

Country Specific Information - Rationale

Epidemiological rationale for recommendations

The disease information that follows details the rationale and resources used for the NaTHNaC country specific recommendations.

NaTHNaC monitors and continues to respond to disease outbreaks posting information on the [Outbreak Surveillance](#) section of the website and will update country specific recommendations accordingly.

Biting insects or ticks

Regional information about biting insects and ticks that transmit infections including African tick bite fever, Chikungunya, Crimean Congo haemorrhagic fever, leishmaniasis, Murray Valley encephalitis Rift Valley fever, Ross River virus, scrub typhus, trypanosomiasis and West Nile virus are included on the "other risk " section of the country information pages where appropriate.

A regional disease risk is included on a country information page, when there are reports of that disease in at least one country of that [United Nations standard geographical sub-region](#) according to the World Health Organization, national authorities or other verified sources.

References

1. [World Health Organization. Distribution of Crimean Congo Haemorrhagic Fever 2015](#)
2. [World Health Organization. Chikungunya countries or areas at risk 2015](#)
3. [Epidemiological update: West Nile virus transmission season in Europe, 2017](#)
4. [Centers for Disease Control. West Nile Virus: Statistics and Maps](#)
5. [Government of Canada: Surveillance of West Nile Virus](#)
6. [World Health Organization. West Nile Virus Fact Sheet](#)
7. [Pan American Health Organization. West Nile Virus](#)
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15. [Franco JR et al 2017. PLOS Neglected Tropical Diseases. Monitoring the elimination of human African trypanosomiasis: Update to 2014. PLOS Neglected Tropical diseases 11\(5\). Accessed 23 July2018](#)
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17. [Gondard M et al. Ticks and Tick-Borne Pathogens of the Caribbean: Current understanding and future directions for more comprehensive surveillance. Frontiers in Cellular and Infection Microbiology. 7;490. 1-16. Accessed 23 July 2018](#)
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Last Updated: July 2018

Cholera

Cholera is considered to represent a potential risk to travellers if:

- a country had reported ≥ 100 cases to the WHO in at least 3 out of 5 years, 2010 to 2014 inclusive;
- a country had reported an outbreak of ≥ 1000 cases to the WHO in at least one year, 2010 to 2014 inclusive.

When there had been sporadic or absent reporting to WHO between 2010 and 2014, a consensus opinion was formed based on consideration of available data, and whether the country borders an country endemic for cholera [1,2].

References

1. [World Health Organization. Weekly epidemiological record: cholera 2014 \[Accessed 21 September, 2016\]](#)
2. [Public Health England. Laboratory reports of Vibrio cholerae O1 and O139 in England and Wales: 2004 - 2013. \[Accessed 21 September, 2016\]](#)

Last Updated: September 2016

Dengue

NaTHNaC dengue recommendations are based on the Center for Disease Control review of 2005-2015 data [1]. In addition, a literature review of published data from January 2016 to March 2017 was completed [2-13] and data on travel-associated cases in the UK, 2012-2016, were reviewed. Both reviews focussed on evidence of local mosquito-borne dengue transmission. For part-endemic countries, further sub-national details have been provided where confirmed.

References

1. [Jentes, E.S. et al. \(2016\) Evidence-based risk assessment and communication: a new global dengue-risk map for travellers and clinicians. J. Travel Med. 23.](#)
2. [Al-Azraqi, T.A., El Mekki, A.A., Mahfouz, A.A., 2013. Seroprevalence of dengue virus infection in Aseer and Jizan regions, Southwestern Saudi Arabia. Trans. R. Soc. Trop. Med. Hyg. 107, 368-371.](#)
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Last Updated: December 2017

Hepatitis A

NaTHNaC country specific vaccine recommendations were based on the 2010, the World Health Organization (WHO) [The Global Prevalence of Hepatitis A Virus Infection and Susceptibility](#) publication which classifies countries with different burdens of Hepatitis A disease. For countries with a high burden of hepatitis A disease, the recommendation was for most travellers to receive Hepatitis A vaccine; vaccine was not recommended for low burden countries. For those countries with a burden of hepatitis A disease classified as "medium" or "low-medium", the additional factor of sanitation levels in rural populations was considered to assess the need for a vaccine recommendation.

Vaccine was recommended for **some** travellers to a country, if the percentage of the rural population with access to improved sanitation was $\geq 80\%$ as detailed in the WHO [Progress on Drinking Water and Sanitation Report 2015](#).

All other countries with medium or low-medium burden of Hepatitis A disease, where the access to improved sanitation was $< 80\%$, vaccine was recommended for **most** travellers.

