衞生防護中心
Centre for Health Protection

Scientific Committee on Vector-borne Diseases

Global Malaria Risk Summary September 2010

Introduction

Malaria is a notifiable disease in Hong Kong. Since 1998, annual malaria notification ranges from 23 to 55 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 risks of various countries or administrative areas for healthcare professionals' reference in September 2010. The Committee recommended this "Global Malaria Risk Summary" be updated and reviewed on an annual basis at the Committee meetings. This paper is to highlight the main changes in the global malaria epidemiology in the past one year.

Objectives

4. This document on global malaria risk serves to provide general reference for healthcare professionals in their management of potential travellers to malaria risk areas. It is to be used together with the "Guidelines on Malaria Chemoprophylaxis for Travellers from Hong Kong", published by the Committee.

Methods and Explanatory Notes

5. To understand the distribution of malaria risk areas on a global basis relies on accurate disease and laboratory surveillance information from various countries and administrative areas. Apart from the World Health Organization, the health authorities in the United States, United Kingdom, and Canada also compile malaria epidemiology information together with recommendation for travellers visiting these areas.

6. This Global Malaria Risk Summary (the Risk Summary) is compiled based on the epidemiology information as well as malaria prevention strategies recommended by these health authorities. While the malaria risk information 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 discrepancy are described in the Risk Summary. Nonetheless, as general principles, even in countries with malaria risks, the risk of malaria infection is generally lower in areas with altitudes greater than 2000 m or in well-developed city areas.

7. As regards recommendation, it is notably that mosquito-bite prevention is highlighted in all authorities. As for use of chemoprophylactic agents, there are minor differences in the recommended chemoprophylactic agents to be used in areas with emerging chloroquine-resistant malaria. While both WHO and UK recommend using chloroquine and proguanil for chemoprophylaxis in travellers visiting areas with emerging chloroquine resistance, US and Canada recommend using either atovaquone/proguanil, doxycycline, or mefloquine.

8. In order to better reflect the current epidemiology and recommendations, we have developed a set of risk and recommendation category. 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 in the six regions.

Updates from September 2009 to September 2010

9. Over the past year, WHO and US provided updated malaria situation and recommendations on malaria prevention for travellers. From time to time, WHO, US, UK and 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.

Update in the Global Malaria Risk Summary for country with Change in Risk Category and Recommendation

11. This year, only one country, Suriname has its malaria risks category revised.

12. The malaria risk of Suriname has changed from "risk of (chloroquine-resistance) malaria exists in certain areas (Risk Category: 4B)" to "risk of (both chloroquine and mefloquine resistance) malaria exists in certain areas (Risk Category: 5B)". According to WHO, the prevalence of *P. falciparum* and *P. vivax* is revised from 48% to 55% and 47% to 43% respectively. Also, the malaria risk occurs throughout the year in the interior of the country beyond the coastal savannah area, with highest risk mainly along the eastern border and in gold mining areas. In Paramaribo city and the other seven coastal districts, transmission risk is low or negligible. Chloroquine, sulfadoxine–pyrimethamine and mefloquine resistant *P. falciparum* and some decline in quinine sensitivity have been reported. US regards risk in all areas, except no risk in Paramaribo. UK and Canada also regard risk is high in all areas, except Paramaribo and coast. The corresponding recommendation for Suriname is changed to Type V. WHO advises mosquito bite prevention and chemoprophylaxis according to resistance pattern. Travellers are recommended to consider chemoprophylaxis using atovaquone/proguanil or doxycycline, but not mefloquine when travelling to areas at risk of mefloquine resistant malaria; Travellers are recommended to consider chemoprophylaxis using either atovaquone/proguanil, doxycycline, or mefloquine when travelling to areas at risk of chloroquine-resistant malaria.(Recommendation: V).

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

13. A total of 32 countries/administrative areas distributed in six WHO regions had updates in the risk description for their malaria risk, at risk areas, seasons or resistant pattern. Nonetheless, there is no change in their risk categories and recommendations. The followings summarize the changes according to the WHO Region.

(a) African Region: Six of the 48 countries in the region have their risk description updated. The six countries are Algeria, Cape Verde, Eritrea, Ethiopia, Swaziland and Zambia.
    (i) For Algeria, there are "three locally acquired cases reported in 2008" instead of "one locally acquired cases reported in 2006",

based on information from WHO.

(ii) For Cape Verde, a statement "where 16 locally acquired cases were reported in 2008" is added after "Limited malaria risk exists from August through November in São Tiago Island" according to WHO.

(iii) For Eritrea, the malaria risk "predominantly due to *P. falciparum* exist throughout the year" is updated as "malaria risk due to *P. falciparum* and *P. vivax* exist throughout the year" according to WHO.

(iv) For Ethiopia, the malaria risk "predominantly due to *P. falciparum* exists throughout the year" is updated as "malaria risk approximately due to 60% *P. falciparum*, 40% *P. vivax* exists throughout the year" accordingly to WHO information.

(v) For Swaziland, the at-risk area is revised as "in the northern and eastern areas bordering Mozambique and South Africa, including all of the Lubombo district and the eastern half of Hhohho and Shiselweni districts" instead of "in the northern and eastern areas bordering Mozambique and Zimbabwe, including all of the Lubombo district", according to US information.

(vi) For Zambia, the at-risk area is revised as "throughout the year in the whole country including Lusaka" instead of "throughout the year in the whole country" based on WHO information.

(b) Eastern Mediterranean Region: Out of the 20 countries/administrative areas, information in two has been updated. These two countries are Morocco and Oman.

(i) For Morocco, the statement "very limited malaria risk may exist from May to October in certain rural areas of Chefchaouen Province. (no indigenous cases reported in since 2005)" is removed since WHO no longer mentions this in its recommendations. But Canada still considers malaria risk may exist in certain rural areas of Chefchaouen Province. Malaria risk is very low according to UK information.

(ii) For Oman, the malaria risk about "sporadic transmission of *P. falciparum* and *P. vivax* reported until 2003, and again in 2007 (4 cases of *P. vivax*)" is updated as "sporadic transmission of *P. falciparum* and *P. vivax* reported until 2003, and again in 2007 and 2008 (4 cases and 8 cases of *P. vivax*)" based on WHO information.

(c) Europe: one of the 53 countries in the region has its risk description updated. The country is Turkey.

(i) For Turkey, US recommends Atovaquone/proguanil, chloroquine, doxycycline or mefloquine as chemoprophylaxis, but not primaquine. Our overall recommendation remains Type III (i.e. consider chemoprophylaxis using chloroquine when travelling to at risk areas).

