衞生防護中心
Centre for Health Protection

Scientific Committee on Vector-borne Diseases

Global Malaria Risk Summary September 2009

Introduction

Malaria is a notifiable disease in Hong Kong. Since 1998, malaria notifications range from 25 to 55 persons annually 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 2007. 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.

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Methods and Explanatory Notes

5. Understanding the global distribution of malaria risk areas depends upon accurate disease and laboratory surveillance information supplied by the various countries and administrative areas. The World Health Organization and the health authorities in the United States, United Kingdom, and Canada compile global malaria epidemiological information and recommendations for travellers visiting these areas.

6. This Global Malaria Risk Summary (the Risk Summary) is based upon the epidemiological information and malaria prevention strategies as recommended by these various 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 discrepancies 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 2,000 m or in well-developed city areas.

7. It is notable that mosquito-bite prevention is highlighted in all authorities. There are minor differences in the recommended chemoprophylactic agents to be used in areas with emerging chloroquine-resistant malaria. While both WHO and the UK recommend using chloroquine and proguanil for chemoprophylaxis in travellers visiting areas with emerging chloroquine resistance, the U.S. and Canada recommend using either atovoquone/ proguanil, doxycycline, or mefloquine.

8. In order to better reflect the current epidemiology and recommendations, we have developed risk and recommendation categories. A total of five main categories of risk levels with respective recommended malaria prevention strategies are defined (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 October 2008 to September 2009

9. Over the past year, WHO, the U.S. and Canada provided updated malaria epidemiological information and recommendations on malaria prevention for travellers. From time to time, WHO, the U.S., the UK and Canada issued updated reports on malaria outbreak. Annex 2 of this document has been updated accordingly with the changes detailed below.

Major Outbreak Reports

10. Over the past year, no major malaria outbreak has been reported.

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

11. This year, three countries, Algeria, Zimbabwe and Singapore have their malaria risks revised.

12. The malaria risk of Algeria has changed from "risk of (chloroquine-sensitive) malaria exists in certain areas (Risk Category: 3B)" to "very limited risk (Risk Category: 2)". According to WHO, the malaria risk is limited. 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 and Tamanrasset). Isolated local *P. falciparum* transmission has been reported from the two southernmost wilayas in areas under influence of trans-Saharan migration. One locally acquired case was reported in 2006. WHO and the UK recommend mosquito prevention while chemoprophylaxis is considered unnecessary. U.S. regards Algeria as malaria-free. Travellers to Algeria are recommended to keep in view the latest epidemiology and the need of additional malaria prevention measures other than mosquito bite prevention (Recommendation: II).

13. The risk of malaria in Singapore is raised from "no malaria risk (Risk Category 1)" to "malaria risk reported to be very limited (Risk Category 2)" in response to the reports of clusters of local transmission of *P. vivax* between June and August 2009. As of August 8, Singapore Ministry of Health reported clusters in Jurong Island (9 cases), Sungei Kadut/ Mandai Estate (16 cases), and Sambawang (4 cases). [Source: press release of Singapore MOH on June 7, 20, and 23, July 16, 26 and 29, and August 8]. The UK National Travel Health Network and Centre (NaTHNac) also mentions in its website "there is a very low risk of malaria in Singapore". In addition, according to WHO, one case of human *P. knowlesi* was reported. The corresponding recommendation for Singapore is changed to "II: malaria prevention may be required. Advise to undertake mosquito bite prevention. Obtain update on latest epidemiology".

14. Zimbabwe has its malarial risk changed from "risk of (chloroquine-resistant) malaria in certain areas (Risk Category 4B)" to "risk of (chloroquine-resistant) malaria in the whole administrative area (Risk Category 4A)". According to the U.S., all areas in Zimbabwe are considered as areas with malaria. Travellers to Zimbabwe are recommended to consider chemoprophylaxis (using either atovoquone/ proguanil, doxycycline, or mefloquine) in addition to undertaking mosquito bite prevention (Recommendation: IV).

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

15. A total of 43 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: Four of the 48 countries in the region have their risk description updated. The five countries are Botswana, Mauritania, Mauritius, Swaziland, and Uganda.

