. In order to better reflect the current epidemiology and recommendations, we have developed a set of risk and recommendation categories. A total of five main categories of risk levels with the respective recommended malaria prevention approaches are defined as shown in **Annex 1**. **Annex 2** shows the Risk Summary with the respective risk and recommendation categories for each country or administrative area. Additional accounts of the specific risk descriptions together with the discrepancy of risk information among different sources are given to allow for a better understanding and risk assessment of the situation. **Annex 3** summarizes the risk and recommendation profiles of the countries or administrative areas in the six WHO regions.

Updates from October 2014 to February 2016

9. Over the past year, the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC) of US and the Public Health England (PHE) of UK provided updated malaria situation and recommendations on malaria prevention for travellers. From time to time, WHO, US CDC, UK PHE and the Public Health Agency of Canada issued updated reports on malaria outbreaks. **Annex 2** of this document has been updated accordingly with the changes detailed below.

Major Outbreak Reports

10. Over the past year, no major change in malaria burden has been reported.

11. PHE reported a rise in cases of malaria in Dakshina Kannada and Udupi of Karnataka state, India on 28 January 2015. The two districts together have reported more than 9,800 cases of malaria in 2014 which is more than 50 per cent of the total cases of malaria in the state. There has also been an increase in the number of *P. falciparum* malaria cases in the Dakshina Kannada.

12. US CDC provided an update on malaria cases in Brazil as of 1 June 2015. In March 2015, locally-transmitted malaria cases were reported in Goias and Rio de Janeiro States in Brazil. In Goiania City of Goias State, 5 locally-transmitted *P. vivax* malaria cases were identified in March 2015 and 11 cases in October and November

2014 respectively. In the central part of the state of Rio de Janeiro, 23 cases of locally-transmitted *P. vivax* malaria cases were identified in the forested, mountainous areas from mid January to late February 2015. There have been no other reports of local transmission of malaria in these two states since the last report.

Updates in the Global Malaria Risk Summary for Countries with Change in Risk Category and Recommendation

13. This year, three countries namely El Salvador, Iraq and Syrian Arab Republic (Syria) have their malaria risk categories and recommendations revised.

14. The malaria risk of El Salvador has changed from “Risk of chloroquine-sensitive malaria exists in certain areas (risk category: 3B)” to “Malaria risk reported to be very limited (risk category: 2)”. According to WHO, there is very low malaria risk due almost exclusively to *P. vivax* which exists in rural areas prone to migration from Guatemala and sporadic *P. vivax* malaria cases are reported from specific parts of the country. Mosquito bite prevention is recommended in view of the very limited risk of malaria transmission. According to UK, there is a low risk of malaria in rural areas of Santa Ana, Ahuachapán and La Unión provinces in western El Salvador while low to no risk in the rest of the country, and only bite avoidance is needed. Both US CDC and Canada state that rare cases along Guatemalan border are reported, and only mosquito avoidance is recommended. As such, the malaria risk and recommendation are changed to 2 and II respectively.

15. The malaria risk of Iraq has changed from “Risk of chloroquine-sensitive malaria exists in certain areas (risk category: 3B)” to “Malaria risk reported to be very limited (risk category: 2)”. According to WHO, limited malaria risk due exclusively to *P. vivax* exists from May to November inclusive in areas in the north below 1500m, namely Duhok, Erbil and Sulaimaniya provinces. No indigenous cases have been reported since 2009. WHO concludes that no prevention is required in the risk areas. According to UK, a very low risk of malaria presents in the rural northern area below 1500m, from May to November while no risk in the rest of the country. Thus, only bite avoidance is recommended. There is no risk of malaria according to US CDC while no locally acquired cases reported since 2009 according to Canada. Both do not recommend any preventive measure. As such, the malaria risk and recommendation are changed to 2 and II respectively.

16. The malaria risk of Syrian Arab Republic (Syria) has changed from “Risk of chloroquine-sensitive malaria exists in certain areas (risk category: 3B)” to “Malaria risk reported to be very limited (risk category: 2)”. According to WHO, very limited malaria risk due exclusively to *P. vivax* exists from May to October inclusive in foci along the northern border, especially rural areas of El Hasaka Governorate. WHO concludes that no prevention is required in the risk areas. Similarly, UK states that a very low risk of malaria presents in small remote foci of El Hasaka and only bite avoidance is necessary. On the other hand, there is absence of malaria transmission according to both US CDC and Canada. As such, the malaria risk and recommendation are changed to 2 and II respectively.

Other Updates in the Global Malaria Risk Summary for countries without Change in Risk Category and Recommendation

17. A total of 27 countries/administrative areas distributed in the six WHO regions have updates in the risk descriptions about the geographical and seasonal distribution, altitude, predominant species and resistance pattern of malaria.

Nonetheless, there is no change in their risk categories and recommendations. The following summarizes the changes with respect to each of the WHO Regions.

- African Region: One of the 47 countries/areas in the region, Botswana has its risk description updated.
- For Botswana, Central and Ghanzi are removed from the provinces with risk of malaria transmission according to Canada.
- The Americas Region: The prevailing species of malaria parasites and the areas at risk for contracting malaria in 11 out of the 46 countries/areas in the Americas have been updated. They are Argentina, Bolivia, Brazil, Colombia, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru and Suriname.
- For Argentina, the description “No local cases have been reported in recent years in any part of the country.” has been added according to update by WHO.
- For Bolivia, Canada has revised the risk description to follow that of WHO so that “departments of Chuquisaca, Cochabamba, La Paz and Tarija” which is no longer stated in guideline of Canada is removed from the risk description.
- For Brazil, the prevalence of malaria species is changed from “*P. vivax* (86%) and *P. falciparum* (13%)” to “*P. vivax* (84%) and *P. falciparum* (15%)” based on update by WHO. US CDC reported locally-transmitted *P. vivax* malaria cases in Goiás and Rio de Janeiro States in March 2015 and this information is added to the risk description. The description “Little to no malaria transmission in the Pantanal region, in the cities of Brasília, Recife, Rio de Janeiro, São Paulo and Salvador” has been added according to Canada.
- For Colombia, Canada has added the islands of San Andrés and Providencia in the Caribbean Sea to areas with no malaria transmission.
- For Ecuador, Canada has rephrased “central highland tourist areas” to “other cities and villages in the Andean highlands” for areas with no malaria transmission and Cuenca is added to these areas.
- For Guatemala, the risk of malaria transmission in the departments of Escuintla and Alta Verapaz is changed from moderate and low risk to high risk while that of department of Izabal has been lowered from moderate to low according to update by WHO.
- For Honduras, the prevalence of malaria species is changed to “*P. vivax* (79%), *P. falciparum* (20%) and mixed infections (~0.8%)” according to WHO. For the risk description, El Paraiso is added to the list with moderate risk of malaria transmission according to update by WHO. Moreover, “Risk exists in the outskirts of Tegucigalpa and San Pedro Sula.” is removed in accordance to the latest guideline of Canada.
- For Mexico, the risk description is revised to low risk in the states of Chiapas (Costa) and Oaxaca according to guideline of WHO and US CDC.

Moreover, Campeche is added to the list of very low risk of malaria transmission to be line with the description from US CDC that rare cases are found in that region. Canada has extended the description of areas with no malaria transmission to involve major resorts areas on the coasts, including the city of Acapulco or along the Mayan Rivera, including the cities of Cancún, Cozumel, and Playa del Carmen.