(d) South-east Asia: Three of the eleven countries in the region have updates in their at risk areas. They are Bangladesh, India and North Korea.

(i) For Bangladesh, the at risk area is updated as "in the whole country excluding Dhaka city, with highest risk in Chittagong Division, the districts of Mymensingh, Netrakona and Sherpur in Dhaka Division, and Kurigram district in Rajshahi Division" instead of "in the whole country excluding Dhaka city", according to WHO information.

(ii) For India, Goa is no longer included in the at risk area based on WHO information.

(iii) For North Korea, WHO recommends mosquito bite prevention only (Type I). But US recommends using atovaquone/proguanil, chloroquine, doxycycline, mefloquine, or primaquine as chemoprophylaxis besides mosquito bite prevention. Therefore, our overall recommendation remains Type III (i.e. consider chemoprophylaxis using chloroquine when travelling to at risk areas).

(e) Western Pacific Region: Five of the 34 countries/administrative areas in the region have updates in their at risk areas and antimalarial resistance/tolerance pattern. They are Cambodia, China, South Korea, Singapore and Vietnam.

(i) For Cambodia, the malaria risk "within the tourist area of Angkor Wat is limited" is updated as "risk within the tourist area of Angkor Wat is negligible", according to WHO information.

(ii) For China, according to WHO, the remark of "The risk may be higher in areas of focal outbreaks" is removed.

(iii) For South Korea, the at risk area is revised as "Limited risk in the northern areas of Kyunggi Do and Gangwon Do Provinces and Incheon City (towards the Demilitarized Zone DMZ)" instead of "Limited risk in the northern areas of Kyunggi Do and Gangwon Do Provinces", according to WHO information.

(iv) For Singapore, the statement "One case of human *P. knowlesi* infection reported" is added, based on WHO information, which also recommends general precaution during travel only (Type I). Our overall recommendation remains Type II. Travellers are advised to undertake mosquito bite prevention and obtain update on latest epidemiology.

(v) For Vietnam, the malaria-free area also includes the Mekong delta, according to WHO information.

(f) The American Region: malaria risk in terms of the previous of various species and risk areas in 15 out of the 46 countries in the Americas have been updated. They are Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Venezuela.

(i) For Argentina, the at risk area also includes Chaco, based on WHO information.

(ii) For Bolivia, the prevalence of *P. vivax* amended from 89% to 91% according to WHO's update. Also, the at risk area is revised as "Falciparum malaria occurs in Santa Cruz and in the northern departments of Beni and Pando, especially in the localities of Guayaramerín, Cobija and Riberalta" instead of "Falciparum malaria occurs in Santa Cruz and in the northern departments of Beni and Pando, especially in the localities of Guayaramerín, Itinez and Riberalta".

(iii) For Brazil, the prevalence of *P. vivax* and *P. falciparum* is revised from 80% to 84% and 19% to 15% respectively according to WHO information.

(iv) For Colombia, the at risk area is revised as "Transmission intensity varies by department, with the highest risk in Antioquia, Amazonas, Chocó, Córdoba, Guaviare, La Guajira,Meta, Nariño Putomayo, Vichada. *P. falciparum* exists in Amazonia, Pacifico and Uraba-Bajo Cauca" instead of "Transmission intensity varies by department, with the highest risk in Antioquia, Arauca, Chocó, Córdoba, Guaviare, Meta, Nariño Putomayo, Vichada and Valle del Cauca", based on WHO information.

(v) For Costa Rica, the cantons of Guacimo, Limón, and Talamanca are no longer included in the high risk area according to WHO information.

(vi) For Dominican Republic, Azua and Bahoruco are excluded in the description of at risk areas based on WHO update.

(vii) For Ecuador, according to WHO, the prevalence of *P. falciparum* and *P. vivax* is amended from 12% to 8% and from 88% to 92% respectively.

(viii) For Guatemala, the at risk areas is updated as "there is moderate to high risk in the departments of Escuintla and Izabal; and low risk in Alta Verapaz, Baja Verapaz, Chiquimula, Peten, Quiche (Ixcan) and Suchitepequez" instead of "there is moderate to high risk in the departments of Alta Verapaz, Baja Verapaz, Escuintla, Izabal, Petén, Quiché (Ixcan) and Retalhuleu", based on WHO information.

(ix) For Guyana, based on WHO's updates, the prevalence of *P. falciparum* and *P. vivax* is amended from 50% to 45% and from 50% to 51% respectively while mixed infections is 4%. Also, regions 3 is upgraded as moderate risk area and region 10 is upgraded as highest risk area.

(x) For Haiti, the at risk area is revised as "the whole country" instead of "the whole country, including costal and border zones. Risk in the main urban areas of Port-au-Prince is considered to be very low", according to WHO information.

(xi) For Honduras, in accordance with WHO, the at risk area is revised as "malaria transmission risk due to *P. vivax* is high in the

departments of Gracias a Dios, and moderate in Atlantida, Colon, Islas de la Bahia, Olancho, Valle and Yoro" instead of "malaria transmission risk due to *P. vivax* is high in the departments of Colón, Gracias a Dios and Islas de la Bahia; and moderate in Atlántida and Olancho". Also, Comayagua is no longer included in the *P. falciparum* transmission high risk area.

(xii) For Mexico, the at risk area is updated as "there is moderate risk in some localities in the states of Chiapas and Oaxaca; very low-risk in the states of Chihuahua, Durango, Sinaloa, Nayarit, Quintana Roo" instead of "there is high risk in some localities in the states of Chiapas and Oaxaca; moderate risk in the states of Chihuahua, Durango, Sinaloa and Tabasco; and low risk in Jalisco, Nayarit, Quintana Roo, Sonora", according to WHO information.

(xiii) For Nicaragua, the at risk area is revised as "low risk exists throughout the year in a number of municipalities in Chinandega, Leon, Managua, Matagalpa, Region Autonoma del Atlantico Norte and Region Autonoma del Atlantico Sur" instead of "moderate to high risk municipalities are mostly in Chinandega, Managua, Matagalpa, Léon, RA Atlántico Norte and RA Atlántico Sur". Also, the risk in other municipalities in the central and western department is considered very low or negligible by WHO.