- For Botswana, the statement "*P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported" is replaced by "*P. falciparum* resistant to chloroquine reported", based on information from WHO.

- For Mauritania, the at-risk season is amended as "July to October" instead of "July to November" according to WHO information.

- For Swaziland, the at-risk area is revised as "in the northern and eastern lowland areas bordering Mozambique and Zimbabwe, including all of the Lubombo district" instead of "in the northern and eastern lowland areas bordering Mozambique in the Lubombo district, particularly around the villages/towns of Big Bend, Mhlume, Simunye and Tshaneni", according to the U.S. information.

- For Uganda, the at-risk area is revised as "in all areas including the main towns of Fort Portal, Jinja, Kampala, Mbale and Kigezi" instead of "In all areas including the main towns of Fort Portal, Jinja, Kampala, Mbale and parts of Kigezi", accordingly to WHO information.

(b) Eastern Mediterranean Region: Out of the 20 countries/administrative areas, information in five has been updated. These five countries are Iraq, Morocco, Pakistan, Syria (Syrian Arab Republic), and Yemen.

- For Iraq, the statement "Malaria risk exclusively due to *P. vivax* exists" is updated as "Limited malaria risk exclusively due to *P. vivax* exists" according to WHO information.

- For Morocco, the statement "No indigenous cases reported in 2005" is updated to "No indigenous cases reported since 2005" according to WHO.

- For Pakistan, the at-risk area is updated from "all areas (including all cities) below 2,000 m" to "all areas (including all cities) below 2,500 m" according to the U.S. information.

- For Syria (Syrian Arab Republic), the statement "No risk in districts of Damascus, Deir-es-zor and Sweida" is removed since Canada no longer mentions this in its recommendations. In addition, the statement "Malaria risk exclusively due to *P. vivax* is limited" is updated as "Malaria risk exclusively due to *P. vivax* is very limited" according to WHO.

- For Yemen, the statement "Limited risk on Socotra Island" is replaced by "Very limited risk on Socotra Island", according to WHO.

(c) Europe: five of the 53 countries in the region have their risk description updated. The five countries are Armenia, Azerbaijan, Russia (Russian Federation), Turkmenistan, and Uzbekistan.

- For Armenia, the statement of "No indigenous case reported in 2006" is updated as "No indigenous case reported since 2006" in accordance with WHO.

- For Azerbaijan, according to the U.S. and WHO information, the at-risk area is updated as

  - "in rural areas below 1500 m, mainly in the area between the Kura and the Arax rivers from June through October"

  - "no risk in Baku"

- For Russia (Russian Federation), a statement "Rare local cases by border with Azerbaijan" is added, according to the U.S. information.

- For Turkmenistan, the at risk area is updated as "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" according to WHO and the U.S. information.

- <u>For Uzbekistan, a statement "Rare cases along the Afghanistan and Tajikistan border" is added according to *U.S.* information.</u>

(d) South-east Asia: Five of the 11 countries in the region have updates in their at risk areas. They are Bhutan, Burma (Myanmar), North Korea, and Nepal.

- For Bhutan, the at-risk area is expanded to include Geyleg-phug, accordingly to WHO and the U.S. information.

- For Burma (Myanmar), the at-risk area for mefloquine resistant malaria is expanded to include State of Bago, according to *U.S.* information. A remark "Human *P. knowlesi* infection reported" is

added with accordance to WHO's update.

- For North Korea, the statement "No risk in Pyongyang" is removed as Canada has removed such statement in their latest recommendations.

- For Nepal, two remarks of at-risk area "U.S.: all areas below 1,200m" and "UK: all areas below 1,500 m" are added, in accordance with the U.S. and the UK information.

- For Thailand, a remark "Human *P. knowlesi* infection reported" is added with accordance to WHO's update.

(e) Western Pacific Region: Five of the 34 countries/administrative areas in the region have updates in their at-risk areas and anti-malarial resistance/tolerance pattern. They are Cambodia, China, Malaysia, the Philippines, and Vietnam.

- For Cambodia, the remark of "Resistance to mefloquine reported in western provinces near the Thai border" is replaced by "Resistance to mefloquine and tolerance to artesunate reported in south-western provinces" according to WHO information. The at-risk area of mefloquine resistant malaria is expanded to include the province of Kampot according to the U.S. information.