- For Panama, the prevalence of malaria species is changed to “*P. vivax* (>99%)” according to update by WHO. Canada has removed San Blas Islands and Panama from the areas with chloroquine-resistant malaria while added the provinces west of the Canal Zone along the border with Costa Rica and Colombia, including Panamá to areas with chloroquine-sensitive malaria.
- For Peru, the prevalence of malaria species is changed to “*P. vivax* (84%), *P. falciparum* (16%)” according to update by WHO. The number of highest risk districts increased from 23 to 32 with the departments of Cusco and Junin added to while Madre de Dios, Piura and Pasco removed from the areas with the highest risk for chloroquine-resistant malaria. In addition, the department of Loreto now contains 19 instead of 17 of the highest-risk districts in the country for *P. falciparum* infection with reference to update by WHO.
- For Suriname, the coastal districts, namely Nickerie, Coronie, Saramacca, Wanica, Commewijne, and Marowijne north of latitude 5°N have been removed and revised to coastal districts along the Atlantic Coast for areas with no malaria transmission according to Canada.
- Eastern Mediterranean Region: Three of the 22 countries/areas in the region have their risk descriptions updated. They are Islamic Republic of Iran, Oman and Saudi Arabia.
- For Islamic Republic of Iran, Canada has removed “East Azerbaijan provinces north of the Zagros mountains” from the area at risk of chloroquine-resistant malaria.
- For Oman, “None in the city of Muscat” is removed from the description of risk areas according to US CDC. Canada states that no malaria transmission in its latest guideline and thus the description “Limited risk in remote areas of Musandam Province” is removed.
- For Saudi Arabia, Al Bahah, Al Madinah, Makkah, Najran, and Tabuk provinces are removed from the at risk area as they are no longer mentioned in the latest guideline of Canada.
- European Region: Five of the 53 countries/areas in the region have their risk descriptions and reported case updated. They are Georgia, Greece, Kyrgyzstan, Turkey and Uzbekistan.
- For Georgia, the risk description is revised to “limited risk in the eastern areas bordering Azerbaijan from June to October. No risk in the city of Tbilisi.” based on the latest guideline of Canada.
- For Greece, WHO updates that no locally acquired cases were reported

anywhere in Greece in 2014 and the information is added to the risk description.

- For Kyrgyzstan, Canada has removed “Risk also exists in the capital city Bishkek” in its latest guideline while “ in the outskirts of Bishkek” is added to the areas with risk of malaria transmission according to WHO.
- For Turkey, only provinces of Adana and Mardin remain to be the areas at risk of malaria transmission according to WHO, US CDC and UK. WHO states that sporadic cases were reported in 2014 in its guideline, hence, it has been added to the description of the years that sporadic cases were reported.
- For Uzbekistan, the risk description “sporadic cases reported in Uzunskiy, Sariassiskiy, and Shurchinskiy districts (Surkhanda- Rinskaya Region)” is removed according to Canada.
- South-east Asia Region: Three of the 11 countries in the region have updated their at-risk areas and reported case. They are Inida, Nepal and Sri Lanka.
- For India, a rise in cases of malaria in Dakshina Kannada and Udupi of Karnataka state was reported by UK PHE and has been added to the risk description.
- For Nepal, the description of Canada is updated to “All areas below 1,200m. The Terai region in southern Nepal which includes Chitwan National Park is the malaria transmission area commonly visited by tourists. No risk in city of Kathmandu”.
- For Sri Lanka, the description is updated from “No locally acquired cases reported in 2013” to “No locally acquired cases reported since October 2012” according to WHO.
- Western Pacific Region: Four of the 34 countries/areas in the region have their risk description updated. They are Cambodia, China, Malaysia and Vietnam.
- For Cambodia, *P. falciparum* resistance to artesunate, mefloquine, lumefantrine and piperaruine has extended to centre of the country apart from western Cambodia, according to WHO.
- For China, the update by Canada considers northern China to be no risk of malaria transmission.
- For Malaysia, “*P. vivax* resistant to chloroquine reported” is removed as it is no longer described in the latest guideline of WHO.
- For Viet Nam (Vietnam), Phu Quoc Island is added to the area with no risk of malaria transmission according to guideline of UK.

Limitation and disclaimers

18. The information presented in this paper is quoted from the following reports:
- (a). WHO. International travel and health 2012 edition (2015 updates), Country list: yellow fever vaccination requirements and recommendations; and malaria situation.
 - (b). Centers for Disease Control and Prevention. Health Information for International Travel 2016 – The Yellow Book. Atlanta: US Department of Health and Human Services, Public Health Service.
 - (c). (i) Public Health England. Guidelines for malaria prevention in travellers from the UK 2015, September 2015.
(ii) National Travel Health Network and Centre (NaTHNaC) Website [commissioned by the Public Health England].
 - (d). Public Health Agency of Canada. Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers, June 2014.

19. While great efforts have been made to ensure that the epidemiology information in this Risk Summary is maintained as up-to-date as possible, disease situation may change rapidly over time. Moreover, under-reporting and delayed reporting of the disease in various countries or administrative areas included in the Risk Summary may affect the timeliness of malaria risk assessment. Healthcare professionals are advised to review the latest outbreak situations when necessary.

Feedbacks and Enquiries

20. This Risk Summary will be updated in the fourth quarter of 2016. Any feedbacks and enquiries are welcome to be sent to the Centre for Health Protection.

Annexes

Annex 1: Key to the Global Malaria Risk Summary

Annex 2: Global Malaria Risk Summary (As of 1 February 2016)

Annex 3: Risk Profile Statistics

Centre for Health Protection

Department of Health

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Key References

World Health Organization

1. WHO. International travel and health 2012 edition (2015 updates), List of countries, territories and areas: yellow fever vaccination requirements and recommendations; malaria situation; and other vaccination requirements [Cited 2016 February 1]. Available at: <http://www.who.int/ith/2015-ith-country-list.pdf?ua=1>

United States

2. Centers for Disease Control and Prevention. *Health Information for International Travel 2016 – The Yellow Book*. Atlanta: US Department of Health and Human Services, Public Health Service. [Cited 2016 February 1]. Available at: <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/travel-vaccines-and-malaria-information-by-country>

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Canada

4. Public Health Agency of Canada. Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers, June 2014 [Cited 2016 February 1]. Available at: http://www.phac-aspc.gc.ca/tmp-pmv/malaria_catmat-paludisme_ccmtmv-eng.php

Reference Websites for Updated Epidemiology on Malaria

- i. World Health Organization. News on Malaria. Available from: <http://www.who.int/topics/malaria/news/en/index.html>
- ii. Centers for Disease Control and Prevention, US. Traveler's Health: Outbreak. Available from: <http://wwwn.cdc.gov/travel/default.aspx>
- iii. National Travel Health Network and Centre, UK. Travellers: News by topic – Malaria. Available from: <http://www.nathnac.org/UpdatesListForm.aspx?levelone=travel&leveltwo=news&disease=Malaria&display=all>
- iv. National Travel Health Network and Centre, UK. Health professionals: Clinical Updates Available from: <http://nathnac.org/pro/index.htm>
- v. Public Health Agency of Canada. Travel Health: Notice and International Reports. Available from: <http://www.phac-aspc.gc.ca/tmp-pmv/notices-avis/index-eng.php>
- vi. The Travel Health Service, Department of Health, Hong Kong. Available from: <http://www.travelhealth.gov.hk/>
- vii. Guidelines on Malaria Chemoprophylaxis for Travellers from Hong Kong. Scientific Committee on Vector-borne Diseases. Centre for Health Protection, Department of

Health, Hong Kong.