(xiv) For Panama, based on WHO information, the prevalence of *P. vivax* is updated from 97% to 99% while *P. falciparum* is no longer considered as the main pathogen. Costa Rica and Chiriqui are added to the at risk areas. In accordance with US information, provinces east of the Panama Canal towards the border with Colombia(provinces of Panama east of the canal and Darien), and in provinces of Veraguas, Chiriqui, C. Ngobe Buble, Cocle, and Kuyan Ayala are added to the at risk areas. Chloroquine resistance is confirmed, therefore US recommends Atovaquone/proguanil, chloroquine, doxycycline, mefloquine or primaquine in Bocas Del Toro and Veraguas instead of chloroquine alone in Bocas Del Toro. It also recommends Atovaquone/ proguanil, doxycycline, mefloquine, or primaquine in Darién and San Blas. Our overall recommendation remains Type IV (i.e. Consider chemoprophylaxis using either atovaquone/proguanil, doxycycline, or mefloquine when travelling to areas at risk of chloroquine-resistant malaria).

(xv) For Venezuela, areas with risk and prevalence of malaria species are updated according to WHO information:

- The prevalence of *P. vivax* and *P. falciparum* is updated from 81% to 83% and from 19% to 16% respectively.
- For the areas with risk of chloroquine-resistant malaria, Caroni and El Callao are added.
- The area with chloroquine-sensitive malaria is revised as "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" instead of "In other some rural areas of Apure, Amazonas, Anzoátegui, Bolívar, Monagas, Sucre, Táchira, Delta Amacuro amd Zulia states and in Angel Falls".

Travel Health Service

14. The Port Health Office under the Department of Health has two Travel Health Centres to offer individual travel health assessment for travellers, and give health advice, travel health information, travel-related vaccinations and other preventive medications. People planning to visit malaria endemic countries may contact the travel health enquiry phone lines for travel health advice and, if necessary, book appointment in the Travel Health Centres for pre-travel health risk assessment and advice, including anti-mosquito measures and anti-malarial chemoprophylaxis to be taken. Health promotion activities on travel health including talks, seminars and exhibitions are arranged periodically to increase the awareness of malaria risk in endemic countries for outbound travellers. More information on Travel Health Service is available at: http://www.travelhealth.gov.hk/

Reference Websites for Updated Epidemiology on Malaria

(a) WHO. Disease Outbreak News: Malaria. Available from: http://www.who.int/csr/don/archive/disease/malaria/en/
(b) CDC, US. Traveler's Health: Outbreak. Available from: http://wwwn.cdc.gov/travel/default.aspx
(c) Health Protection Agency, UK. Malaria: News. Available from: http://www.hpa.org.uk/infections/topics_az/malaria/news.htm
(d) National Travel Health Network and Centre, UK. Health professionals: Clinical Updates Available from: http://www.nathnac.org/pro/clinical_updates/index.htm
(e) Public Health Agency of Canada. Travel Health: Notice and International Reports. Available from: http://www.phac-aspc.gc.ca/tmp-pmv/pub_e.html
(f) The HK Port Health Office. Travel Health Centre. Available from: http://www.travelhealth.gov.hk/

Limitation and disclaimers

15. The information presented in this paper is quoted from the following reports:

(a) WHO International travel and health 2010 Edition, Country list: yellow fever vaccination requirements, recommendations and malaria situation.

(b) Centers for Disease Control and Prevention. Health Information for International Travel 2010 – The Yellow Book. Atlanta: US Department of Health and Human Services, Public Health Service, 2010.
(c) Guidelines for malaria prevention in travellers from the United Kingdom. London, Health Protection Agency, January 2007.
(d) Public Health Agency of Canada. Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers, July 2009.

16. While great efforts have been made to ensure that the epidemiology information in this summary is maintained as up-to-date as possible, disease situation may change rapidly over time. Moreover, under-reporting and delayed reporting of 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

17. This Risk Summary will be updated in the third quarter of 2011. Any feedbacks and enquiries can 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 September, 2010)
Annex 3: Risk Profile Statistics

Key References

World Health Organization
(a) WHO World Malaria Report 2005 [Cited 2010 September 30]. Available from http://www.rbm.who.int/wmr2005/
(b) WHO. International travel and health 2010 Edition, Country list: yellow fever vaccination requirements, recommendations and malaria situation [Cited 2010 September 30]. Available from http://www.who.int/ith/ITH2010countrylist.pdf

United States
(c) Centers for Disease Control and Prevention. Health Information for International Travel 2010 – The Yellow Book. Atlanta: US Department of Health and Human Services, Public Health Service, 2010. [Cited 2010

September 30]. Available from http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-2/malaria-risk-information-and-prophylaxis.aspx#1918

United Kingdom

(d) Chiodini P, Hill D, Lalloo D, Lea G, Walker E, Whitty C and Bannister B. Guidelines for malaria prevention in travellers from the United Kingdom. London, Health Protection Agency, January 2007 [cited 2010 September 30]. Available from http://www.hpa.org.uk/publications/2006/Malaria/Malaria_guidelines.pdf

Canada

(e) Public Health Agency of Canada. Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers, July 2009. Volume 35S1 [cited 2010 September 30]. Available from http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s1/index-eng.php

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Annex 1: Key to Global Malaria Risk Summary

Risk Category	General Description of the Risk	Recom-mendation	Recommendation description
1	**No malaria risk** (as reported by WHO, US CDC, UK HPA 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 choloroquine-sensitive malaria only** **3A**: *Risk of malaria exists in the whole administrative area* **3B**: *Risk of malaria exists in certain areas*	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** **4A:** *Risk of malaria exists in the whole administrative area* **4B:** *Risk of malaria exists in certain areas* **4C***: Emerging chloroquine-resistant malaria exists in certain areas*	IV	Malaria prevention recommended ➢ Advise to undertake mosquito bite prevention ➢ When travel to areas at risk of chloroquine-resistant malaria, consider chemoprophylaxis using either atovaquone/proguanil, doxycycline, or mefloquine; ➢ When travel to areas at risk of emerging chloroquine-resistant malaria, consider chemoprophylaxis using chloroquine + proguanil (recommended by WHO and HPA) or either atovaquone/proguanil, doxycycline, or mefloquine (recommended by CDC and / or Health Canada); ➢ When travel to areas at risk of chloroquine-sensitive malaria, consider chemoprophylaxis using chloroquine.

Risk Category	General Description of the Risk	Recom-mendation	Recommendation description
5	**Malaria resistant to both chloroquine and mefloquine have been reported** **5A**:*Risk of malaria exists in the whole administrative area* **5B**: *Risk of malaria exists in certain areas*	**V**	Malaria prevention recommended ➢ 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 either atovaquone/proguanil, doxycycline, or mefloquine; ➢ When travel to areas at risk of emerging chloroquine-resistant malaria, consider chemoprophylaxis using chloroquine + proguanil (recommended by WHO and HPA) or either atovaquone/proguanil, doxycycline, or mefloquine (recommended by CDC and / or Health Canada); ➢ When travel to areas at risk of chloroquine-sensitive malaria, consider chemoprophylaxis using chloroquine.