- For China, according to WHO, the remark of "No malaria risk in the densely populated plain areas, nor at altitudes above 1,500 m" is removed while the remark of "No malaria risk in urban areas" is retained.

- For Malaysia, a remark "Human *P. knowlesi* infection reported" is added with accordance to WHO's update.

- For the Philippines, according to WHO, the at risk area is expanded to the provinces of Albay, Cavite, Northern Leyte, Southern Leyte, Marinduque, Eastern Samar, Western Samar, Sorsogon and Surigao Del Norte, and human *P. knowlesi* infection was reported in the province of Palawan.

- For Vietnam, the malaria-free area also includes Can Tho and Hue, according to the U.S. information.

(f) The American Region: malaria risk in terms of the prevalence of various species and risk areas in 19 out of the 46 countries in the Americas have been updated. They are Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Panama, Paraguay, Peru, Suriname, and Venezuela.

- For Argentina, a remark "Malaria also presents in Iguassu Falls" is added according to the U.S. information.

- For Belize, the statement "Malaria risk almost exclusively due to *P. vivax* exists throughout the year" is updated as "Malaria risk predominantly due to *P. vivax* exists throughout the year" according to WHO's revision.

- For Boliva, the prevalence of *P. vivax* amended from 91% to 89% and remained as the predominant species according to WHO's update. In addition, Itinez is added to the list of falciparum malaria area.

- For Brazil, the prevalence of *P. vivax* and *P. falciparum* amended from 75% to 80% and 25% to 19% respectively according to WHO's update. In addition, Cruzeiro do Sul and Iguassu Falls are included as areas with higher transmission intensity.

- For Colombia, the prevalence of *P. vivax* and *P. falciparum* is revised from 62% to 72% and from 38% to 27% respectively according to WHO's update. A remark on at risk area "U.S.: In all rural areas below 1,800 m" is added according to the U.S. update.

- For Costa Rica, Puntarenas province is added to the at risk areas in accordance with WHO.

- For Dominican Republic, the description of at risk areas is amended based on the U.S. update. While all areas (including resort areas) are regarded as at risk area, the western provinces of Azua, Bahoruco and Dajabón and in La Altagracia province are especially at risk. The remark "Risk in other areas is low to negligible" is replaced by "No risk in the cities of Santo Domingo and Santiago".

- For Ecuador, according to WHO, the prevalence of *P. falciparum* and *P. vivax* is amended from 15% to 12% and from 85% to 88% respectively and the at-risk area is revised as "in all areas below 1,500 m, with moderate to high transmission risk in coastal provinces". In addition, "cities of inter-Andean region" is added among the areas free of malaria risk.

- For El Salvador, La Paz is added to the list of at risk area according to the U.S. update.

- For Guatemala, Chiquimala and Huehuetenango are removed from the list of areas of moderate to high risk in accordance with WHO.

- For Guyana, based on WHO's updates, Regions 3, 4, 5 and 6 are categorized as very low malaria risk areas.

- For Haiti, the whole country, including costal and border zones are

regarded as at risk area in accordance with WHO. Risk in the main urban areas of Port-au-Prince is considered to be very low.

- For Honduras, in accordance with WHO, 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. *P. falciparum* transmission risk is high in Colón, Comayagua, and Gracias a Dios; and moderate in Atlántida and Olancho.

- For Nicaragua, the municipalities mostly in Chinandega, Managua, Matagalpa, Léon, RA Atlántico Norte and RA Atlántico Sur are classed as moderate to high risk by WHO.

- For Panama, WHO revise the prevalence of *P. falciparum* from 4% to 3% and that of *P. vivax* from 96% to 97%.

- For Paraguay, the risk statement is revised to "malaria risk almost exclusively due to *P. vivax* is moderate" in accordance with WHO. In addition, Caazapa and Guaira are removed among the departments at risk of malaria.

- For Peru, Puerto Maldonado is added among the at risk area of chloroquine-resistant malaria in accordance with the U.S. and Canadian recommendations. In addition, according to the UK information, Amazon basin area is added under area at risk of chloroquine-resistant malaria and the area with emerging chloroquine resistant malaria is amended as "Rural areas east of the Andes and west of the Amazon Basin below 1,500 m".