Available from:

http://www.chp.gov.hk/files/pdf/Guidelines_on_Malaria_Chemoprophylaxis_for_Travellers_from_Hong_Kong.pdf

Annex 1: Key to Global Malaria Risk Summary

Risk Category	General Description of the Risk	Recommendation	Recommendation Description
1	No malaria risk (as reported by WHO, US CDC, UK PHE and Health Canada)	I	General precaution during travel
2	Malaria risk reported to be very limited	II	Malaria prevention may be required ➤ Advise to undertake mosquito bite prevention. ➤ Obtain update on latest epidemiology.
3	Risk of chloroquine-sensitive malaria only <i>3A: Risk of malaria exists in the whole administrative area</i> <i>3B: Risk of malaria exists in certain areas</i>	III	Malaria prevention recommended ➤ Advise to undertake mosquito bite prevention. ➤ When travel to at-risk areas, consider chemoprophylaxis using chloroquine.
4	Chloroquine-resistant malaria have been reported <i>4A: Risk of malaria exists in the whole administrative area</i> <i>4B: Risk of malaria exists in certain areas</i>	IV	Malaria prevention recommended ➤ Advise to undertake mosquito bite prevention. ➤ When travel to areas at risk of chloroquine-resistant malaria, consider chemoprophylaxis using atovaquone/proguanil, doxycycline, or mefloquine. ➤ When travel to areas at risk of chloroquine-sensitive malaria, consider chemoprophylaxis using chloroquine.

Risk Category	General Description of the Risk	Recommendation	Recommendation Description
5	<p>Malaria resistant to both chloroquine and mefloquine have been reported</p> <p><i>5A: Risk of malaria exists in the whole administrative area</i></p> <p><i>5B: Risk of malaria exists in certain areas</i></p>	V	<p>Malaria prevention recommended</p> <ul style="list-style-type: none"> ➤ Advise to undertake mosquito bite prevention. ➤ When travel to areas at risk of mefloquine-resistant malaria, consider chemoprophylaxis using atovaquone/proguanil or doxycycline, BUT NOT mefloquine. ➤ When travel to areas at risk of chloroquine-resistant malaria, consider chemoprophylaxis using atovaquone/proguanil, doxycycline, or mefloquine.

Annex 2: Global Malaria Risk Summary (As of 1 February 2016)

Region	Country/Area	Risk Category	Risk Description	Recommendation
African	Algeria	2	<p>Malaria risk is limited.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Small foci of local transmission of <i>P. vivax</i> have previously been reported in the 6 southern and south-eastern wilayas (Adrar, El Oued, Ghardaia, Illizi, Ouargla, and Tamanrasset). - 59 local cases of <i>P. falciparum</i> and <i>P. vivax</i> transmission reported in 2012 in areas under the influence of trans-Saharan migration. 	II
African	Angola	4A	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> -Chloroquine-resistant malaria: in all areas. 	IV
African	Benin	4A	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> -Chloroquine-resistant malaria: in all areas. 	IV
African	Botswana	4B	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists.</p> <p><i>P. falciparum</i> resistant to chloroquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in the northern provinces of the country: Bobirwa, Boteti, Chobe, Ngamiland, the Okavango Delta area, the Tutume districts/sub-districts, and North West district from November to June. - No risk in the city of Gaborone and Francistown. Low to no risk in the southern half of the country. 	IV
African	Burkina Faso	4A	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> -Chloroquine-resistant malaria: in all areas. 	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
African	Burundi	4A	Malaria risk predominantly due to <i>P. falciparum</i> (86%) exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Cabo Verde (Cape Verde)	2	Limited malaria risk, due predominantly to <i>P. falciparum</i> , exists from August to November inclusive. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - In Santiago Island and Boa Vista Island from August through November. 1 locally acquired cases reported in 2012.	II
African	Cameroon	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Central African Republic	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Chad	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Comoros	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Congo	4A	Malaria risk due to <i>P. falciparum</i> (90%), <i>P. ovale</i> (5-10%) and rarely <i>P. vivax</i> , exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			At-risk area: -Chloroquine-resistant malaria: in all areas.	
African	Côte d'Ivoire (Ivory Coast)	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Democratic Republic of the Congo (formerly Zaire)	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Equatorial Guinea	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Eritrea	4B	Malaria risk due to <i>P. falciparum</i> and <i>P. vivax</i> exists throughout the year. Resistance to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas below 2,200 m. - No risk in Asmara.	IV
African	Ethiopia	4B	Malaria risk, due to <i>P. falciparum</i> (60%–70%), <i>P. vivax</i> (30%–40%), and rarely <i>P. malariae</i> and <i>P. ovale</i> , exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. <i>P. vivax</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: In all areas below 2,500 m. - No risk in Addis Ababa.	IV
African	Gabon	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
African	Gambia	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Ghana	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Guinea	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Guinea-Bissau	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Kenya	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistance to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: In all areas below 2,500 m. - There is normally little risk in the city of Nairobi and in the highlands (above 2,500 m) of Central, Eastern, Nyanza, Rift Valley and Western provinces.	IV
African	Lesotho	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
African	Liberia	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
African	Madagascar	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: -Chloroquine-resistant malaria: in all areas, with the highest risk in the coastal areas.	IV
African	Malawi	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Mali	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Mauritania	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: in Adrar and Inchiri during the rainy season from July through October. Throughout the year in all other areas in the country except in the northern areas of Dakhlet-Nouadhibou and Tiris-Zemour.	IV
African	Mauritius	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
African	Mayotte (French territorial collectivity)	4A	Malaria risk due to <i>P. falciparum</i> (40-50%), <i>P. vivax</i> (35-40%), <i>P. ovale</i> (<1%), exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
African	Mozambique	4A	Malaria risk, due to <i>P. falciparum</i> (90%), and rarely <i>P. malariae</i> , <i>P. ovale</i> and <i>P. vivax</i> , exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area:	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			-Chloroquine-resistant malaria: in all areas.	
African	Namibia	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in the regions of Ohangwena, Omaheke, Omusati, Oshana, Oshikoto and Otjozondjupa from November to June. Throughout the year along the Kunene river and in Caprivi and Kavango regions.	IV
African	Niger	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	Nigeria	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	Rwanda	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	Sao Tome and Principe	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	Senegal	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas. Less risk in the central western regions from January through June.	IV
African	Seychelles	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
African	Sierra Leone	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	South Africa	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in the low altitude areas of Mpumalanga Province (including the Kruger National Park), Northern Province (Limpopo) and north-eastern KwaZulu-Natal as far south as the Tugela River. The risk is highest from September to May.	IV
African	Swaziland	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: in the northern and eastern areas bordering Mozambique and South Africa, including all of the Lubombo district and the eastern half of Hhohho, Manzini and Shiselweni districts (mainly Big Bend, Mhlume, Simunye and Tshaneni). Risk is highest from November to May. - Very low risk in the west of the country.	IV
African	Tanzania, United Republic of	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas below 1,800 m, and in Zanzibar.	IV
African	Togo	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
African	Uganda	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas including the main towns of Fort Portal, Jinja, Kampala, Mbale and Kigezi.	
African	Zambia	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas including Lusaka.	IV
African	Zimbabwe	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas. The risk is high in areas below 1200m from November to June; and low during the rest of the year. The risk is throughout the year in the Zambezi valley, and very low risk exists in Bulawayo and Harare.	IV
The Americas	Anguilla (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Antigua and Barbuda	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Argentina	3B	Malaria risk due exclusively to <i>P. vivax</i> . Risk is very low, being limited to certain areas: - Departments of Oran and San Martin in Salta Province in the north, and to a lesser extent to Chaco, Corrientes and Misiones Provinces. - Rural areas of northern Jujuy Province. - No risk in Iguassu Falls and the rest of Argentina. -No local cases have been reported in recent years in any part of the country.	III
The Americas	Bahamas	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Barbados	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Belize	3B	Malaria risk, due to <i>P. vivax</i> (95%) and <i>P. falciparum</i> (5%), exists throughout the year.	III

