

# Nicaragua

## Medical Summary

The health risk information presented here is summarized from Shoreland Travax<sup>®</sup>, a decision-support tool used by health care providers to perform a detailed health risk analysis based on specific locations, individual travel styles, and traveler risk behaviors. Travax provides practitioners current, independently researched malaria risk and prevention recommendations in a map-based format that goes beyond the annual WHO and US CDC statements included here. Not included here are current reports from Travax of disease outbreaks or environmental events that may pose elevated risks to travelers' health and safety. The Providers section of this site offers a directory of health care providers who utilize Shoreland Travax for travel health counseling. Learn more about the detailed reports and maps available from these practitioners (includes links to samples).

## General Information

Nicaragua is a developing nation classified as lower middle income. Located in Central America along both the Caribbean Sea and the Pacific Ocean (north of Costa Rica and south of Honduras), the climate is extremely diverse with classifications that range from humid equatorial (long dry season) in the west to humid equatorial (no dry season) in the east, with cooler temperatures in some high-altitude areas.

## Vaccinations

**Routine vaccinations** are essential due to a persistent rise of vaccine-preventable diseases (especially markedly high rates of diphtheria, pertussis, and measles) globally. Prior to travel, travelers should be up-to-date with the age-appropriate routine vaccinations recommended by their home country, which may include: COVID-19; *H. influenzae* type B (Hib); hepatitis A; hepatitis B; herpes zoster; human papillomavirus; influenza; measles, mumps, rubella; meningococcal; pneumococcal; polio; rotavirus; tetanus, diphtheria, pertussis (Tdap preferred; consider an early pertussis booster for high-risk travelers); varicella.

## Yellow Fever

Although yellow fever does not occur in Nicaragua, an official yellow fever vaccination certificate may be required depending on your itinerary.

- **Requirement:** A certificate proving yellow fever vaccination is required for travelers aged  $\geq 1$  year coming from countries with risk of YF transmission. This does not apply to airport transit stops (no exit through immigration checkpoint) in risk countries.

## Other Vaccines

Depending on your itinerary, your personal risk factors, and the length of your visit, your health care provider may offer you vaccination against chikungunya, dengue, rabies, or typhoid fever.

## Malaria

The following is current information as reported by the World Health Organization (WHO) and the US Centers for Disease Control (CDC):

### WHO—*International Travel and Health* (current online update, Country List)

(2018) Malaria risk due to *P. vivax* (79.2%) and *P. falciparum* (20.8%) exists throughout the year in a number of municipalities, mainly in Región Autónoma del Atlántico Norte, with sporadic transmission also reported in Boaca, Chinandega, Jinotega, León and Matagalpa. Cases are reported from other municipalities in the central and western departments but the risk in these areas is considered to be very low or negligible. Risk due to *P. falciparum* is high mainly in Región Autónoma del Atlántico Norte, specifically in the municipalities of Rosita, Siuna, Bonanza, Puerto Cabezas and Waspán. No chloroquine-resistant *P. falciparum* reported.

- Recommended prevention in *P. vivax* risk areas: **B** – Risk of non-falciparum malaria. Mosquito-bite prevention plus chloroquine, or doxycycline or atovaquone-proguanil or mefloquine chemoprophylaxis (select according to drug-resistance pattern, reported side-effects and contraindications).<sup>a</sup>

- Recommended prevention in *P. falciparum* risk areas: **C** – Risk of *P. falciparum* malaria. Mosquito-bite prevention plus atovaquone-proguanil or doxycycline or mefloquine chemoprophylaxis (select according to drug-resistance pattern, reported side-effects and contraindications).<sup>a, b</sup>

<sup>a</sup>Alternatively, for travel to rural areas with low risk of malaria infection, mosquito bite prevention can be combined with stand-by emergency treatment (SBET).

<sup>b</sup>In certain areas with multidrug-resistant malaria, mefloquine chemoprophylaxis is no longer recommended. At present, these areas include Cambodia, south-eastern Myanmar and Thailand.

*WHO Country List footnote:* When available, the date of the most recent update or confirmation is indicated in parentheses in the country list. If no accurate date is indicated, the most recent update or confirmation was provided prior to 2013.

## CDC—Health Information for International Travel (current online edition)

### Transmission areas

- Región Autónoma Atlántico Norte (RAAN) and Región Autónoma Atlántico Sur (RAAS)
- Rare cases in the departments of Boaco, Chinandega, Estelí, Jinotega, León, Matagalpa, and Nueva Segovia
- No malaria transmission in Managua (the capital)

### Drug resistance<sup>2</sup>

- None

### Species

- *P. vivax* (80%)
- *P. falciparum* (20%)

### Recommended chemoprophylaxis

- Región Autónoma Atlántico Norte (RAAN) and Región Autónoma Atlántico Sur (RAAS): Atovaquone-proguanil, chloroquine, doxycycline, mefloquine, tafenoquine<sup>3</sup>
- All other areas with malaria transmission: No chemoprophylaxis recommended (insect bite precautions and mosquito avoidance only)<sup>4</sup>

<sup>2</sup> Refers to *P. falciparum* malaria, unless otherwise noted.

<sup>3</sup> Tafenoquine can cause potentially life-threatening hemolysis in people with glucose-6-phosphate-dehydrogenase (G6PD) deficiency. Rule out G6PD deficiency with a quantitative laboratory test before prescribing tafenoquine to patients.

<sup>4</sup> Mosquito avoidance includes applying topical mosquito repellent, sleeping under an insecticide-treated mosquito net, and wearing protective clothing (e.g., long pants and socks, long-sleeve shirt). For additional details on insect bite precautions, see Sec. 4, Ch. 6, Mosquitoes, Ticks & Other Arthropods.

## Other Concerns

### Travelers' Diarrhea

High risk exists throughout the country, including in deluxe accommodations. Community sanitation and food safety measures are generally inadequate. Some itineraries (e.g., remote destinations, austere accommodations) and activities (e.g., ecotourism, eating street or local-market food) further increase risk.

Travelers should observe food and beverage precautions, which reduce the likelihood of illness.

Travelers should carry loperamide for self-treatment of diarrhea and, if risk is moderate to high, an antibiotic to add if diarrhea is severe. Consult a knowledgeable health care provider regarding which antibiotic is appropriate for you and most effective for your destination.

### Other Food-Borne Illnesses

Precautions to prevent brucellosis may be needed.

## Insect- and Arthropod-Borne Diseases

Chagas' disease (American trypanosomiasis), leishmaniasis, West Nile virus, Zika may pose a risk. Personal protective measures are important.

## Other Disease and Health Risks

Additional concerns include anthrax disease, helminths, leptospirosis, marine hazards, melioidosis, sexually transmitted infections, snakebites, tuberculosis.

## Safety and Security

### Key Safety Risks

- Road conditions
- Public transportation
- Petty crime
- Heightened crime risk for women
- Scams
- Arbitrary arrest/unlawful detention
- Natural disasters

### Key Security Threats

- Risk of violent civil unrest
- Risk of violent protests
- Risk of security forces responding to protests with excessive force
- Cross-border threats in areas bordering Costa Rica and Honduras
- Violent crime

## Emergency Contacts

The police emergency number is 118.