- For Suriname, the prevalence of *P. falciparum* is dropped from 90% to 48% while that of *P. vivax* is 47%, according to WHO.

- For Venezuela, areas with risk and prevalence of malaria species are updated

    - For the areas with risk of chloroquine-resistant malaria, Carabobo is removed and a remark "UK: All areas south of and including the Orinoco river" is added according to WHO and the UK information respectively.

    - The area with risk of emerging chloroquine-resistant malaria is revised as "in rural areas of Apure, Barinas, Sucre and Tachira states north of the Orinoco River", according to the UK information.

    - The area with chloroquine-sensitive malaria is revised as "In some rural areas of Apure, Amazonas, Anzoátegui, Bolívar, Monagas, Sucre, Táchira, Delta Amacuro amd Zulia states and in Angel Falls, according to WHO update.

- Prevalence of *P. vivax* and *P. falciparum* changed from 87% to 81% and from 13% to 19% respectively, according to WHO.

Limitation and Disclaimers

16. While great efforts have been made to ensure that the epidemiology information in this summary is maintained as up-to-date as possible, the 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 2010. 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, 2009)

Annex 3: Risk Profile Statistics

Key References

World Health Organization

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Websites for Updated Epidemiology on Malaria

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Available from: http://www.who.int/csr/don/archive/disease/malaria/en/

2. CDC, the U.S. Traveler's Health: Outbreak.
Available from: http://wwwn.cdc.gov/travel/default.aspx

3. Health Protection Agency, the UK. Malaria: News.
Available from: http://www.hpa.org.uk/infections/topics_az/malaria/news.htm

4. National Travel Health Network and Centre, the UK. Health professionals: Clinical Updates
Available from: http://www.nathnac.org/pro/clinical_updates/index.htm

5. Public Health Agency of Canada. Travel Health: Notice and International Reports.
Available from: http://www.phac-aspc.gc.ca/tmp-pmv/pub_e.html

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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, the *U.S.* 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 travelling to at-risk areas, consider chemoprophylaxis using chloroquine.
4	**Chloroquine-resistant malaria has 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 atovoquone/ 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 atovoquone/ 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 atovoquone/ proguanil or doxycycline, BUT NOT mefloquine ; - When travel to areas at risk of chloroquine-resistant malaria, consider chemoprophylaxis using either atovoquone/ 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 atovoquone/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, 2009)

Region	Country	Risk category	Risk description	Recom-mendation
Africa	**Algeria**	2	Malaria risk exclusively due to *P. vivax* is limited. One locally acquired case was reported in 2006. 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, and 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: North of 22°S, in the northern parts of the country: 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.	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 predominantly 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.	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 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 2200m. No risk in Asmara.	IV
Africa	**Ethiopia**	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 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

Region	Country	Risk category	Risk description	Recom-mendation
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
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, the U.S. CDC, the 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

Region	Country	Risk category	Risk description	Recom-mendation
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
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

Region	Country	Risk category	Risk description	Recom-mendation
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
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, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
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 Zimbabwe, including all of the Lubombo district.	IV
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

Region	Country	Risk category	Risk description	Recom-mendation
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.	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, the U.S. CDC, the 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
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 November. - 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