Region	Country/Area	Risk Category	Risk Description	Recommendation
			<p>At-risk area:</p> <ul style="list-style-type: none"> - All districts but varies within regions. Risk is present especially in Cayo, Toledo and Stan Creek Districts. - No risk in Belize City and islands frequented by tourists. 	
The Americas	Bermuda (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Bolivia (Plurinational State of)	4B	<p>Malaria risk due predominantly to <i>P. vivax</i> (94%) exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in all areas below 2,500 m, in the Amazon basin except in the city of La Paz. - Falciparum malaria occurs in Santa Cruz and in the northern departments of Beni and Pando, especially in the localities of Guayaramerin and Riberalta. 	IV
The Americas	Brazil	4B	<p>Malaria risk due to <i>P. vivax</i> (84%), <i>P. falciparum</i> (15%) and mixed infection (1%) exists throughout the year.</p> <p>Multidrug-resistant <i>P. falciparum</i> reported. <i>P. vivax</i> resistant to chloroquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in most forested areas below 900 m within the nine states of the "Legal Amazonia" region (Acre, Amapá, Amazonas, Maranhão (western part), Mato Grosso (northern part), Pará, Rondônia, Roraima and Tocantins (western part)). <p>Transmission intensity varies from one municipality to another, and is higher in jungle areas of mining, agricultural settlements, indigenous areas, and in some peripheral urban areas of Cruzeiro do Sul, Manaus and Pôrto Velho. Malaria also occurs on the periphery of large cities such as Belem, Boa Vista, Macapá, Maraba, Rio Branco and Santarém.</p> <p>Locally-transmitted <i>P. vivax</i> malaria cases were reported in Goias and Rio de Janeiro States in March 2015 by US CDC. No more case was reported since then.</p> <ul style="list-style-type: none"> - Malaria transmission risk is negligible or non-existent in the states outside "Legal Amazonia". - No transmission at Iguassu Falls; Little to no transmission in the Pantanal region; in the cities of Brasília, Recife, Rio de Janeiro, São Paulo and Salvador. 	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
The Americas	British Virgin Islands	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Canada	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Cayman Islands (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Chile	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Colombia	4B	<p>Malaria risk, due to <i>P. vivax</i> (73%) and <i>P. falciparum</i> (27%), exist throughout the year. <i>P. falciparum</i> resistant to chloroquine is present.</p> <p>Resistance to sulfadoxine–pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: In all rural areas below 1,700m. - Risk is high in some municipalities of the Departments of Antioquia, Bolivar, Cauca, Choco, Cordoba, Guajira, Narino, and Risaralda. At a lower level, risk is also present in some municipalities of Amazonas, Caqueta, Guaviare, Guainia, Meta, Putumayo, Vaupes, and Vichada. - No risk in Bogotá, Cartagena and on the islands of San Andrés and Providencia in the Caribbean Sea. 	IV
The Americas	Costa Rica	3B	<p>Malaria risk, almost exclusively due to <i>P. vivax</i>, exists throughout the year.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Very low risk in the canton of Matina, Limon Province. - Negligible or no risk of malaria transmission exists in the other cantons of the country. - No risk in Limón city (Puerto Limón). 	III
The Americas	Cuba	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Dominica	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Dominican Republic	3B	<p>Malaria risk exclusively due to <i>P. falciparum</i> exists throughout the year.</p> <p>No evidence of <i>P. falciparum</i> resistant to any antimalarial drug.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In all areas (including resort areas), except none in the cities of Santiago and Santo Domingo. 	III

