Information for Clinicians on Travel-Related Illness

Date: November 3, 2022

Public Health Message Type: ☐ Alert ☐ Advisory ☐ Update ☒ Information

Intended Audience: ☐ All public health partners ☒ Healthcare providers ☒ Infection preventionists
☐ Local health departments ☐ Schools/Childcare centers ☐ ACOs
☐ Animal health professionals ☐ Other: Clinical laboratories

Summary:

According to the CDC, between 43-79% of travelers to low- and middle-income countries (including many popular travel destinations) may develop a travel-related illness. Many of these illnesses are more routine (Influenza, COVID-19, or travelers' diarrhea), while some may be less common (Malaria, Dengue, typhoid fever), or very rare (Viral Hemorrhagic Fevers such as Ebola). It is important for clinicians to be aware of all possible etiologies of illness in a returning traveler, to perform an appropriate assessment, and follow any needed precautions to keep themselves, their staff, and their patients safe.

Key Points:

As rates of international travel continue to rebound, healthcare providers are reminded of the importance of obtaining a thorough travel history for patients who present with fever or other signs or symptoms of infection. Although travel from Uganda has been highlighted recently due to the ongoing Ebola outbreak there, clinicians should be aware of the broad variety of infections that anyone returning from international travel (including those travelling from Uganda) might develop upon their return.

A travel history should include information on travel locations and accommodations, potential exposures during travel (insect bites, sexual activity, food/water sources), recreational activities (water activities, safaris, etc), and reason for travel (ie; did they obtain or provide medical care overseas, or visit with sick relatives), as well as information about the traveler's medical conditions, vaccinations and any prophylaxis used.

When evaluating a returning traveler with fever or signs of infection, in addition to considering more routine infectious etiologies such as influenza, COVID-19, pneumonia, pyelonephritis, bacterial sepsis, etc, healthcare providers should be aware of any outbreaks in regions the traveler has visited, as well as the most common infectious risks endemic to the specific areas of travel. Comprehensive information on alerts and risks of diseases in specific countries can be obtained at https://wwwnc.cdc.gov/travel/notices**.** Particular focus should be placed on early evaluation for those infections that are life-threatening, treatable and/or transmissible as these will necessitate immediate action.

Malaria is a common life-threatening febrile tropical disease in returning travelers, and it is the most common cause of undifferentiated fever in travelers from Sub-Saharan Africa. It is of the utmost importance to consider in the differential for travelers to regions where malaria is present (https://www.cdc.gov/malaria/travelers/country_table/a.html), as early diagnosis and treatment is key to survival and recovery, especially in the case of P. falciparum, which can progress rapidly. Selection of treatment depends on the severity of disease as well as the species and susceptibility profiles (https://www.cdc.gov/malaria/resources/pdf/Malaria_Treatment_Table_202208.pdf). Diagnosis can be made by microscopic evaluation of thick and thin blood smears. Confirmation and speciation of thick and thin Giemsa-stained blood smears is available at the NJDOH Public Health Laboratory (PHEL). Rapid diagnostic tests should be confirmed using microscopy. Prophylaxis is recommended but malaria can develop even if prophylaxis was used.

Other mosquito-borne infections are common throughout the tropics. Dengue is a leading cause of febrile illness in those returning from Latin America, the Caribbean or Southeast Asia. It is also common in Bangladesh, Nepal, most of India, some areas of Pakistan and is also present in certain regions of Africa (https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/dengue). Dengue can be detected by molecular testing, culture and serology, and the sensitivity of each test depends on the time since onset of disease. Treatment is supportive, but those who develop severe dengue will need closer observation including possible admission to intensive care to monitor for shock and manage fluid status. Patients with dengue should be advised to avoid use of Aspirin and NSAIDs in managing their symptoms.

Enteric fever includes Typhoid and Paratyphoid Fevers which are caused by Salmonella enterica (https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/typhoid-and-paratyphoid-fever). The majority of travelers to the US who develop typhoid or paratyphoid fever have travelled to South Asia (India, Pakistan or Bangladesh), but there is also elevated risk in Africa and Southeast Asia, with lower risk in East Asia, South America and the Caribbean. Diagnosis is mainly via blood culture, with stool and urine culture being less sensitive; multiple cultures may be required to detect it. Treatment with antibiotics shortens the course and reduces the risk for death, but susceptibility profiles must be considered due to high prevalence of fluoroquinolone resistance. Of note, extensively drug resistant (XDR) Salmonella Typhi has been detected in many locations, most notably in Pakistan https://wwwnc.cdc.gov/travel/notices/watch/xdr-typhoid-fever-pakistan.

Hepatitis A is one of the more common vaccine-preventable illnesses acquired during travel and it is widespread in many regions including South Asia, Africa, and Latin America. Risk is highest when traveling in areas of limited sanitation and poor-quality drinking water such as rural or backcountry areas, but hepatitis A may also be acquired in developed regions. Diagnosis is via serum serology for HAV IgM, or through molecular detection of HAV RNA via NAAT.

Other severe illnesses that may be detected in returning international travelers include meningococcemia, cholera, vaccine-preventable diseases such as polio, measles and mumps, respiratory infections, rabies, and viral hemorrhagic fevers. Viral hemorrhagic fevers include Ebola as well as other viruses (https://www.cdc.gov/vhf/abroad/assessing-vhf-returning-traveler.html). The risk of travelers acquiring Ebola is generally low, but certain travelers who engage in animal work, or provide healthcare

or personal care to patients where outbreaks are occurring are at greater risk, and potential illness must be identified as soon as possible to prevent secondary transmission. Providers should be aware of the current outbreak in Uganda, epidemiologic risk factors, and clinical manifestations as well as protocols for isolation and use of PPE. More information can be found at https://www.nj.gov/health/cd/topics/vhf.shtml, and through the CDC at https://www.cdc.gov/vhf/ebola/outbreaks/uganda/2022-sep.html, and https://www.cdc.gov/vhf/ebola/clinicians/index.html.

The majority of travel-acquired illnesses are reportable to the Health Department. Please see https://www.nj.gov/health/cd/reporting/when/ for a complete list of reportable illnesses in New Jersey along with instructions for reporting to the local health department. The CDC maintains a complete list of travel-related diseases https://wwwnc.cdc.gov/travel/diseases.

Finally, for clinicians evaluating individuals *prior* to planned international travel, please advise to avoid non-essential travel to regions of Uganda affected by the current Ebola. A complete listing of all current travel health notices can be found at https://wwwnc.cdc.gov/travel/notices. For all destinations, vaccination and prophylaxis information for specific destinations can be found at https://wwwnc.cdc.gov/travel/page/vaccine-guide. Travelers should be up to date on routine vaccinations in addition to any recommended or required for their travel destinations.

Additional Resources:

Department of Health | Communicable Disease Service | Traveler's Health (nj.gov)

General Approach to the Returned Traveler - Chapter 11 - 2020 Yellow Book | Travelers' Health | CDC

Disease Directory | Travelers' Health | CDC

Clinician Resources | Travelers' Health | CDC

CDC - Malaria - Guidance for Malaria Diagnosis in Patients Suspected of Ebola Infection in the United States