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Chapter 2
The Pre-Travel Consultation
Counseling and Advice for Travelers

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NATURAL DISASTERS AND ENVIRONMENTAL HAZARDS

Josephine Malilay, Dahna Batts, Armin Ansari, Charles W. Miller, Clive M. Brown

Natural Disasters

Travelers should be aware of the potential for natural phenomena such as hurricanes, tornadoes, or earthquakes. Natural disasters can contribute to the transmission of some diseases, especially since water supplies and sewage systems may be disrupted, sanitation and hygiene compromised by population displacement and overcrowding, and normal public health services interrupted.

Disease Risks

- The risk for infectious diseases is minimal unless a disease is endemic in an area prior to the disaster event, since transmission cannot take place unless the causative agent is present.
    - Although typhoid can be endemic in developing countries, natural disasters have seldom led to epidemic levels of disease.
    - Floods have been known to prompt outbreaks of leptospirosis in areas where the organism is found in water sources (see the Leptospirosis section in Chapter 5).
- When water and sewage systems have been disrupted, safe water and food supplies are of great importance in preventing enteric disease transmission. If contamination is suspected, water should be boiled and appropriately disinfected (see the Water Disinfection for Travelers section earlier in this chapter).
- Travelers who are injured during a natural disaster should have a medical evaluation to determine what additional care may be required for wounds potentially contaminated with feces, soil, or saliva or that have been exposed to fresh or sea water that may contain parasites or bacteria.
- Tetanus booster status should always be kept current.

Injuries

- When arriving at a destination, travelers should be familiar with local risks for seismic, flood-related, landslide-related, tsunami-related, and other hazards, as well as warning systems, evacuation routes, and shelters in areas of high risk.
- After natural disasters, deaths are rarely due to infectious diseases but most often to blunt trauma, crush-related injuries, or drowning. Travelers should thus be aware of the risks for injury before, during, and after a natural disaster.
- In floods, people should avoid driving through swiftly moving water.
- Travelers should exercise caution during clean-up, particularly when encountering downed power lines, water-affected electrical outlets, interrupted gas lines, and stray or frightened animals.
- During natural disasters, technological malfunctions may release hazardous materials (e.g., release of toxic chemicals from a point source displaced by strong winds, seismic motion, or rapidly moving water).

Environmental Risks

- Natural disasters often lead to wide-ranging air pollution in large cities. Uncontrolled forest fires have caused widespread pollution over vast expanses of the world.
- Natural or manmade disasters resulting in massive structural collapse or dust clouds can cause the release of chemical or biologic contaminants (e.g., asbestos or the arthrospores that lead to coccidioidomycosis).
- Health risks associated with these environmental occurrences have not been fully studied.
- Travelers with chronic pulmonary disease may be more susceptible to adverse effects from these exposures.

Event-Specific Information

Typically, following natural disasters of a magnitude that may impact travelers, current information about the disaster, as well as travel health information specific to those needing entry into such regions, is provided on the CDC Travelers' Health website (www.cdc.gov/travel (http://wwwn.cdc.gov/travel)). Recommendations may include specific immunizations or cautions regarding unique hazards in the affected area.

Environmental Hazards

Air

- Air pollution may be found in large cities throughout the world; its sources are often attributed to automobile exhaust and industrial emissions and may be aggravated by climate and geography.
- The harmful effects of air pollution are difficult to avoid when visiting some cities; limiting strenuous activity and not smoking can help.
- Any risk to healthy short-term travelers to such areas is probably small, but persons with pre-existing health conditions (e.g., asthma or chronic obstructive pulmonary disease) could be more susceptible.
- Avoidance of dust clouds and areas of heavy dust or haze may be wise.

Water

- Rivers, lakes, and the ocean may be contaminated with—
    - organic or inorganic chemical compounds (e.g., heavy metals or other toxins);
    - harmful algal blooms (i.e., cyanobacteria) that can be toxic both to fish and to people who eat the fish or who swim or bathe in the water; and
    - pathogens from human and animal waste that may cause disease in swimmers.
- Such hazards may not be immediately apparent in a body of water.
- Extensive water damage after major hurricanes and floods increases the likelihood of mold contamination in buildings. U.S. residents may visit flooded areas overseas as part of emergency, medical, or humanitarian missions. Mold is a greater hazard for persons with conditions such as impaired host defenses or mold allergies. To prevent exposure that could result in adverse health effects from disturbed mold, persons should—
    - Avoid areas where mold contamination is obvious.
    - Use personal protective equipment (PPE) (e.g. gloves, goggles, tight-fitting NIOSH-approved N-95 respirator). Travelers should take sufficient PPE with them, as these may be scarce in the countries visited.
    - Keep hands, skin, and clothing clean and free from mold-contaminated dust.
    - The CDC MMWR guidance, “Mold Prevention Strategies and Possible Health Effects in the Aftermath of Hurricanes and Major Floods,” provides recommendations for dealing with mold in these settings.

Radiation

- Natural background radiation levels can vary substantially from region to region, but these natural variations are not a health concern for either the traveler or resident population.
- Travelers should be aware of regions known to have been contaminated with radioactive materials, such as the area surrounding the Chernobyl nuclear power station, 100 km (62 miles) northwest of Kiev, Ukraine. This unprecedented radiation emergency and subsequent contamination primarily affected regions in three republics—Ukraine, Belarus, and Russia—with the highest radioactive ground contamination within 30 km (19 miles) of Chernobyl.
- In most countries, known areas of radioactive contamination are fenced or marked with signs. These areas should not be trespassed.
- Any traveler seeking long-term (more than a few months) residence near a known or suspected contaminated area should consult with staff of the nearest U.S. Embassy and inquire about any applicable advisories in that area regarding drinking water quality or purchase of meat, fruit, and vegetables from local farmers.
- Radiation emergencies are rare events. In case of such an emergency, however, travelers should:
    - Follow instructions provided by local emergency and public health authorities.
    - If such information is not forthcoming, U.S. travelers should immediately seek advice from the nearest U.S. embassy.
- Natural disasters (such as floods) may also result in displacement of industrial or clinical radioactive sources. In all circumstances, travelers should exercise caution when they encounter unknown objects or equipment, especially if they bear the radioactive symbol. If a questionable object is encountered, appropriate authorities should be notified.

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Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348, 24 Hours/Every Day - cdcinfo@cdc.gov