Region	Country/Area	Risk Category	Risk Description	Recommendation
			- There is risk especially in the western provinces of Dajabón, Elias Pina, San Juan, as well as rural areas bordering Haiti. Risk is also present in La Altagracia province.	
The Americas	Ecuador; Including the Galápagos Islands	4B	Malaria risk, due to <i>P. vivax</i> (86%) and <i>P. falciparum</i> (14%), exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas below 1,500 m and Amazon basin, with moderate transmission risk in coastal provinces. - Malaria risk due to <i>P. falciparum</i> is higher in Esmeraldas Province. - No risk in Cuenca, the cities of Guayaquil, Quito, cities of inter-Andean region, other cities and villages in the Andean highlands or the Galápagos Islands.	IV
The Americas	El Salvador	2	Malaria risk, due almost exclusively to <i>P. vivax</i> , is very low throughout the year. At-risk area: - In rural areas of migratory influence from Guatemala, in Santa Ana and Ahuachapán, and La Unión departments. - Sporadic vivax malaria cases are reported from other parts of the country.	II
The Americas	French Guiana	4A	Malaria risk, due to <i>P. falciparum</i> (45%) and <i>P. vivax</i> (55%), is high throughout the year. Multidrug-resistant <i>P. falciparum</i> reported in areas influenced by Brazilian migration. At risk area: - Chloroquine-resistant malaria: in all areas. Risk is high in nine municipalities of the territory bordering Brazil (Oiapoque river valley) and Suriname (Maroni river valley). In the other 13 municipalities, transmission risk is low or negligible. - No risk in the city of Cayenne or Devil's Island (Ile du Diable).	IV
The Americas	Grenada	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Guadeloupe, including St. Barthelemy and Saint Martin (France)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
The Americas	Guatemala	3B	<p>Malaria risk, predominantly due to <i>P. vivax</i>, exists throughout the year.</p> <p>At risk area:</p> <ul style="list-style-type: none"> - In areas below 1,500 m. There is high risk in the departments of Escuintla and Alta Verapaz; and low risk in Baja Verapaz, Chiquimula, Izabal, Petén, Suchitepéquez and Zacapa. - No risk in Guatemala City, Antigua or Lake Atitlán. 	III
The Americas	Guyana	4B	<p>Malaria risk, due to <i>P. falciparum</i> (53%), <i>P. vivax</i> (36%) and mixed infections (11%), is high throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in all parts of the interior below 900 m. - Highest risk occurs in Regions 1, 7, 8 and 9; and very low risk in Regions 3, 4, 5 and 6. Rare cases in the cities of Amsterdam and Georgetown. Sporadic cases of malaria have been reported from the densely populated coastal belt. 	IV
The Americas	Haiti	3A	<p>Malaria risk exclusively due to <i>P. falciparum</i> exists throughout the year.</p> <p>No falciparum resistance to chloroquine reported.</p> <p>At risk area: The whole country.</p>	III
The Americas	Honduras	3B	<p>Malaria risk, due to <i>P. vivax</i> (79%), <i>P. falciparum</i> (20%) and mixed infection (~0.8%), exists throughout the year.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In all areas and in Roatán and other Bay Islands. Malaria transmission risk due to <i>P. vivax</i> is high in the departments of Colon and Gracias a Dios, and moderate in Atlántida, El Paraiso, Olancho and Yoro. <i>P. falciparum</i> transmission risk is high in Gracias a Dios; and a few cases are also reported in Colon, Olancho and Yoro. - No risk in San Pedro Sula and Tegucigalpa. 	III
The Americas	Jamaica	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
The Americas	Martinique (France)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Mexico	3B	<p>Malaria risk, due almost exclusively to <i>P. vivax</i>, exists intermittently throughout the year.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In some rural areas that are not often visited by tourists. Low risk in the states of Chiapas (Costa) and Oaxaca. Very low risk in the states of Campeche, Chihuahua, Durango, Jalisco, Nayarit, Quintana Roo, Sinaloa, Sonora, and Tabasco. - No malaria risk exists along the United States-Mexico border and in the major resort areas on the coasts, including the city of Acapulco or along the Mayan Rivera, including the cities of Cancún, Cozumel, and Playa del Carmen. 	III
The Americas	Montserrat (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Netherlands Antilles (Bonaire, Curaçao, Saba, St. Eustasius, and St. Martin)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Nicaragua	3B	<p>Malaria risk, due predominantly to <i>P. vivax</i> (82%), exists throughout the year.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Low malaria risk exists throughout the year in a number of municipalities, mainly in Región Autónoma del Atlántico Norte, with sporadic transmission also reported in Boaca, Chinandega, Jinotega, León, Matagalpa, Managua and Region Autonoma del Atlantico Sur. Cases are reported from other municipalities in the central and western departments but the risk in these areas is considered to be very low or negligible. 	III
The Americas	Panama	4B	<p>Malaria risk due to <i>P. vivax</i> (>99%). <i>P. falciparum</i> resistant to chloroquine has been reported in Darién and San Blas provinces.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In all areas, except none in urban areas of Panama City or in the former Canal Zone. - Chloroquine-resistant malaria: in provinces east of the Canal Zone towards the border with Colombia, including Darién and San Blas (Kuna Yala). - Chloroquine-sensitive malaria: in provinces 	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			west of the Canal Zone along the Atlantic coast and the border with Costa Rica and Colombia, including Bocas del Toro, Chiriquí, Colón, Ngäbe Buglé, Panama and Veraguas.	
The Americas	Paraguay	3B	<p>Malaria risk, due almost exclusively to <i>P. vivax</i>, is moderate.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In the departments of Alto Paraná, Caaguazú, and Canendiyú. - No or negligible transmission risk in the other departments. 	III
The Americas	Peru	4B	<p>Malaria risk, due to <i>P. vivax</i> (84%) and <i>P. falciparum</i> (16%), exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. <i>P. vivax</i> resistant to chloroquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: <p>In all departments below 2,000 m, including cities of Iquitos and Puerto Maldonado. The 32 highest-risk districts are concentrated in the departments of Ayacucho, Cusco, Junin and Loreto. 99% of <i>P. falciparum</i> cases are reported from Loreto, which is situated in the Amazon and contains 19 of the highest-risk districts in the country. Risk is also high in the Amazon basin along the border with Brazil.</p> <ul style="list-style-type: none"> - No risk in cities of Arequipa, Moquegua, Puno, Ica, Nazca and Tacna. Travelers who will visit only Lima and its vicinity, coastal areas south of Lima, coastal region south of Chiclayo or the highland tourist areas (Cusco, Machu Picchu, and Lake Titicaca) are not at risk and need no prophylaxis. 	IV
The Americas	Puerto Rico (U.S.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Saint Kitts and Nevis (Saint Christopher and Nevis) (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Saint Lucia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Saint Vincent and the Grenadines	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Suriname	5B	Malaria risk, due to <i>P. falciparum</i> (40%), <i>P. vivax</i> (58%), and mixed infections (2%), has decreased in recent years and occurs	V

