

# Travel Clinic Operations Guide

Edition 5

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## INTRODUCTION

The *Travel Clinic Operations Guide* provides an overview of the resources and travel-specific information useful to those starting and maintaining an international travel medicine clinic or administering travel-related vaccines within the context of a medical practice. Additional considerations may apply to travel medicine clinics in other care delivery settings such as pharmacies, workplaces, and public health departments. Non-physician prescription of vaccines or travel-related medication is increasingly common, but varies widely by state or province, and local regulations need to be clearly understood.

Materials have been designed to help standardize delivery of service and reduce administrative workload. This guide focuses on aspects of clinic operations that are unique to the practice of travel medicine. Resources, policies and procedures, and other guidelines applicable to general medical clinics can be found in a multitude of other publications and will not be provided here.

## ESTABLISHING A TRAVEL HEALTH CLINIC

### THE BASICS

Because the concept of travel medicine is often new to travelers, it is important to take into consideration the unique aspects of establishing a travel medicine clinic.

**Location:** A highly visible location on a main floor or centralized location will generate interest, prompt inquiries, and encourage drop-ins. A location within a well-care setting is also desirable.

**Parking:** Because many travel medicine clinics offer evening or weekend appointments for busy travelers, parking should be both easily accessible and safe.

**Naming:** Clinic names and signs should clearly indicate the unique services offered, such as travel immunizations.

**Space:** A preferred layout consists of at least 3 rooms: reception, consultation, and examination rooms. A conference room is also useful for large tour group meetings, seminars, and staff training.

**Legal aspects:** State and provincial laws vary regarding the ability of staff other than physicians (such as nurse practitioners, physician's assistants, registered nurses, medical assistants) to provide vaccines and prescription medication. In addition, some organizations have chosen to be more restrictive than state law, and rules may differ depending on whether the site is an independent practice site or located within a hospital. The following questions must be addressed before tasks are assigned in a travel health clinic.

#### **Immunization**

- What immunizations can be administered by the clinic staff?
- Are there restrictions such as age or pregnancy?
- Are there route-of-administration restrictions (e.g., only allows vaccines by injection)?
- Can clinic staff administer vaccines independently (i.e., no physician involvement), by protocol (i.e., standing orders), by prescription (i.e., must obtain a physician signed order for the vaccine), or some combination of any of the aforementioned?

#### **Prescription Medication**

- Can clinic staff (such as registered nurses and medical assistants) initiate medications without direction from travel health clinic physician or referral from a primary care provider?

### SPECIALIZED EQUIPMENT AND SUPPLIES

**Storage:** At minimum, a dedicated refrigerator with a separate freezer and a device that records temperature (particularly observed high and low temperatures) are recommended by CDC for vaccine storage. Additionally, CDC recommends the use of glycol-encased probes to more accurately record vaccine temperature and digital data loggers for more frequent monitoring and documentation. At minimum, pharmacists should monitor and record temperature twice daily.

- For guidance on the safe handling and storage of vaccines, see *Storage and Handling* in the Travax Medical Library and CDC's website on storage and handling ([www.cdc.gov/vaccines/recs/storage/default.htm](http://www.cdc.gov/vaccines/recs/storage/default.htm)).

**Travel vaccines:** See "Vaccines and Medications" for vaccine inventory suggestions and tips on vaccine ordering, storage, and handling.

**Yellow fever vaccine administration (YF stamp):** When administering yellow fever vaccine, the following will be needed:

- A Yellow Fever Stamp (Uniform Stamp), which can be obtained from local or state public health authorities
  - Many states require completion of the online CDC course, "Yellow Fever Vaccine: Information for Health Care Professionals Advising Travelers," before they will issue a Yellow Fever Stamp.
  - CDC requires that only a physician can apply for a yellow fever stamp, but it does not prohibit a physician from delegating the use of the stamp to other health care providers in accordance with state policy.
- Stocks of the *International Certificate of Vaccination or Prophylaxis* (see below), which can be obtained from:

- WHO: <http://apps.who.int/bookorders/anglais/detart1.jsp?sesslan=1&codlan=0&codcol=69&codcch=1000>
- U.S.: Superintendent of Documents: <http://bookstore.gpo.gov>
- Canada: Travel Health Division of the Public Health Agency of Canada: [www.phac-aspc.gc.ca/tmp-pmv/yf-fj/designation/pm\\_yf-mp\\_fj-eng.php#a18](http://www.phac-aspc.gc.ca/tmp-pmv/yf-fj/designation/pm_yf-mp_fj-eng.php#a18)

**WHO's International Certificate of Vaccination or Prophylaxis (ICVP):** A revised certificate took effect June 15, 2007, replacing the previous *Certificate of Vaccination or Revaccination*. The new certificate must be used, but persons vaccinated before that date may use the old certificate until it expires.