Annex 2: Global Malaria Risk Summary (As of September 30, 2010)

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Algeria**	2	Malaria risk exclusively due to *P. vivax* is limited. Three locally acquired case was reported in 2008. At risk area: Small foci of local transmission of *P. vivax* have been reported in the 6 southern and south-eastern wilayas (Adrar, El Oued, Ghardaia, Illizi, Ouargla, Tamanrasset). Isolated local *P. falciparum* transmission has been reported from the two southernmost wilayas in areas under influence of trans-Saharan migration.	II
Africa	**Angola**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Benin**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Botswana**	4B	Malaria risk predominantly due to *P. falciparum* exists. *P. falciparum* resistant to chloroquine reported. At risk area: - Chloroquine-resistant malaria: in the northern parts of the country (northeast and northwest): provinces of Central, Chobe, Ghanzi, Ngamiland, and including safaris to the Okavango Delta area from November to June. No risk in the city of Gaborone and Francistown.	IV
Africa	**Burkina Faso**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Burundi**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Cameroon**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Cape Verde**	4B	Malaria risk preominantly due to *P. falciparum* is limited. *P. falciparum* resistant to chloroquine reported. At risk area: - Chloroquine-resistant malaria: In São Tiago Island from August through November, where 16 locally acquired cases were reported in 2008.	IV
Africa	**Central African Republic**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Chad**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Comoros**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Congo**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Côte d'Ivoire (Ivory Coast)**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Democratic Republic of the Congo (formerly Zaire)**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Djibouti**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Equatorial Guinea**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Eritrea**	4B	Malaria risk due to P. falciparum and *P. vivax* exists throughout the year. resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: in all areas below 2200m. No risk in Asmara.	IV
Africa	**Ethiopia**	4B	Malaria risk approximately 60% *P. falciparum*, 40% *P.vivax* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: In all areas below 2000m. No risk in Addis Ababa.	IV
Africa	**Gabon**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Gambia**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Ghana**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Guinea**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Guinea-Bissau**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Kenya**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: In all areas below 2,500m. 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
Africa	**Lesotho**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Africa	**Liberia**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Madagascar**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Malawi**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Mali**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Mauritania**	4B	Malaria risk predominantly due to *P. falciparum* exists. *P.falciparum* resistance 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
Africa	**Mauritius**	3B	Malaria risk exclusively due to *P. vivax* may exist. No indigenous cases reported since 1998. At risk area: In certain rural areas. No risk on Rodrigues Island.	III
Africa	**Mayotte (French territorial collectivity)**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Mozambique**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Namibia**	4B	Malaria risk predominantly due to *P. falciparum* exists. *P.falciparum* resistance 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
Africa	**Niger**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Nigeria**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Rwanda**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**São Tomé and Príncipe**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Senegal**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* 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
Africa	**Seychelles**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Africa	**Sierra Leone**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**South Africa**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance 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. Risk is highest from October to May.	IV
Africa	**Swaziland**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance 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 and Shiselweni districts	IV

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Tanzania**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: In all areas below 1800m.	IV
Africa	**Togo**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Africa	**Uganda**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: In all areas including the main towns of Fort Portal, Jinja, Kampala, Mbale and Kigezi.	IV
Africa	**Zambia**	4A	Malaria risk predominantly due to P. falciparum exists throughout the year. P. falciparum resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas including Lusaka.	IV
Africa	**Zimbabwe**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
Eastern Mediterr-anean	**Afghanistan**	4B	Malaria risk due to *P. vivax* and *P. falciparum* exists. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: in all areas at altitude below 2,000m from April to December.	IV
Eastern Mediterr-anean	**Bahrain**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Egypt**	3B	Malaria risk due to *P. falciparum* and *P. vivax* is very limited. No indigenous cases reported since 1998. At risk area: In El Faiyûm governorate from June through October. No risk in tourist areas, including Nile River cruises.	III

Region	Country	Risk category	Risk description	Recom-mendation
Eastern Mediterr-anean	**Iran**	4B	Malaria risk due to *P. vivax* and *P. falciparum* exists. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: In Ardebil and East Azerbijan provinces north of the Zagros mountains and in rural areas of the provinces of Hormozgan, Kerman (tropical part) and the southern part of Sistan–Baluchestan from March to Novermber. - Emerging chloroquine-resistant malaria: UK: In Ardebil and East Azerbijan provinces north of the Zagros mountains and in rural areas of the provinces of Hormozgan, Kerman (tropical part) and the southern part of Sistan–Baluchestan from March through November.	IV
Eastern Mediterr-anean	**Iraq**	3B	Limited malaria risk exclusively due to *P. vivax* exists. At risk area: In Basrah province and in areas below 1500m in provinces of Duhok, Erbil, Ninawa, Sulaimaninya, and Ta'mim from May through November.	III
Eastern Mediterr-anean	**Jordan**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Kuwait**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Lebanon**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean r	**Libya (Libyan Arab Jamahiriya)**	2	Malaria risk is very low to none. At risk area: Obtain latest epidemiology.	II
Eastern Mediterr-anean	**Morocco**	2	Malaria risk is very.low. At risk area: - Chloroquine sensitive malaria: may exist in certain rural areas of Chefchaouen Province. No risk in the cities of Tangier, Rabat, Casablanca, Marrakech, and Fes.	II
Eastern Mediterr-anean	**Oman**	4B	*P.falciparum* resistant to chloroquine reported. Sporadic transmission of *P. falciparum* and *P. vivax* reported until 2003, and again in 2007 and 2008 (4 cases and 8 cases of *P. vivax* respectively). At risk area: - Chloroquine-resistant malaria: Canada: In remote areas of Musandam Province. - Emerging chloroquine-resistant malaria: UK: In remote areas of Musandam Province.	IV