Region	Country	Risk category	Risk description	Recom-mendation
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. No risk in Baghdad, Tikrit, and Ramadi.	III
Eastern Mediterr-anean	**Jordan**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Kuwait**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Eastern Mediterr-anean	**Lebanon**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Eastern Mediterr-anean	**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 due to *P. vivax* only is very limited. No indigenous cases reported since 2005. At risk area: - Chloroquine sensitive malaria: may exist in certain rural areas of Chefchaouen Province from May to October. 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 (4 cases of *P. vivax*). 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, the U.S. CDC, the 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 Al Bahah, Al Madinah, Asir (excluding the high altitude 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, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Eastern Mediterr-anean	**United Arab Emirates**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
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, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Andorra**	1	No malaria risk reported by WHO, the U.S. CDC, the 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, the U.S. CDC, the 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, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Belgium**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Bosnia and Herzegovina**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Bulgaria**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Croatia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Cyprus**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
Europe	**Czech Republic**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Denmark**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Estonia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Finland**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**France**	1	No malaria risk reported by WHO, the U.S. CDC, the 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 July to October. No risk in Tiblisi.	III
Europe	**Germany**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Greece**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Hungary**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Iceland**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Ireland**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Israel**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Italy**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Kazakhstan**	1	No malaria risk reported by WHO, the U.S. CDC, the 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, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Lithuania**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Luxembourg**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Macedonia, The Former**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
	Yugoslav Republic of			
Europe	**Malta**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Moldova**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Monaco**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Montenegro**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Netherlands**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Norway**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Poland**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Portugal**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Romania**	1	No malaria risk reported by WHO, the U.S. CDC, the 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, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Serbia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Slovakia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Slovenia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Spain**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Sweden**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**Switzerland**	1	No malaria risk reported by WHO, the U.S. CDC, the 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

Region	Country	Risk category	Risk description	Recom-mendation
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, Incirlik U.S. Air Force base and on typical cruise itineraries.	III
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, the U.S. CDC, the UK HPA and Health Canada.	I
Europe	**United Kingdom (with Channel Islands and Isle of Man)**	1	No malaria risk reported by WHO, the U.S. CDC, the 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.	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

Region	Country	Risk category	Risk description	Recom-mendation
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
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: *U.S.*/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, Goa, 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/The 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

Region	Country	Risk category	Risk description	Recom-mendation
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, the U.S. CDC, the UK HPA and Health Canada.	I
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. *U.S.*: 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 (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Antigua and Barbuda**	1	No malaria risk reported by WHO, the U.S. CDC, the 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 Corrientes and Misiones provinces). Malaria also presents in Iguassu Falls.	III
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, the U.S. CDC, the 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 (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Bolivia**	4B	Malaria risk predominantly due to *P. vivax* (89%) 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, Itinez and Riberalta. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. At risk area: - Chloroquine-resistant malaria: *U.S.*/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 sensitive malaria: WHO: in all other areas below 2,500 m except city of La Paz.	IV

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Brazil**	4B	Malaria risk due to *P. vivax* (80%) and *P. falciparum* (19%) 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
The Americas	**Canada**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Cayman Islands (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Chile**	1	No malaria risk reported by WHO, the U.S. CDC, the 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, Arauca, Chocó, Córdoba, Guaviare, Meta, Nariño , Putomayo, Vichada and Valle del Cauca. *U.S.*: 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 Guacimo, Limón, Matina and Talamanca of Limón 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, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
The Americas	**Dominica**	1	No malaria risk reported by WHO, the U.S. CDC, the 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 anti-malarial drug. At risk area: In all areas (including resort areas), especially in western provinces of Azua, Bahoruco and Dajabón and in La Altagracia province. No risk in the cities of Santo Domingo and Santiago.	III
The Americas	**Ecuador; Including the Galápagos Islands**	4B	Malaria risk due to *P. vivax* (88%) and *P. falciparum* (12%) 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 ~~to high~~ 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, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Guadeloupe, including St. Barthelemy and Saint Martin (France)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
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 Alta Verapaz, Baja Verapaz, Escuintla, Izabal, Petén, Quiché (Ixcan) and Retalhuleu. No risk in Guatemala City, Antigua or Lake Atitlán.	III
The Americas	**Guyana**	4B	Malaria risk due to *P. falciparum* (50%) and *P. vivax* (50%) 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; moderate risk in Region 2 and 10; and very low risk in Regions 3, 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, including coastal and border zones. Risk in the main urban areas of Port-au-Prince is considered to be very low.	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 Colón, Gracias a Dios and Islas de la Bahia; and moderate in Atlántida and Olancho. *P. falciparum* transmission risk is high in Colón, Comayagua, 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, the U.S. CDC, the 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 Some rural areas that are not often visited by tourists -in the states of Chiapas, Oaxaca, Chihuahua, Sinaloa, Tabasco, Campeche, Durango, Guerrero, Michoacán, Jalisco, Nayarit, Quintana Roo, Sonora, Veracruz and Yucatan. 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	III