- The name of the vaccine (e.g., yellow fever) or prophylaxis must be written out each time on the page entitled "International Certificate of Vaccination or Prophylaxis." Currently, WHO mandates only documentation of yellow fever vaccination in the *ICVP*.
- The *Certificate* must be hand signed by a licensed clinician or authorized designee; a signature stamp is not acceptable. The Uniform Stamp of the medical center administering the vaccine must be used to validate the immunization entry. (In the U.S., the Uniform Stamp is issued to non-federal vaccination centers by state health departments.)
- Other vaccines may be entered on a separate page (entitled "Other Vaccinations"), but this is optional. If cholera vaccine is given to satisfy an "unofficial" entry requirement or if meningococcal or polio vaccines are given to satisfy an official country requirement (i.e., for the Hajj), record the vaccine administered in the "Other Vaccinations" section in the column entitled "Disease Targeted." A Uniform Stamp, although not required, lends credibility to this section.
- Although the entire booklet is frequently called the "certificate of vaccination," the official *ICVP* — and the only mandated portion — is the page on which the clinician enters yellow fever vaccination information. The booklet itself includes additional material (e.g., "Instructions to Travelers," "Instructions to Physicians," and "Other Immunizations/Prophylaxis Received"), but use of these sections is optional.
- Non-physician health care providers can sign the *ICVP*. However, CDC recommends that, for medical exemptions, in addition to completing the Medical Contraindication to Vaccination section of the *ICVP*, it also be accompanied by a signed and dated exemption letter on the physician's stationary.

**Vaccine Information Statements (VISs):** The health care provider must inform the traveler (or the parent/legal representative of a child) about the benefits and risks of vaccinations prior to administration of a vaccine. VISs, which are developed by CDC, provide objective information on vaccine safety, potential adverse events, and the diseases against which the vaccines protect. The appropriate and most current version of a VIS should be provided each time a vaccine dose is administered to a child or an adult.

U.S. federal law requires the documented use of VISs for each dose of a vaccine (given to an adult or child) containing any of the following components: diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, Hib, influenza, pneumococcal conjugate, meningococcal, rotavirus, HPV, or varicella.

- An alternative VIS (the multi-vaccine VIS) can be used when administering one or more of the following routine birth-through-6-months vaccines: DTaP, HepB, Hib, pneumococcal conjugate (PCV), polio (IPV), or rotavirus. It can also be used when giving combination vaccines (e.g., Pediarix, Pentacel, Comvax) or when giving 2 or more routine vaccines at other pediatric visits (e.g., 12-15 months, 4-6 years).

VISs for other vaccines are also available and their use is strongly encouraged but not mandated (unless the vaccine is purchased through a CDC contract).

VISs are periodically updated, and it is the responsibility of the health care provider to obtain the most recent versions. VISs are available in the Travax Medical Library (see *Vaccine Information Statements*) and on the CDC website ([www.cdc.gov/vaccines/hcp/vis/index.html](http://www.cdc.gov/vaccines/hcp/vis/index.html)). VISs are available in more than 40 languages at [www.immunize.org/vis](http://www.immunize.org/vis).

CDC regulations require that the Vaccine Administration Record contain the publication date of the VIS provided and the date that the VIS was given to the traveler or traveler's guardian. Clinicians are *not* required to obtain the traveler's signature acknowledging receipt of a VIS, as these are not consent documents.

### **Forms for Reporting Adverse Events**

In the U.S., adverse events are reported to the Vaccine Adverse Event Reporting System (**VAERS**); the reporting form can be completed online (<https://vaers.hhs.gov/esub/step1>). The VAERS 24-hour information line (800-822-7967) can be called with questions regarding adverse reactions or to order paper forms, which are also available.

In Canada, adverse events are reported to the Canadian Adverse Events Following Immunization Surveillance System ([www.phac-aspc.gc.ca/im/vs-sv/index-eng.php](http://www.phac-aspc.gc.ca/im/vs-sv/index-eng.php)); the reporting form (Report of Adverse Events Following Immunization) is available at [www.phac-aspc.gc.ca/im/ae-fi-essi-form-desc-eng.php](http://www.phac-aspc.gc.ca/im/ae-fi-essi-form-desc-eng.php).