Region	Country	Risk category	Risk description	Recom-mendation
Eastern Mediterr-anean	**Pakistan**	4B	Malaria risk due to *P. falciparum* and *P. vivax* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: In all areas (including all cities) below 2500m.	IV
Eastern Mediterr-anean	**Qatar**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Saudi Arabia**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance to chloroquine reported. At risk area: - Chloroquine-resistant malaria: in most of the South-western Region, including border with Yemen, Al Bahah, Al Madinah, Asir (excluding the highaltitude areas above 2,000 m), Jizan, Makkah, Najran, and Tabuk provinces No risk in urban areas of Jeddah, Mecca, Medina, and Ta'if.	IV
Eastern Mediterr-anean	**Somalia**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. 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.	IV
Eastern Mediterr-anean	**Sudan**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* 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.	IV
Eastern Mediterr-anean	**Syria (Syrian Arab Republic)**	3B	Malaria risk exclusively due to *P. vivax* is very limited. No indigenous cases reported since 2005. At risk area: In foci along the northern border, especially in rural areas of El Hasaka Governorate, from May through October.	III
Eastern Mediterr-anean	**Tunisia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Eastern Mediterr-anean	**United Arab Emirates**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Eastern Mediterr-anean	**Yemen**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year, but mainly from September through February. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: All areas below 2000 m. Very limited risk on Socotra Island. No risk in Sana'a city.	IV
Europe	**Albania**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Andorra**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Armenia**	3B	Malaria risk exclusively due to *P. vivax* exists focally. No indigenous cases reported since 2006. At risk area: In some of the villages located in Ararat Valley, mainly in the Masis district from June through October. No risk in tourist areas.	III
Europe	**Austria**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Azerbaijan**	3B	Malaria risk exclusively due to *P. vivax* exists. At risk area: In rural areas below 1500m, mainly in the area between the Kura and the Arax rivers from June through October No risk in Baku.	III
Europe	**Belarus**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Belgium**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Bosnia and Herzegovina**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Bulgaria**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Croatia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Cyprus**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Czech Republic**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Denmark**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Europe	**Estonia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Finland**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**France**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Georgia**	3B	Malaria risk exclusively due to P. vivax exists focally. At risk area: In the south-eastern part of the country near Azerbaijan border and Kura River and in the districts of Lagodekhi, Sighnaghi, Dedophilistskaro, Saraejo, Gardabani, and Marneuli in the Kakheti and Kveno Kartli regions from June to October No risk in Tiblisi.	III
Europe	**Germany**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Greece**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Hungary**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Iceland**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Ireland**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Israel**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Italy**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Kazakhstan**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Kyrgyzstan**	3B	Malaria risk exclusively due to *P. vivax* exists. At risk area: In some southern and western parts of the country, mainly in areas bordering Tajikistan and Uzbekistan – Batken, Osh and Jalal-Abad regions including the capital city Bishkek from May through October.	III
Europe	**Latvia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Lithuania**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Luxembourg**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Macedonia, The Former Yugoslav Republic of**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Malta**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Moldova**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Monaco**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Europe	**Montenegro**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Netherlands**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Norway**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Poland**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Portugal**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Romania**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Russia**	2	Very limited malaria risk exclusively due to *P. vivax*. At risk area: In areas under influence of intense migration from southern countries in the Commonwealth of Independent States. Rare local cases by border with Azerbaijan.	II
Europe	**San Marino**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Serbia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Slovakia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Slovenia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Spain**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Sweden**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Switzerland**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Tajikistan**	4C	Malaria risk predominantly due to *P. vivax* exists. Chloroquine and sulfadoxine-pyrimethamine resistant *P. falciparum* reported in the southern part of the country. At risk area: - Emerging chloroquine-resistant malaria: In all areas below 2,500 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.	IV
Europe	**Turkey**	3B	Malaria risk exclusively due to *P. vivax* exists. At risk area: In the south-eastern part of the country, including the provinces of Icel, Adana, Osmaniyeh, Hatay, Kahraman Maras, Gaziantep, Kilis, Adryaman, Sanliurfa, Elazig, Diyarbakar, Mardin, Bingol, Mus, Batman, Bitlis, Siirt, Sirnak, Van, and Hakkari from March to November. No risk in the main tourist areas in the west and southwest of the country, Incerlik U.S. Air Force base and on typical cruise itineraries.	III

Region	Country	Risk category	Risk description	Recom-mendation
Europe	**Turkmenistan**	3B	Malaria risk exclusively due to *P. vivax* exists. At risk area: In some villages located in the south-eastern part of the country bordering Afghanistan, mainly in Mary district, and in the flood plains between the Murgab and Tedzhen Rivers from June to October.	III
Europe	**Ukraine**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**United Kingdom (with Channel Islands and Isle of Man)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Europe	**Uzbekistan**	3B	Malaria risk exclusively due to *P. vivax* exists with sporadic autochthonous cases reported. At risk area: In Uzunskiy, Sariassiskiy, and Shurchinskiy districts (Surkhanda- Rinskaya Region). Rare cases along the Afghanistan and Tajikistan border.	III
South-East Asia	**Bangladesh**	4B	Malaria risk exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: All areas except no risk in Dhaka city. Highest risk in Chittagong Division, the districts of Mymensingh, Netrakona and Sherpur in Dhaka Division, and Kurigram district in Rajshahi Division.	IV
South-East Asia	**Bhutan**	4B	Malaria risk exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: In rural areas below 1,700 m of the southern districts of: Chhukha, Chirang, Geyleg-phug, Samchi, Samdrup Jongkhar, Sarpang and Shemgang.	IV
South-East Asia	**Burma (Myanmar)**	5B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxinepyrimethamine reported. Mefloquine resistance reported in Kayin state and the eastern part of Shan state. *P. vivax* with reduced sensitivity to chloroquine reported. Human *P. knowlesi* infection reported At risk area: - Mefloquine resistant malaria: States of Bago, Shan, Klayah, Kayin, and Tanintharyi - Chloroquine-resistant malaria: All areas at altitudes below 1000 m except main urban areas of Yangon and Mandalay.	V