Region	Country/Area	Risk Category	Risk Description	Recommendation
			<p>throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine, sulfadoxine-pyrimethamine and mefloquine reported. Some decline in quinine sensitivity also reported.</p> <p>At-risk area:</p> <p>In all areas in the interior of the country beyond the coastal savannah area, with highest risk mainly along the eastern border and in gold-mining areas. Risk is also present in provinces of Brokopondo and Sipaliwini. Risk is low or negligible in Paramaribo city and the other seven coastal districts along the Atlantic Coast.</p>	
The Americas	Trinidad and Tobago	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Turks and Caicos (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	United States of America	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Uruguay	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
The Americas	Venezuela (Bolivarian Republic of)	4B	<p>Malaria risk, due to <i>P. vivax</i> (75%) and <i>P. falciparum</i> (25%), exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <p>- Chloroquine-resistant malaria:</p> <p>US/Canada: In some rural areas of Apure, Amazonas, Anzoátegui, Barinas, Bolívar, Sucre, Táchira, Monagas, Zulia, and Delta Amacuro and in Angel Falls.</p> <p>WHO: There is moderate to high risk in some rural areas of Amazonas, Anzoategui, Bolívar and Delta Amacuro states. There is low risk in Apure, Monagas, Sucre and Zulia. <i>P. falciparum</i> malaria is mostly restricted to municipalities in jungle areas of Amazonas (Alto Orinoco, Atabapo, Atures, Autana, Manapiare,) and Bolívar (Angostura, Cedeño, El Callao, Heres, Gran Sabana, Piar, Raul Leoni, Rocio, Sifontes and Sucre).</p> <p>UK: High risk in all areas south of and including the Orinoco river and Angel Falls.</p> <p>- No risk in Caracas and Margarita Island.</p>	IV
Eastern Mediterranean	Afghanistan	4B	<p>Malaria risk due to <i>P. vivax</i> and <i>P. falciparum</i> exists.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p>	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			- Chloroquine-resistant malaria: in all areas at altitude below 2,500 m from April to December.	
Eastern Mediterranean	Bahrain	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Djibouti	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
Eastern Mediterranean	Egypt	2	Malaria risk, due to <i>P. falciparum</i> and <i>P. vivax</i> , is very limited. At-risk area: - In El Faiyûm governorate from June through October. - 19 locally transmitted cases of <i>P. vivax</i> in Aswan Governorate from May to June 2014. No more case since 14 June 2014. - No risk in tourist areas, including Nile River cruises.	II
Eastern Mediterranean	Iraq	2	Limited malaria risk exclusively due to <i>P. vivax</i> may exist. At-risk area: - In areas in the north below 1,500 m (in provinces of Duhok, Erbil, Sulaimaniya from May through November. - No indigenous cases reported since 2009.	II
Eastern Mediterranean	Islamic Republic of Iran	4B	Malaria risk due to <i>P. vivax</i> (88%), and very limited risk due to <i>P. falciparum</i> (12%), exists. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: In rural areas of the Fars Province, Sistan–Baluchestan Province and the southern, tropical part of Hormozgan and Kerman Provinces from March to November. In Ardebil and North Khorasan province near the Turkmenistan border.	IV
Eastern Mediterranean	Jordan	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Kuwait	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Lebanon	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
Eastern Mediterranean	Libya	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Morocco	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Oman	2	<p>Malaria risk, due to <i>P. falciparum</i> and <i>P. vivax</i>, is limited. There is sporadic local transmission.</p> <p><i>P. falciparum</i> resistant to chloroquine reported.</p> <p>At-risk area: - Chloroquine-resistant malaria:</p> <p>US: Sporadic transmission in Ad Dakhliyah, North Batinah, and North and South Ash Sharqiyah.</p> <p>WHO: Sporadic transmission of <i>P. falciparum</i> and <i>P. vivax</i> may occur subsequent to international importation of parasites. In 2010, local outbreaks of <i>P. falciparum</i> and <i>P. vivax</i> were reported in North Sharqiya region. Local cases were also reported in 2011 and 2012.</p>	II
Eastern Mediterranean	Pakistan	4B	<p>Malaria risk, due to <i>P. falciparum</i> and <i>P. vivax</i>, exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area: - Chloroquine-resistant malaria: in all areas (including all cities) below 2,500 m, especially in rural areas from July to December.</p>	IV
Eastern Mediterranean	Qatar	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Saudi Arabia	4B	<p>Limited malaria risk, predominantly due to <i>P. falciparum</i>, exists from September to January inclusive.</p> <p><i>P. falciparum</i> resistant to chloroquine reported.</p> <p>At-risk area: - Chloroquine-resistant malaria: exists in foci along the southern border with Yemen, Asir (excluding the high altitude areas above 2,000 m) and Jizan.</p> <p>- No risk in urban areas of Jeddah, Mecca, Medina, Riyadh, and Ta'if.</p>	IV
Eastern Mediterranean	Somalia	4A	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p>	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			At-risk area: - Chloroquine-resistant malaria: in all areas. Risk is relatively low and seasonal in the north. It is higher in the central and southern part of the country.	
Eastern Mediterranean	South Sudan	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: in all areas.	IV
Eastern Mediterranean	Sudan	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas. Risk is low and seasonal in the north. It is higher in the central and southern part of the country. Malaria risk on the Red Sea coast is very limited. Very low risk in Khartoum.	IV
Eastern Mediterranean	Syrian Arab Republic (Syria)	2	Malaria risk is very limited, and is exclusively due to <i>P. vivax</i> . No indigenous cases reported since 2005, however, the reporting system has been disrupted since 2010. At-risk area: In foci along the northern border, especially in rural areas of El Hasaka Governorate, from May through October.	II
Eastern Mediterranean	Tunisia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	United Arab Emirates	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Eastern Mediterranean	Yemen	4B	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year, but mainly from September through February. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas below 2,000 m. Very limited risk on Socotra Island. - No risk in Sana'a city.	IV
European	Albania	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
European	Andorra	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Armenia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Austria	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Azerbaijan	2	<p>Malaria risk exclusively due to <i>P. vivax</i> exists. Four locally acquired cases were reported in 2011, and no locally acquired case in 2013.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - In rural areas below 1,500 m, mainly in the area between the Kura and the Arax rivers, from May to October. - No risk in Baku city. 	II
European	Belarus	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Belgium	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Bosnia and Herzegovina	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Bulgaria	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Croatia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Cyprus	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Czech Republic	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Denmark	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Estonia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Finland	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	France	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Georgia	2	<p>Malaria risk, due exclusively to <i>P. vivax</i>, may exist locally.</p> <p>No case reported in 2010, one locally acquired case reported in 2011, no locally acquired case was reported in 2013.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - WHO, UK: Limited risk may exist in the rural eastern and southeastern part of the country bordering Azerbaijan from June to October. 	II

Region	Country/Area	Risk Category	Risk Description	Recommendation
			- US: No malaria transmission - Canada: Limited risk in the eastern areas bordering Azerbaijan from June to October. No risk in the city of Tbilisi.	
European	Germany	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Greece	2	Malaria risk is very limited, and is due exclusively to <i>P. vivax</i> . At-risk area: - According to WHO, very limited malaria risk may exist from May to October in villages of the Evrotas delta area in Lakonia district (an area of 20 km ²) in agricultural area with large migrant populations. There is no risk in tourist areas. No locally acquired cases were reported anywhere in Greece in 2014. - According to UK NaTHNaC, the risk of malaria in Greece is very low. Sporadic cases of locally acquired malaria have been reported in Greece annually since 2009.	II
European	Hungary	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Iceland	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Ireland	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Israel	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Italy	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Kazakhstan	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Kyrgyzstan	2	Malaria risk is limited, and is due exclusively to <i>P. vivax</i> . No locally acquired cases reported between 2011 and 2013 At-risk areas: - Very limited malaria risk exists in some southern and western parts of the country, mainly in areas bordering Tajikistan and Uzbekistan – Batken, Osh and Jalal-Abad regions and in the outskirts of Bishkek from June through October.	II
European	Latvia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Lithuania	1	No malaria risk reported by WHO, US CDC,	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
			UK PHE and Health Canada.	
European	Luxembourg	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Malta	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Monaco	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Montenegro	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Netherlands	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Norway	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Poland	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Portugal	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Republic of Moldova	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Romania	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Russia Federation	2	Very limited malaria risk, due exclusively to <i>P. vivax</i> . At-risk area: - In areas under influence of intense migration from southern countries in the Commonwealth of Independent States.	II
European	San Marino	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Serbia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Slovakia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Slovenia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Spain	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Sweden	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Switzerland	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Tajikistan	4B	Malaria risk exists, and is predominantly due to <i>P. vivax</i> . <i>P. falciparum</i> resistant to chloroquine reported in the southern part of the country. At-risk area: - Chloroquine-resistant malaria: in all areas	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			below 2,000 m particularly in southern border areas (Khatlon Region), and in some central (Dushanbe), western (Gorno-Badakhshan), and northern (Leninabad Region) areas from June through October. There is a low risk of malaria in areas below 2,000m during the rest of the year.	
European	The Former Yugoslav Republic of Macedonia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Turkey	3B	Limited malaria risk, due to <i>P. vivax</i> predominantly and <i>P. falciparum</i> sporadically, exists from May to October. At-risk area: - In the southeastern part of the country including the provinces of Adana and Mardin. The risk is low from May to October, and very low during the rest of the year. - A few sporadic cases were reported in 2010, 2011, 2013 and 2014. - No risk in the main tourist areas in the west and southwest of the country, on the Incerlik U.S. Air Force base and on typical cruise itineraries.	III
European	Turkmenistan	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Ukraine	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	United Kingdom (with Channel Islands and Isle of Man)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
European	Uzbekistan	2	Limited malaria risk due exclusively to <i>P. vivax</i> exists. No locally acquired cases reported between 2011 and 2013. At-risk area: - Limited malaria risk from June to October, in some villages located in the southern and eastern parts of the country bordering Afghanistan, Kyrgyzstan and Tajikistan.	II