When there had been sporadic, absent or conflicting reports, confirmed recent outbreaks, or return traveller case reports, national authorities were consulted and a consensus opinion was formed based on consideration of any additional available data for that country.

References

1. [Public Health England. Laboratory reports of hepatitis A infections in England and Wales, 2017. Health Protection Report. 2018;12\(27\)](#)
2. [Travel-associated hepatitis A in Europe, 2009 to 2015. Euro Surveillance.](#)

[2018;23\(22\)](#)

Last Updated: May 2019

Hepatitis B

NaTHNaC vaccine recommendations have been made for countries where 2% or more of the population were known to be persistently infected with the hepatitis B virus (intermediate/high prevalence) [1-3]. When there was limited information about those who are persistently infected with the virus in a country, a consensus opinion was formed based on consideration of the available data.

References

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Last Updated: July 2014

Japanese encephalitis

NaTHNaC country specific recommendations are based on the World Health Organization reported cases in 2013 to 2017 [1]. In addition, a literature review focussing on national ministry of health vaccine and mosquito control programmes reports, serological surveys and traveller case reports was completed [2- 20].

Where no or limited data was available, NaTHNaC worked with Public Health England to form a

consensus opinion based upon the best available evidence.

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Last Updated: February 2019

Malaria

NaTHNaC malaria recommendations follow current Public Health England malaria prevention guidelines for travellers from England, Wales and Northern Ireland [1].

References

1. [Public Health England. Guidelines for malaria prevention in travellers from the UK](#)

Measles

NaTHNaC country information pages include measles as a risk in all countries. All travellers should have received two measles containing vaccines in their lifetime or be immune because of measles disease, even if the country is declared by the World Health Organization to have eliminated measles.

Last Updated: January 2018

Meningococcal meningitis

NaTHNaC country specific vaccine recommendations for meningococcal ACWY have been made if a country lies within the extended meningitis “belt” of sub-Saharan Africa, as defined by the World Health Organization. Additional vaccine recommendations for Saudi Arabia are made in accordance with the annual requirements of the Ministry of Health of the Kingdom of Saudi Arabia for those who will perform Hajj, Umrah or undertake seasonal work.

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Last Updated: April 2019

Middle East respiratory syndrome coronavirus

NaTHNaC country specific recommendations for countries with a known risk of [Middle East respiratory syndrome coronavirus \(MERS-CoV\) is based on](#) cases reported globally to the World Health Organization (WHO). Recommendations for countries with a presumed risk of [MERS-CoV is based on](#) expert opinion and proximity to a country with reported cases.

Last Updated: July 2017

Polio

NaTHNaC monitors the global polio situation, as detailed by the Global Polio Eradication Initiative (GPEI) and World Health Organization (WHO), and makes changes to country specific recommendations as new information becomes available.

NaTHNaC recommends that all travellers should receive a booster dose of polio-containing vaccine if they have not received one within the past 10 years if visiting:

- countries considered by the WHO to be infected with wild polio virus (WPV) and/or a circulating vaccine derived polio virus (cVDPV) with the potential risk of international spread. (Note: there are additional temporary vaccination recommendations and a certificate requirement under International regulations (IHR) for some travellers to these countries).
- countries considered by the WHO as no longer infected with either WPV or cVDPV, but which remain vulnerable to re-infection.
- countries not included in either of these WHO categories, but considered at risk according to Global Polio Eradication Initiative.

When an environmental cVDPV is reported in a country without human cases, expert advice will be sought to consider immunisation coverage and surveillance and whether a recommendation needs to change.

References

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Last Updated: December 2018

Rabies

NaTHNaC worked with Public Health England to identify countries where rabies was currently a risk by reviewing data from the [World Animal Health Information Database](#) (OIE) 2015- 2017 and where

country data was available in 2018. Reports on the [Outbreak Surveillance database](#) were reviewed regarding known or presumed cases in indigenous domestic and/or wild animals. Where data was lacking for a country, other verifiable sources were sought including personal communications with the national authorities. Where no or limited data was available, a consensus opinion was formed based upon the best available evidence. Updates to these recommendations are made as required based on additional information as it becomes available.

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Schistosomiasis

NaTHNaC reviewed available information in order to identify countries where schistosomiasis may pose a risk to travellers. The primary resource used was the World Health Organization (WHO) report on the status of schistosomiasis in endemic countries in 2012 [1,2]. Where reporting was sporadic or absent, consensus expert opinion was formed based on consideration of available data.