Region	Country	Risk category	Risk description	Recom-mendation
South-East Asia	**East Timor (Timor-Leste)**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas.	IV
South-East Asia	**India**	4B	Malaria risk with overall 40% to 50% of cases due to *P. falciparum* exists throughout the year. *P.falciparum* resistance 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: In the north-eastern states, in 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: In Assam - Emerging Chloroquine-resistant malaria: WHO/UK: In all other areas below 2,000 m, including Delhi and Mumbai (Bombay). UK: In Goa There is no transmission in parts of the states of Himachal Pradesh, Jammu and Kashmir, and Sikkim.	IV
South-East Asia	**Indonesia**	4B	Malaria risk exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine resistance malaria: In all areas except in Jakarta Municipality, big cites, and within the areas of the tourist resorts of Bali and Java.	IV
South-East Asia	**Korea, North**	3B	Malaria risk exclusively due to *P. vivax* is limited. At risk area: In some southern area.	III
South-East Asia	**Maldives**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
South-East Asia	**Nepal**	4C	Malaria risk predominantly due to *P. vivax* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Emerging chloroquine-resistant malaria: WHO/Canada: In rural areas below 1,200m of the 20 Terai districts bordering with India with occasional outbreaks of *P. falciparum* from July to October. Seasonal transmission of *P. vivax* takes places in 45 districts of the inner Terai valleys of Udaypur, Sindhupalchowk, Makwanpur, Chitwan and Dang. US: in all areas below 1,200m UK: in all areas below 1,500m No risk in Kathmandu or on typical Himalayan treks.	IV
South-East Asia	**Sri Lanka**	4C	Malaria risk due to *P. vivax* (88%) and *P. falciparum* (12%) exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Emerging chloroquine-resistant malaria: In all areas except no risk in the districts of Colombo, Galle, Gampaha, Kalutara, Matara and Nuwara Eliya.	IV
South-East Asia	**Thailand**	5B	Malaria risk exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported. Resistance to mefloquine and to quinine reported from areas near the borders with Cambodia and Myanmar. Human *P. knowlesi* infection reported At risk area: - Mefloquine resistant malaria: In areas near the border with Cambodia, Laos, and Myanmar (Burma). - Chloroquine-resistant malaria: In rural, especially forested and hilly, areas of the whole country, mainly towards the international border including the southernmost provinces. No risk in cities (e.g. Bangkok, Chiang Mai, Chiang Rai, Pattaya), Samui island, Koh Phangan and the main tourist resorts of Phuket island. However, there is a risk in some other areas and islands.	V
The Americas	**Anguilla (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Antigua and Barbuda**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Argentina**	3B	Malaria risk exclusively due to *P. vivax* is low. At risk area: Confined to rural areas along the borders with Bolivia (lowlands of Jujuy and Salta provinces) and with Paraguay (lowlands of Chaco, Corrientes and Misiones provinces).	III

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Bahamas**	3B	At risk area: Island of Great Exuma only. There is currently no known risk of malaria on the other islands of the Bahamas.	III
The Americas	**Barbados**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Belize**	3B	Malaria risk predominantly due to *P. vivax* exists throughout the year. At risk area: All districts but varies within regions. Risk is highest in Toledo and Stan Creek Districts; moderate in Corozal and Cayo; and low in Belize District, Corozal and Orange Walk. No risk in Belize City.	III
The Americas	**Bermuda (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Bolivia**	4B	Malaria risk predominantly due to *P. vivax* (91%) exists throughout the year. Falciparum malaria exists in Santa Cruz and in the northern departments of Beni and Pando, especially in the localities of Guayaramerín, Cobija and Riberalta. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: US/Canada: All areas below 2,500m in the following departments: Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, and Tarija except in the city of La Paz. WHO: Beni, Pando and Santa Cruz UK: Amazone basins areas - Emerging chloroquine-resistant malaria: UK: in all other areas below 2,500 m except city of La Paz. -Chloroquine sensitve malaria: WHO: in all other areas below 2,500 m except city of La Paz.	IV
The Americas	**Brazil**	4B	Malaria risk due to *P. vivax* (84%) and *P. falciparum* (15%) exists throughout the year. Multidrug-resistant *P. falciparum* reported. At risk area: -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 (except Belém City), Rondônia, Roraima and Tocantins). Transmission intensity varies from municipality to municipality, but is higher in jungle areas of mining, agricultural settlements less than 5 years old, and in some peripheral urban areas of Manaus, Pôrto Velho and Cruzeiro do Sul. Malaria also occurs in Iguassu Falls and on the periphery of large cities such as Boa Vista, Macapá, Maraba, Rio Branco and Santarém. Malaria transmission risk is negligible or nonexistent in the states outside "Legal Amazonia".	IV

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Canada**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Cayman Islands (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Chile**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Colombia**	4B	Malaria risk due to *P. vivax* (72%) and *P. falciparum* (27%) is high throughout the year. Chloroquine-resistant *P. falciparum* exists in Amazonia, Pacífico and Urabá-Bajo Cauca. Resistance to sulfadoxine–pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: WHO: In rural/jungle areas below 1,600 m, especially in municipalities of the regions of Amazonia, Orinoquía, Pacífico and Urabá-Bajo Cauca. Transmission intensity varies by department, with the highest risk in Antioquia, Amazonas, Chocó, Córdoba, Guaviare, La Guajira, Meta, Nariño , Putomayo, Vichada. *P. falciparum* exists in Amazonia, Pacifico and Uraba-Bajo Cauca. US: In all rural areas below 1,800 m. No risk in Bogotá and Cartagena.	IV
The Americas	**Costa Rica**	3B	Malaria risk almost exclusively due to *P. vivax* exists throughout the year. At risk area: In Limón, Alajuela, Guanacaste, Heredia and Puntarenas provinces. Highest risk exists in the cantons of Matina. 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 HPA and Health Canada.	I
The Americas	**Dominica**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Dominican Republic**	3B	Malaria risk exclusively due to *P. falciparum* exists throughout the year. No evidence of *P. falciparum* resistance to any antimalarial drug. At risk area: In all areas (including resort areas), especially in western provinces of Dajabón, Elias Pina, San Juan and in La Altagracia province. No risk in the cities of Santo Domingo and Santiago.	III

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Ecuador; Including the Galápagos Islands**	4B	Malaria risk due to *P. vivax* (92%) and *P. falciparum* (8%) exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: in all areas below 1 500 m, with moderate transmission risk in coastal provinces. No risk in the cities of Guayaquil, Quito, cities of inter-Andean region, the central highland tourist areas, and the Galápagos Islands.	IV
The Americas	**El Salvador**	3B	Malaria risk, almost exclusively due to *P. vivax*, is very low throughout the year. At risk area: In Rural areas of migratory influence from Guatemala in Santa Ana and Ahuachapán, La Paz and La Unión departments. Sporadic vivax malaria cases are reported from other parts of the country. No risk in the city of San Salvador.	III
The Americas	**French Guiana**	4A	Malaria risk due to *P. falciparum* (45%) and *P. vivax* (55%) is high throughout the year. Multidrug-resistant *P. falciparum* 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.	IV
The Americas	**Grenada**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Guadeloupe, including St. Barthelemy and Saint Martin (France)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Guatemala**	3B	Malaria risk predominantly due to *P. vivax* exists throughout the year. At risk area: In areas below 1,500 m. There is moderate to high risk in the departments of Escuintla and Izabal; and low risk in Alta Verapaz, Baja Verapaz, Chiquimula, Peten, Quiche (Ixcan) and Suchitepequez. No risk in Guatemala City, Antigua or Lake Atitlán.	III