Region	Country/Area	Risk Category	Risk Description	Recommendation
South-East Asia	Bangladesh	4B	<p>Malaria risk, due to <i>P. falciparum</i> (>50%) and <i>P. vivax</i>, exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Malaria risk exists throughout the year but transmission occurs only in rural areas, in 13 of 64 districts. - High risk in Chittagong Hill Tract districts (Bandarban, Rangamati and Khagrachari), Chittagong district and Cox Bazaar district. - Low risk exists in the districts of Hobigonj, Kurigram, Moulvibazar, Mymensingh, Netrakona, Sherpur, Sunamgonj and Sylhet. - Most parts of the country, including Dhaka City, have no risk of malaria. 	IV
South-East Asia	Bhutan	4B	<p>Malaria risk (<i>P. falciparum</i> 60%, <i>P. vivax</i> 40%) exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: In rural areas below 1,700 m of the southern belt districts of: Chukha, Dagana, Chirang, Pemagatshel, Samtse (Samchi), Samdrup Jongkhar, Sarpang (Geyleg-phug) and Zhemgang (Shemgang). - No transmission occurs in the four following districts: Bumthang, Gasa, Paro and Thimphu. Seasonal transmission during the rainy summer months occurs in focal areas in the rest of country according to WHO. 	IV
South-East Asia	Myanmar (formerly Burma)	5B	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>Mefloquine resistance reported in Kayin state and the eastern part of Shan state.</p> <p>Emerging artemisinin resistance suspected in south-eastern Myanmar.</p> <p><i>P. vivax</i> resistant to chloroquine reported.</p> <p>Human <i>P. knowlesi</i> infection reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine and Mefloquine resistant malaria: States of Bago, Kachin, Kayah, Kayin, Shan and Tanintharyi. - Chloroquine-resistant malaria: Present at altitudes below 1,000 m. Risk is highest in remote rural, hilly and forested areas of the country as well as in some coastal areas in 	V

Region	Country/Area	Risk Category	Risk Description	Recommendation
			Rahkine State. - No risk in the cities of Yangon and Mandalay.	
South-East Asia	Democratic People's Republic of Korea (North Korea)	2	Limited malaria risk, due exclusively to <i>P. vivax</i> . At risk area: In some southern areas.	II
South-East Asia	India	4B	Malaria risk exists throughout the year, with overall 40% -50% of cases due to <i>P. falciparum</i> . <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: - Chloroquine-resistant malaria: US/Canada: In all areas below 2,000 m, including Delhi and Mumbai (Bombay). WHO: Risk of falciparum malaria is relatively higher in the north-eastern states, in the Andaman and Nicobar Islands, Chhattisgarh, Gujarat, Jharkhand, Karnataka (with exception of the city of Bangalore), Madhya Pradesh, Maharashtra (with the exception of the cities of Mumbai, Nagpur, Nasik and Pune), Orissa and West Bengal (with the exception of the city of Kolkata). UK: Chemoprophylaxis is recommended in the states of Assam and Orissa; the districts of East Godavari, Srikakulam, Vishakhapatnam and Vizianagaram in the state of Andhra Pradesh; and the districts of Balaghat, Dindori, Mandla and Seoni in the state of Madhya Pradesh. It no longer considers malaria risk to be high enough to routinely justify use of chemoprophylaxis in the rest of India including Goa and the Andaman and Nicobar Islands. PHE reported a rise in cases of malaria in Dakshina Kannada and Udupi of Karnataka state, India on 28 January 2015. - There is no transmission in parts of the states (areas >2000m) of Himachal Pradesh, Jammu and Kashmir, and Sikkim. There is also no risk in the Lakshadweep islands.	IV
South-East Asia	Indonesia	4B	Malaria risk exists throughout the year. <i>P. falciparum</i> resistance to chloroquine and sulfadoxine-pyrimethamine reported. <i>P. vivax</i> resistance to chloroquine reported. Human <i>P. knowlesi</i> infection reported in the province of Kalimantan.	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
			<p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: Most areas of the five eastern provinces of Papua, West Papua, Maluku, North Maluku and East Nusa Tenggara. Also, in rural areas of Kalimantan (Borneo), Nusa Tenggara Barat (includes the island of Lombok), Sulawesi, and Sumatra. Low transmission risk in rural areas of Java including Ujung Kulong, Sukalumi, and Pangandaran. - No risk in the cities of Jakarta, Ubud, other cities and urban areas, or resort areas of Bali and Java. 	
South-East Asia	Maldives	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
South-East Asia	Nepal	4B	<p>Malaria risk predominantly due to <i>P. vivax</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: WHO: in rural areas of the 20 Terai districts bordering with India. Occasional outbreaks of <i>P. falciparum</i> from July to October. Seasonal transmission of <i>P. vivax</i> takes place in 45 districts of the inner Terai and mid-hills. Canada: All areas below 1,200m. The Terai region in southern Nepal which includes Chitwan National Park is the malaria transmission area commonly visited by tourists. No risk in city of Kathmandu. US: in all areas below 2,000 m (except see below). UK: in all areas below 1,500 m (except see below). - No risk in Kathmandu or on typical Himalayan treks. 	IV
South-East Asia	Sri Lanka	4B	<p>Limited malaria risk due to <i>P. vivax</i> (88%) and <i>P. falciparum</i> (12%) exists throughout the year. No locally acquired cases reported since October 2012.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in all areas except no risk in the districts of Colombo, Galle, Gampaha, Kalutara, Kandy, Matara and Nuwara Eliya. 	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
South-East Asia	Thailand	5B	<p>Malaria risk exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>Resistance to mefloquine and to quinine reported from areas near the borders with Cambodia and Myanmar. Artemisinin resistance reported near the border with Myanmar.</p> <p><i>P. vivax</i> resistant to chloroquine reported.</p> <p>Human <i>P. knowlesi</i> infection reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Mefloquine-resistant malaria: In areas near the border with Cambodia, Lao People's Democratic Republic, and Myanmar (Burma). - Chloroquine-resistant malaria: In rural, especially forested and hilly, areas of the whole country, mainly towards the international border with Cambodia, Lao People's Democratic Republic, and Myanmar (Burma), including the southernmost provinces, and in rural, forested areas in districts of Phang Nga and Phuket. - No risk in cities of Bangkok, Chiang Mai, Chiang Rai, Koh Phangan, Koh Samui and Pattaya, and the main tourist resorts of Phuket island. However, there is a risk in some other areas and islands. 	V
South-East Asia	Timor-Leste (East Timor)	4A	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At risk area:</p> <ul style="list-style-type: none"> -Chloroquine-resistant malaria: in all areas. 	IV
Western Pacific	Australia; Including Cocos (Keeling) Islands	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Brunei Darussalam	2	<p>Malaria risk is very low to none.</p> <p>Human <i>P. knowlesi</i> infection reported.</p> <p>At-risk area:</p> <p>Obtain latest epidemiology.</p>	II
Western Pacific	Cambodia	5B	<p>Malaria risk, due predominantly to <i>P. falciparum</i> and <i>P. vivax</i>, exists throughout the year.</p> <p><i>P. falciparum</i> resistance to chloroquine and sulfadoxine-pyrimethamine has been reported throughout the country.</p> <p><i>P. falciparum</i> resistance to artesunate, mefloquine, lumefantrine and piperaquine has</p>	V