References

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2. [World Health Organization. Weekly Epidemiological Record, 89, 21-28, 2014. Schistosomiasis: number of people receiving preventive chemotherapy in 2012. \[Accessed 8 October 2015\]](#)
3. [Reliefweb, WHO to provide medical aid for outbreak of snail fever, 23 July 2018. \[Accessed 25 July 2018\].](#)

Last Updated: July 2018

Tick-borne encephalitis

NaTHNaC country specific recommendations for Tick-borne encephalitis (TBE) have been based on:

- Cases reported in humans and animals
- Serological data in humans and animals
- TBE virus in identified ticks
- National surveillance and TBE vaccination programmes

In addition, information about habitats, latitudinal, altitudinal limits and proximity to known outbreak areas were used to guide the interpretation of the epidemiological data. Where limited information was available for a country, vaccine recommendations were formed by consensus

opinion, based on the most recent available information.

Countries with widespread or localised risk areas considered to have a high risk of TBE infection

Human cases are reported annually, but there is a national vaccination programme: vaccination is recommended for some travellers. For some countries with sparse data, higher risk was assumed due to a country's existing NaTHNaC classification.

Countries with a low risk of TBE infection and surveillance or unknown surveillance programmes

Sporadic human cases are reported: vaccination is not usually advised, but if being considered specialist advice should be sought.

Countries with a possible risk of TBE infection

No human cases have been reported, but either human sero-survey data or non-human TBE virus circulation has been identified and the country is adjacent to a known risk area: tick bite avoidance is recommended.

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Last Updated: April 2017

Tuberculosis

There is an increased risk of acquiring tuberculosis in countries where the annual incidence of all forms of tuberculosis (TB) is ≥ 40 cases per 100,000 population. [Further information is available here.](#)

NaTHNaC reviewed the average annual incidence of tuberculosis between 2012 and 2016 from the [World Health Organization](#) (WHO).

Some travellers may be recommended to receive BCG vaccination when a country has:

- reported an average annual incidence of tuberculosis of ≥ 40 cases per 100,000 population in the last five years
- reported an annual incidence of tuberculosis of ≥ 40 cases per 100,000 population at least once in the last five years

Some travellers may be recommended to receive BCG vaccination when the risk of MultiDrug Resistant- TB (MDR-TB) is considered as high in countries with high rates of MDR-TB according to the [WHO Global tuberculosis report 2017](#).

Where no or limited data was available for a country, expert consensus opinion is formed using the best available information. If the annual incidence is presumed to be ≥ 40 cases per 100,000 population, there is a recommendation for vaccination for some travellers to that country.

Last Updated: August 2018

Typhoid

NaTHNaC typhoid vaccine recommendations were based on a review of country specific burden of typhoid disease using available resources [1-4] and Public Health England imported typhoid disease data. Where information was unavailable, the national authorities of a country were contacted for information and a consensus opinion was formed based on consideration of all available data for

that country.

For those countries with typhoid disease incidence classified as “medium” the additional factor of sanitation levels in rural populations was considered to assess the need for a vaccine recommendation [1,5].

Vaccine was recommended for some travellers to a country, if the percentage of the rural population with access to improved sanitation was $\geq 80\%$ as detailed in the WHO Progress on Drinking Water and Sanitation Report 2015. All other countries with “medium” disease incidence, where the access to improved sanitation was $< 80\%$, vaccine was recommended for most travellers.

References

1. **Burden of typhoid fever in low-income and middle-income countries: a systematic, literature-based update with risk-factor adjustment. Mogsdale V, Maskery B, Ochiai RI et al, 2015. The Lancet Global Health Oct; 2(10):e570-80.**
2. **Crump JA, Luby SP, Mintz ED. The global burden of typhoid fever. Bulletin of the World Health Organisation, May 2004, 82(5), 346-353**
3. **Antillion M et al, 2018. The burden of typhoid fever in low- and middle-income countries: A meta-regression approach. PLOS Neglected Tropical Disease; February 27, 2017, 1-21.**
4. **Global Trends in Typhoidal Salmonellosis: A Systematic Review. Als D, Radhakrishnan A, Arora P et al, 2018. Am. J. Trop. Med. Hyg., 99 (Suppl 3), 10-19.**
5. **World Health Organization. Progress on Drinking Water and Sanitation Report 2015.**

Last Updated: December 2018

Yellow fever

NaTHNaC yellow fever vaccine recommendations are based on current WHO guidance on countries with a risk of yellow fever transmission [1, 2].

References

1. [World Health Organization. International Travel and Health, Annex 1. Update. Countries with risk of yellow fever transmission and countries requiring yellow fever vaccination.16 February 2017](#)
2. [World Health Organization. Yellow fever risk mapping and recommended vaccination for travellers. the scientific and technical advisory group on geographical yellow fever risk mapping \(GRYF\)](#)

Country specific recommendations are based on collaborations with Public Health England

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