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Guyana**	4B	Malaria risk due to *P. falciparum* (45%) and *P. vivax* (51%), mixed infection 4% -is high throughout the year. *P.falciparum* resistance to chloroquine reported. Sporadic cases of malaria have been reported from the densely populated coastal belt. At risk area: - Chloroquine-resistant malaria: in all parts of the interior below 900 m. Highest risk occurs in Regions 1, 7, 8 and 9 and 10; moderate risk in Region 2 and 3; and very low risk in Regions 4, 5 and 6.	IV
The Americas	**Haiti**	3A	Malaria risk exclusively due to *P. falciparum* exists throughout the year. At risk area: The whole country.	III
The Americas	**Honduras**	3B	Malaria risk predominantly due to *P. vivax* exists throughout the year. At risk area: In all areas at altitudes below 1000 m (<3,281 ft) and in Roatán and other Bay Island. Risk exists in the outskirts of Tegucigalpa and San Pedro Sula. Malaria transmission risk due to *P. vivax* is high in the departments of Gracias a Dios, and moderate in Atlantida, Colon, Islas de la Bahia, Olancho, Valle and Yoro. *P. falciparum* transmission risk is high in Colón, and Gracias a Dios; and moderate in Atlántida and Olancho.	III
The Americas	**Jamaica**	2	Malaria risk including *P. falciparum* is very limited. At risk area: City of Kingston.	II
The Americas	**Martinique (France)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Mexico**	3B	Malaria risk, almost exclusively due to *P. vivax,* exists by tourists throughout the year. At risk area: In Chiapas, Oaxaca, Chihuahua, Sinaloa, Tabasco, Campeche, Durango, Guerrero, Michoacán, Jalisco, Nayarit, Quintana Roo, Sonora, Veracruz and Yucatan. There is moderate risk in some localities in the states of Chiapas and Oaxaca; very-low risk in the states of Chihuahua, Durango, Sinaloa, Nayarit, Quintana Roo No malaria risk exists along the United States-Mexico border and in the major resorts along the Pacific and Gulf coasts.	III
The Americas	**Montserrat (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA 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 HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Nicaragua**	3B	Malaria risk predominantly due to *P. vivax* exists throughout the year. At risk area: In a number of municipalities throughout the year. Low risk exists throughout the year in a number of municipalities in Chinandega, Leon, Managua, Matagalpa, Region Autonoma del Atlantico Norte and Region Autonoma del Atlantico Sur. Cases are reported from other municipalities in the central and western department; but the risk in these areas is considered very low or negligible.	III
The Americas	**Panama**	4B	Malaria risk due to *P. vivax* (99%) exists. Chloroquine-resistant *P. falciparum* has been reported in Darién and San Blas provinces. At risk area: - Chloroquine-resistant malaria: in Darién, San Blas provinces and San Blas Islands. Also, in provinces east of the Panama Canal towards the border with Colombia(provinces of Panama east of the canal and Darien) And in provinces of Veraguas, Chiriqui, C. Ngobe Buble, Cocle, and Kuyan Ayala. - Chloroquine sensitive malaria: in provinces along the Atlantic coast and the border with Costa Rica and Colombia: Bocas del Toro, Chiriqui, Colon, Darien, Ngobe Bugle, Panama and Veraguas. No or negligible risk in Panama City, the Canal Zone	IV
The Americas	**Paraguay**	3B	Malaria risk almost exclusively due to *P. vivax* is moderate. At risk area: In the departments of Alto Paraná, Caaguazú, and Canendiyú. No or negligible transmission risk in the other departments.	III

The Americas	**Peru**	**4B**	Malaria risk due to *P. vivax* (85%) and *P. falciparum* (15%) exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: US/Canada: in all departments below 2,000 m include Puerto Maldonado and Iquitos WHO: Department of Loreto (Situated in the Amzaon. Ninety eight percent of P. falciparum cases are reported from this department which also harbours 18 of the highest risk districts in the country). UK: Amazon basin area. - Emerging cholorquine-resistant malaria: UK: in other rural areas east of the Andes and west of the Amazon Basin below 1500m.— - Chloroquine sensitive malaria: WHO: in all departments below 2,000 m. The 23 highest risk districts are concentrated in the departments of Ayacucho, Junín, Loreto, Madre de Dios and San Martín. No risk in Arequipa, Moquegua, Puno, and Tacna. Travelers who will visit only in Lima and its vicinity, coastal areas south of Lima, or the highland tourist areas (Cuzco, Machu Picchu, and Lake Titicaca) are not at risk and need no prophylaxis.	IV

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Puerto Rico (U.S.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Saint Kitts (Saint Christopher) and Nevis (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Saint Lucia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Saint Vincent and the Grenadines**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Suriname**	**5B**	Malaria risk due to *P. falciparum* (55%), *P. vivax* (43%) has decreased in recent years and occurs throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine and mefloquine reported. Some decline in quinine sensitivity also reported. At risk area: 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 low or negligible in Paramaribo city and the other seven coastal districts (Nickerie, Coronie, Saramacca, Wanica, Paramaribo, Commewijne, and Marowijne) north of latitude 5°N.	V
The Americas	**Trinidad and Tobago**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Turks and Caicos Islands (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**United States**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
The Americas	**Uruguay**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Venezuela (Bolivarian Republic of)**	4B	Malaria risk due to-*P. vivax* (83%) *P. falciparum* (16%) exists throughout the year. Risk of *P. falciparum* malaria is mostly restricted to municipalities in jungle areas of Amazonas and Bolívar. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: -Chloroquine-resistant malaria: US/Canada: In some rural areas of Apure, Amazonas, Barinas, Bolívar, Carabobo, Sucre, Táchira, Delta Amacuro states and in Angel Falls. WHO: In municipalities in jungle areas of Amazonas (Alto Orinoco, Atabapo, Atures, Autana, Manapiare, Rio Negro) and Bolívar (Caroni, Cedeño, El Callao, Heres, Gran Sabana, Piar, Raul Leoni, Rocio, Sifontes and Sucre). UK: All areas south of and including the Orinoco river. -Emerging chloroquine-resistant malaria: UK: in rural areas of Apure, Barinas, Sucre and Tachira states north of the Orinoco River. -Chloroquine sensitive malaria: 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. No risk in Caracas and Margarita Island.	IV
The Americas	**Virgin Islands, British**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Australia; Including Cocos (Keeling) Islands.**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Brunei Darussalam**	2	Malaria risk is very low to none. At risk area: Obtain latest epidemiology.	II
Western Pacific	**Cambodia**	5B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxinepyrimethamine reported. Resistance to mefloquine and tolerance to artesunate reported in south-western provinces. At risk area: - Metfloquine resistant malaria: Provinces of Preah Vihear, Siemreap, Oddar, Meanchey, Banteay Meanchey, Battambang, Pailin, Kampot, Koh Kong, and Pursat bordering Thailand. - Chloroquine-resistant malaria: All areas (include the tourist area of Angkor Wat) No risk in Phnom Penh and area close to Tonle Sap.	V