**Travel medications:** See "Vaccines and Medications" for suggested inventory and tips on ordering.

**Pre-printed prescription order forms:** Electronic prescribing has become commonplace. For practitioners not using electronic prescribing, using pre-printed templates will save time and reduce errors, whether prescribing independently or by protocol, or if a prescription from a prescriber is needed.

### **Supplies for Anaphylaxis**

- Aqueous epinephrine 1:1,000 (i.e., 1 mg/mL or 0.3 mg/0.3 mL) dilution in pre-filled syringes, such as epinephrine auto injectors (e.g., EpiPen or Auvi-Q), or ampoules or vials. If vaccinating a pediatric traveler, both EpiPen Jr. (0.15 mg) and Auvi-Q pediatric (0.15 mg) should be stocked (3 each). It is recommended to have 3 doses readily available in an emergency kit; do not rely on using regular drug stock. Also, make sure expiration dates are checked regularly.
- Diphenhydramine (Benadryl) injectable (50 mg/mL solution); 25 mg or 50 mg capsules or tablets and syrup (12.5 mg/5 mL suspension)
- Wristwatch with second hand or second timer
- Sphygmomanometer (child, adult, and extra-large cuffs) and stethoscope
- Cell phone or access to an on-site phone to activate the emergency medical service (EMS)
- Syringes: 1-3 cc, 22-25 g, 1 in, 1½ in, and 2 in needles for epinephrine and diphenhydramine
- Oxygen
- Pediatric and adult airways (small, medium, and large)
- Pediatric- and adult-sized pocket masks with one-way valve; bag-valve-mask resuscitator
- Alcohol swabs
- Tongue depressors
- Flashlight with extra batteries (for examination of the mouth and throat)

For managing adverse reactions to vaccination, see *Medical management of Vaccine Reactions in Children and Teens* ([www.immunize.org/catg.d/p3082a.pdf](http://www.immunize.org/catg.d/p3082a.pdf)) and *Medical Management of Vaccine Reactions in Adult Patients* ([www.immunize.org/catg.d/p3082.pdf](http://www.immunize.org/catg.d/p3082.pdf)).

### **PERSONNEL AND TRAINING**

In addition to reception staff, depending on the size of the clinic, some or all of the following personnel may provide consultation and administer vaccines: medical assistant, patient care technician, LPN, registered nurse (BSN preferred), physician assistant (PA), nurse practitioner (NP), pharmacist (PharmD), or advanced practice nurse (APN).

In many states, clinic personnel work under protocol and a responsible physician, but in some states, travel clinics may be run by nurse practitioners (or an advanced practice nurse) or a PharmD, with varying degrees of autonomous prescriptive rights.

Ideally all staff should have CPR certification, and at least 1 person with ACLS certification (advanced cardiovascular life support) should be available at all times.

#### **Desirable Qualifications for Clinical Providers**

- Certificate in Travel Health CTH<sup>®</sup> from the ISTM which recognizes knowledge in the field of travel medicine associated with pre-travel care and consultation. See [www.istm.org](http://www.istm.org) for details.
- Significant traveler teaching experience
- Basic Life Support (BLS) and Advanced Cardiovascular Life Support (ACLS) certification
- Cultural sensitivity, ability to speak multiple languages, experience in foreign travel
- Previous travel health or foreign health care experience

#### **Training and Orientation**

A sample training plan is presented below for a start-up travel medicine clinic offering pre-travel care. This plan also can be used to orient new clinical staff members who are joining an established practice. (A clinic providing post-trip care will need to develop an expanded curriculum.)

Pre-trip care focuses on the prevention of illness and accidents while traveling. Travel health clinicians provide a wide range of pre-trip services, including:

- Information about vaccine requirements and recommendations
- Screening for medical conditions that may increase travel risk
- Immunizations and prescription pharmaceuticals
- Suggestions for non-prescription medications for travel
- Information about risk at destination
- Counseling regarding preventive behaviors
- Referrals and resources

For clinics providing post-trip care, these additional training objectives may be included:

- Describe how to take a post-trip health history from the traveler.
- Describe the clinical presentation of common travel-related health problems.
- Outline a cost-effective post-trip laboratory-testing plan.

- Delineate practice protocols for the work-up and management of travel-related health problems.
- List community resources for specialty-care referral.