Region	Country	Risk category	Risk description	Recom-mendation
			Roo, and Sonora. No malaria risk exists along the United States-Mexico border and in the major resorts along the Pacific and Gulf coasts.	
The Americas	**Montserrat (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the 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, the U.S. CDC, the UK HPA and Health Canada.	I
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. Moderate to high risk municipalities are mostly in Chinandega, Managua, Matagalpa, Léon, RA Atlántico Norte and RA Atlántico Sur. Cases are reported from other municipalities in the central and western department; but the risk in these areas is considered low or negligible.	III
The Americas	**Panama**	4B	Malaria risk due to *P. vivax* (97%) and *P. falciparum* (3%) 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. - Chloroquine sensitive malaria: in provinces along the Atlantic coast and the border with Colombia: Bocas del Toro, Colon, Darien, Ngobe Bugle, Panama and Veraguas. No or negligible risk in Panama City, the Canal Zone and in other provinces.	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

Region	Country	Risk category	Risk description	Recom-mendation
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: *U.S.*/Canada: in all departments below 2,000 m include Puerto Maldonado. 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
The Americas	**Puerto Rico (U.S.)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Saint Kitts (Saint Christopher) and Nevis (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Saint Lucia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Saint Vincent and the Grenadines**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Suriname**	4B	Malaria risk due to *P. falciparum* (48%), *P. vivax* (47%) has decreased in recent years and occurs throughout the year. *P. falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine 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	IV

Region	Country	Risk category	Risk description	Recom-mendation
			Marowijne) north of latitude 5°N.	
The Americas	**Trinidad and Tobago**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Turks and Caicos Islands (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**United States**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Uruguay**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
The Americas	**Venezuela (Bolivarian Republic of)**	4B	Malaria risk due to-*P. vivax* (81%) *P. falciparum* (19%) 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: *U.S.*/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 (Cedeño, 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: In some rural areas of Apure, Amazonas, Anzoátegui, Bolívar, Monagas, Sucre, Táchira, Delta Amacuro amd Zulia states and in Angel Falls. No risk in Caracas and Margarita Island.	IV
The Americas	**Virgin Islands, British**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Australia; Including Cocos (Keeling) Islands.**	1	No malaria risk reported by WHO, the U.S. CDC, the 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

Region	Country	Risk category	Risk description	Recom-mendation
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
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. The risk may be higher in areas of focal outbreaks. Chloroquine and sulfadoxine-pyrimethamine resistant *P. falciparum* reported in Hainan and Yunnan 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. 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, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Fiji**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**French Polynesia, includes the island**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
	groups of Society Islands (Tahiti, Moorea, and Bora-Bora); Marquesas Islands (Hiva Oa and Ua Huka); and Austral Islands (Tubuai and Rurutu)			
Western Pacific	**Guam (U.S.)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Japan**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA 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, the U.S. CDC, the 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.	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

Region	Country	Risk category	Risk description	Recom-mendation
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, the U.S. CDC, the 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, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Mongolia**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Nauru**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**New Caledonia (France)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**New Zealand**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Niue (New Zealand)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Northern Mariana Islands (*U.S.*) Includes Saipan, Tinian, and Rota Island**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Palau**	1	No malaria risk reported by WHO, the U.S. CDC, the 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

Region	Country	Risk category	Risk description	Recom-mendation
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 (The UK)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Samoa (formerly Western Samoa)**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Samoa, American (U.S.)**	1	No malaria risk reported by WHO, the U.S. CDC, the 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 the U.S. CDC and Health Canada.	II
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, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Tonga**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I
Western Pacific	**Tuvalu**	1	No malaria risk reported by WHO, the U.S. CDC, the UK HPA and Health Canada.	I

Region	Country	Risk category	Risk description	Recom-mendation
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, 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	9			**46**
Western Pacific	22	2		1	2	3		4	**34**
Total	**99**	**7**	**1**	**24**	**40**	**32**	**3**	**6**	**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	10		**46**
Western Pacific	22	2	1	5	4	**34**
Total	**99**	**7**	**25**	**75**	**6**	**212**