Region	Country	Risk category	Risk description	Recom-mendation
Western Pacific	**China**	5B	Malaria risk including *P. falciparum* exists. *P. falciparum* malaria occurs in Hainan and Yunnan. Limited risk of *P. vivax* malaria exists in southern and some central provinces. Chloroquine and sulfadoxine-pyrimethamine resistant *P. falciparum* reported in Hainan and Yunan province only. At risk area: - Metfloquine-resistant malaria: Along China-Burma border in the western part of Yunnan province - Chloroquine-resistant malaria: In Hainan and Yunnan province - Chloroquine-sensitive malaria: In rural areas below 1,500m, only during warm weather from July to November north of 33° North, from May to December between 33° North and 25° N and throughout the year below 25° North, of following provinces: Anhui, Henan, Hubei, Jiangsu, Hainan, Fuijan, Guangdong, Guangxi, Guizhou, Sichuan, Tibet (in the Zangbo River valley only), Hunan, Jiangxi, and Shandong. Some major river cruises may go through malaria endemic areas in Anhui and Hubei provinces There is no malaria risk in urban areas. Travelers to cities and popular tourist areas, including Yangtze River cruises, are not at risk and do not need to take chemo-prophylaxis.	V
Western Pacific	**Cook Islands (New Zealand)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Fiji**	1	No malaria risk reported by WHO, US CDC, UK HPA 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 HPA and Health Canada.	I
Western Pacific	**Guam (U.S.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Japan**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
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 HPA and Health Canada.	I
Western Pacific	**Korea, South**	3B	Malaria risk exclusively due to *P. vivax* is limited. At risk area: In the demilitarized zone (DMZ) and northern areas of Kyunggi Do and Gangwon Do Provinces and Incheon City.	III
Western Pacific	**Laos (Lao People's Democratic Republic)**	5B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxinepyrimethamine reported. At risk area: - Metfloquine resistant malaria: in the provinces of Bokèo and Louang Namtha along the Laos- Burma border and along the Laos- Thailand border in the province of Saravane and Champassack. - Chloroquine-resistant malaria: All areas except Vientiane.	V
Western Pacific	**Malaysia**	4B	Malaria risk exists only in limited foci. *P. falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. Human *P. knowlesi* infection reported At risk area: - Chloroquine-resistant malaria: In the deep hinterland, inland forested areas of the Malaysia West [peninsular] and Sarawak, and all areas of Sabah except Kota Kinabalu. Low risk in Cameron Highlands. Urban and coastal areas are free from malaria.	IV
Western Pacific	**Marshall Islands**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Micronesia, Federated States of; Includes: Yap Islands, Pohnpei, Chuuk, and Kosrae**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Mongolia**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Nauru**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Western Pacific	**New Caledonia (France)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**New Zealand**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Niue (New Zealand)**	1	No malaria risk reported by WHO, US CDC, UK HPA 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 HPA and Health Canada.	I
Western Pacific	**Palau**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Papua New Guinea**	4B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. *P. vivax* resistant to chloroquine reported. At risk area: - Chloroquine-resistant malaria: All areas below 1,800m.	IV
Western Pacific	**Philippines**	4B	Malaria risk exists throughout the year. *P.falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. Human *P. knowlesi* infection reported in the province of Palawan. At risk area: - Chloroquine-resistant malaria: in areas below 600 m, except 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, Sequijor, Sorsogon, Surigao Del Norte and metropolitan Manila, urban areas, and the plains.	IV
Western Pacific	**Pitcairn Islands (U.K.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Samoa (formerly Western Samoa)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Samoa, American (U.S.)**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Singapore**	2	Malaria risk exclusively due to *P. vivax* is very limited. One case of human *P. knowlesi* infection reported. At risk area: Local transmission of *P. vivax* was reported in Jurong Island, Sungei Kadut/Mandai Estate, and Sambawang between June and August 2009. No malaria risk reported by US CDC and Health Canada.	II

Region	Country	Risk category	Risk description	Recom-mendation
Western Pacific	**Solomon Islands**	4A	Malaria risk predominantly due to *P. falciparum* exists throughout the year. *P. falciparum* 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 HPA and Health Canada.	I
Western Pacific	**Tonga**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Tuvalu**	1	No malaria risk reported by WHO, US CDC, UK HPA and Health Canada.	I
Western Pacific	**Vanuatu**	4A	Malaria risk predominantly due to *P. falciparum* is low to moderate throughout the year. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. *P. vivax* resistant to chloroquine reported. At risk area: -Chloroquine-resistant malaria: In all areas	IV
Western Pacific	**Vietnam**	5B	Malaria risk predominantly due to *P. falciparum* exists throughout the year. 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. Resistance to chloroquine, sulfadoxine-pyrimethamine and mefloquine reported. At risk area: - Mefloquine resistant malaria: In the southern part of the country in the provinces of Tay Ninh, Song Be, Lam Dong, Ninh Thuan, Khanh Hoa, Dac Lac, Gia Lai, and Kon Tum. - Chloroquine-resistant malaria: In all areas. 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), Can Tho, Da Nang, Hue, Nha Trang, Qui Nhon, and Haiphong.	V

Annex 3: Risk Profile Statistics

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

Region	1	2	3A	3B	4A	4B	4C	5B	Total
Africa	2	1		1	34	10			**48**
Eastern Mediterranean	7	2		3	2	6			**20**
Europe	44	1		7			1		**53**
South-East Asia	1			1	1	4	2	2	**11**
The Americas	23	1	1	11	1	8		1	**46**
Western Pacific	22	2		1	2	3		4	**34**
Total	**99**	**7**	**1**	**24**	**40**	**31**	**3**	**7**	**212**

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

Region	I	II	III	IV	V	Total
Africa	2	1	1	44		**48**
Eastern Mediterranean	7	2	3	8		**20**
Europe	44	1	7	1		**53**
South-East Asia	1		1	7	2	**11**
The Americas	23	1	12	9	1	**46**
Western Pacific	22	2	1	5	4	**34**
Total	**99**	**7**	**25**	**74**	**7**	**212**