Region	Country/Area	Risk Category	Risk Description	Recommendation
			<p>been reported in western Cambodia and extending to the centre of the country.</p> <p><i>P. vivax</i> resistant to chloroquine has been reported in eastern Cambodia.</p> <p>At-risk area:</p> <p>Present throughout the country, except very low to negligible risk in Phnom Penh, area close to Tonle Sap, including Siem Reap city, and the temple complex at Angkor Wat.</p>	
Western Pacific	China	5B	<p>Malaria risk, including <i>P. falciparum</i>, exists.</p> <p><i>P. falciparum</i> malaria occurs in Yunnan and to a lesser extent in Hainan throughout the year. Resistance to chloroquine and sulfadoxine-pyrimethamine has been reported.</p> <p><i>P. falciparum</i> resistant to mefloquine exists along China-Myanmar border in Western Yunnan province.</p> <p>Limited risk of chloroquine-sensitive malaria exists in rural areas of southern and some central provinces, including Anhui, Guizhou, Henan, Hubei, and Jiangsu.</p> <p>There is no malaria risk in urban areas or northern China.</p> <p>Travellers to popular tourist areas, including Yangtze River cruises, are at very low to no risk, and do not need to take chemoprophylaxis.</p>	V
Western Pacific	Cook Islands (New Zealand)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Fiji	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	French Polynesia, includes the island groups of Society Islands (Tahiti, Moorea, and Bora-Bora); Marquesas Islands (Hiva Oa and Ua Huka); and Austral Islands (Tubuai and Rurutu)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Guam (U.S.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
Western Pacific	Japan	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Kiribati (formerly Gilbert Islands), includes Tarawa, Tabuaeran (Fanning Island), and Banaba (Ocean Island)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Lao People's Democratic Republic	5B	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>At risk area:</p> <ul style="list-style-type: none"> - High risk of malaria in the whole country, except in Vientiane where there is low to no risk. - Risk of mefloquine-resistant malaria in the provinces of Bokèo and Louang Namtha along the Laos-Burma border, and along the Laos-Thailand border in the provinces of Saravan and Champasack. 	V
Western Pacific	Malaysia	4B	<p>Malaria risk, due to <i>P. falciparum</i> (40%) and <i>P. vivax</i> (50%), exists only in limited foci.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>Human <i>P. knowlesi</i> infection reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: Risk is high in limited foci in the deep hinterland of Malaysian Borneo (inland areas of eastern Sabah, and inland forested areas of Sarawak), and to a lesser extent in the inland forested areas of peninsular Malaysia. - Very low risk in the rest of peninsular Malaysia, including the Cameron Heights, and the city of Kuala Lumpur. - Very low risk in the rest of Malaysian Borneo including the coastal areas of Sabah and Sarawak. 	IV
Western Pacific	Marshall Islands	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Micronesia (Federated States of), includes: Yap	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I

Region	Country/Area	Risk Category	Risk Description	Recommendation
	Islands, Pohnpei, Chuuk, and Kosrae			
Western Pacific	Mongolia	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Nauru	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	New Caledonia (France)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	New Zealand	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Niue (New Zealand)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Northern Mariana Islands (US) Includes Saipan, Tinian, and Rota Island	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Palau	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Papua New Guinea	4B	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p><i>P. vivax</i> resistant to chloroquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in all areas below 2,000 m. 	IV
Western Pacific	Philippines	4B	<p>Malaria risk exists throughout the year. <i>P. falciparum</i> 70%-80%, <i>P. vivax</i> 20%-30%.</p> <p><i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported.</p> <p>Human <i>P. knowlesi</i> infection reported in the province of Palawan.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Chloroquine-resistant malaria: in areas below 600 m, on islands of Basilu, Luzon, Mindanao, Mindoro, Palawan, Sulu (Jolo) and Tawi-Tawi. - No risk in the 22 provinces of Aklan (including Borocay Island), Albay, Benguet, Bilaran, Bohol, Camiguin, Capiz, Catanduanes, Cavite, Cebu, Guimaras, Iloilo, Northern Leyte, Southern Leyte, Marinduque, Masbate, Eastern Samar, Northern Samar, Western Samar, Siquijor, Sorsogon, Surigao Del Norte, metropolitan Manila, other urban areas, or in the plains. 	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
Western Pacific	Pitcairn Islands (U.K.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Republic of Korea (South Korea)	2	Malaria risk is limited, and is due exclusively to <i>P. vivax</i> . At-risk area: Risk limited to the months from March to December in rural areas in the northern parts of Gangwon-do and Gyeonggi-do Provinces and Incheon City (towards the Demilitarized Zone DMZ).	II
Western Pacific	Samoa (formerly Western Samoa)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Samoa, American (U.S.)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Singapore	2	Human <i>P. knowlesi</i> infection was reported in 2007 and 2008. No malaria risk reported by US CDC, UK PHE and Health Canada.	II
Western Pacific	Solomon Islands	4A	Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year. <i>P. vivax</i> resistant to chloroquine reported. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV
Western Pacific	Tokelau (New Zealand)	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Tonga	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Tuvalu	1	No malaria risk reported by WHO, US CDC, UK PHE and Health Canada.	I
Western Pacific	Vanuatu	4A	Malaria risk, predominantly due to <i>P. falciparum</i> , is low to moderate throughout the year. <i>P. falciparum</i> resistant to chloroquine and sulfadoxine-pyrimethamine reported. <i>P. vivax</i> resistant to chloroquine reported. At-risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country/Area	Risk Category	Risk Description	Recommendation
Western Pacific	Viet Nam (Vietnam)	5B	<p>Malaria risk predominantly due to <i>P. falciparum</i> exists throughout the year.</p> <p>Resistance to chloroquine, sulfadoxine-pyrimethamine and mefloquine reported.</p> <p>At-risk area:</p> <ul style="list-style-type: none"> - Mefloquine-resistant malaria: in the southern part of the country in the provinces of Tay Ninh, Song Be, Lam Dong, Ninh Thuan, Khanh Hoa, Dak Lak, Gia Lai, and Kon Tum. - Chloroquine-resistant malaria: in all areas. High-risk areas are the highland areas below 1,500 m south of 18°N, notably in the 4 central highlands provinces Dak Lak, Dak Nong, Gia Lai and Kon Tum, Binh Phuoc province, and the western parts of the coastal provinces, Quang Tri, Quang Nam, Ninh Thuan and Khanh Hoa. - No risk in urban centres, the Red River delta, the Mekong delta, and the coastal plain areas of central Viet Nam including Hanoi, Ho Chi Minh City (Saigon), Da Nang, Nha Trang, Qui Nhon, Haiphong and Phu Quoc Island. 	V

Annex 3: Risk Profile Statistics

Table 1: Risk categories versus countries/administrative areas in the six WHO regions

Region	1	2	3A	3B	4A	4B	4C	5B	Total
African	3	2			33	9			47
The Americas	25	1	1	9	1	8		1	46
Eastern Mediterranean	9	4			4	5			22
European	45	6		1		1			53
South-East Asia	1	1			1	6		2	11
Western Pacific	22	3			2	3		4	34
Total	105	17	1	10	41	32	0	7	213

Table 2: Recommendation categories versus countries/administrative areas in the six WHO regions

Region	I	II	III	IV	V	Total
African	3	2		42		47
The Americas	25	1	10	9	1	46
Eastern Mediterranean	9	4		9		22
European	45	6	1	1		53
South-East Asia	1	1		7	2	11
Western Pacific	22	3		5	4	34
Total	105	17	11	73	7	213