Before they practice travel health, practitioners in the U.S. should consider taking a comprehensive course on immunization and travel health. Currently, an annual program in North America is offered by the International Society of Travel Medicine:

- **Travel Medicine Review and Update Course** (accredited for approximately 15.5 *AMA PRA Category 1 Credits™* or 12.75 *AANP contact hours*)

Up-to-date knowledge about itinerary risks and prevention strategies is essential for the provision of quality pre-trip care. Travel medicine information changes constantly. Systems for ongoing continuing education should be established in every travel health practice to keep staff apprised of developments in the field. Consider implementing:

- Continuing education requirements as a part of all job descriptions
- Access to weekly updates, e-mail alerts, and Travax *Literature Watch Reviews*
- Development of case studies from previous travelers for ongoing clinic staff education
- Attendance at ISTM and other travel medicine conferences
- Web-based updates on immunizations from CDC

*Orientation:* A sample training plan to orient new staff members who are joining an established travel clinic practice

At the start of training, the clinician should be provided with the most current editions of the following materials:

- Shoreland: Travax web-based travel medicine program
- Shoreland: *Travel Clinic Operations Guide*
- CDC: *Health Information for International Travel* ("Yellow Book")
- CDC: *Epidemiology and Prevention of Vaccine-Preventable Diseases* ("Pink Book")
- Shoreland *News Alerts* and *Literature Watch Reviews*, available by subscription to Travax, are also helpful in accessing new developments and current literature on travel medicine.

### **Sample Readiness Checklist**

- Demonstrate use of Travax by researching a trip for a basic and a complex itinerary (e.g., involving yellow fever vaccination and malaria prophylaxis) using at least 2 resources (Travax, CDC Yellow Book, etc.).
- Review travel history and other documentation forms.
- Review documentation and administration procedures for immunizations.
- Review procedures for completion of the ICVP.
- Review workflow as it relates to the travel clinic.
  - Scheduling an appointment and completing the Traveler History Form (see sample form, page 15)
  - Procedures for itinerary review and time period for completion
  - Printing traveler- and/or itinerary-specific educational material
  - Clinic visit flow
  - Processing of prescriptions, vaccines, OTC medications, and supplies
  - Billing
- Quality assurance: Evaluate a client's knowledge following a traveler teaching session; periodic peer review of randomly selected clinic visits to evaluate clinical decision making.

## **POLICIES AND PROCEDURES**

Each travel clinic should develop an individualized policy and procedure (or standard operating procedures) manual, with dated policies that are reviewed regularly and revised as needed. A few examples of topics are noted below.

### **WORKFLOW**

The following are some basic considerations for workflow operations within a travel clinic:

- All appointments should be scheduled rather than walk-in.
- Depending upon the setup of the travel clinic, visits typically take 30-60 minutes.
- Travel clinic costs are usually discussed before or during the visit, but staff should strive for transparency of all fees.

The following relate to the figure below:

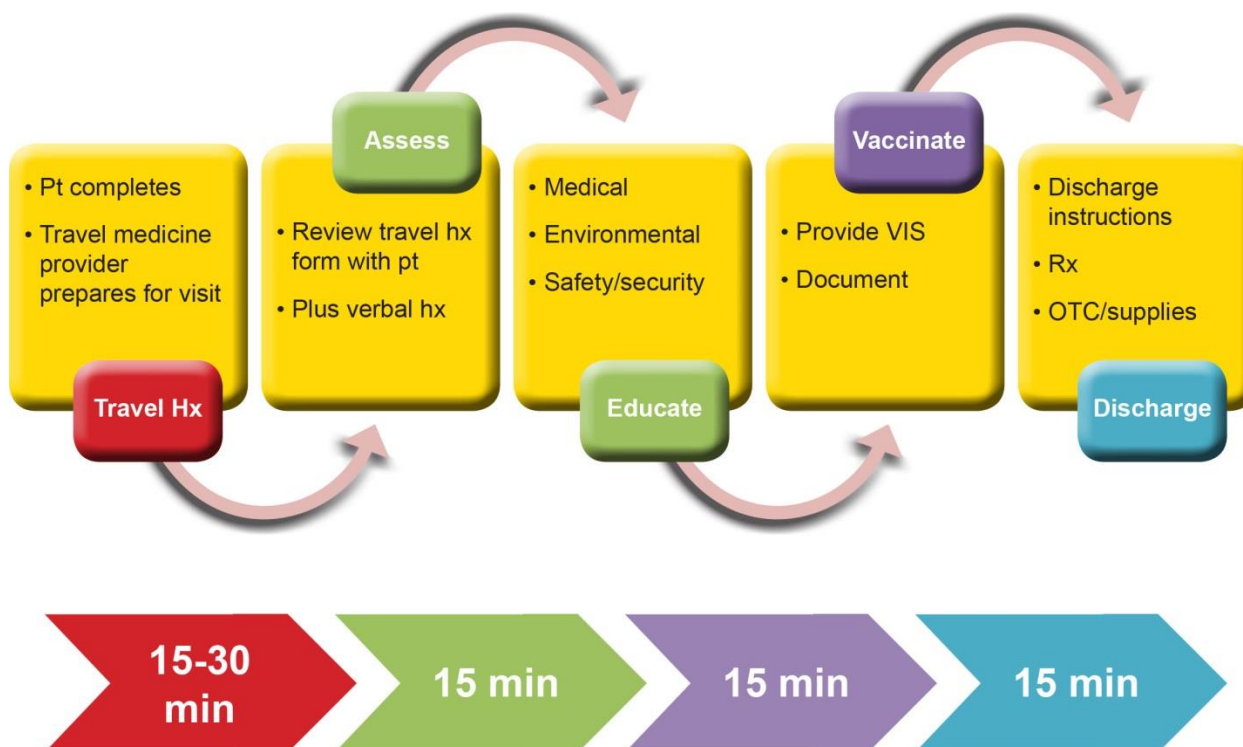
- Travel history
  - Some clinics ask the traveler to complete a travel history (see Traveler History Form page 15) and mail or fax it back prior to the appointment or to complete it online. Other clinics prefer the form be filled out upon arrival at the appointment. Prior to the appointment, the travel medicine provider should review the Traveler History Form to

determine a prevention plan that includes vaccines, medications, supplies, and counseling. Travax, as well as other resources listed in this guide, should be used in this preparation process. This may take 5-30 minutes, depending upon the traveler, itinerary, and provider's travel health experience.

- Assess
  - At the start of the visit, the provider reviews the Traveler History Form with the traveler.
  - Reconfirm the itinerary. Use maps (available in Travax) to visually show where the traveler has indicated he or she is traveling.
    - The provider should attempt to verify all information when it is critical to the travel health recommendations. For example, immunization records should be reviewed and, when needed, discussed with the traveler's primary care provider or specialist to explore a stated condition. The lowest form of evidence is verbal history, which should be documented if it is used for decision making.
- Educate
  - Traveler education should be current and comprehensive, yet prioritized and individualized for the traveler and his or her itinerary.
  - Education should cover medical, environmental, and safety/security topics.
  - A typical flow of the educational component of the visit might look like:
    - Route of disease transmission and prevention strategies (most important)
      - Vector-borne diseases (insect repellants, insecticides, netting, etc.)
      - Food/water-related illnesses (general precautions, getting potable water, etc.)
    - Vaccine recommendations
    - Medication-related prevention (e.g. malaria, traveler's diarrhea, altitude sickness, jet lag)
    - Non-vaccine, non-medication prevention strategies by route of transmission
      - Vector, food/water, respiratory, environmental, blood/sex/needles, zoonotic
    - Safety/Security/Consular
      - Medical evacuation, consular warning, etc.
- Vaccinate
  - Policy and procedures already in place for administration of other vaccines should be used here, such as use of the Vaccine Administration Record and *Vaccine Information Statements*
  - Consider processing payment prior to vaccine administration, particularly if traveler lacks insurance coverage for travel medicine services or travel vaccines.
  - Observe the traveler for at least 15 minutes after vaccination.
  - Document all vaccines ordered and given on the traveler's routine vaccination record, or use the Clinic Documentation Form (see sample form, page 18) or immunization registry. In addition, if the traveler requires yellow fever vaccine, make sure it is recorded on the ICVP.
- Prescription medication
  - Electronic prescribing allows more efficient transmission of prescriptions to the traveler's pharmacy.
  - If not participating in electronic prescribing, pre-printed prescription templates will save time and reduce errors, whether prescribing independently or by protocol, or if a prescription from a prescriber is needed.
- Check-out and documentation
  - Payment is collected and any follow-up visits for vaccination are made. Some providers prefer to process payment before vaccinations are given, particularly if insurance will not cover travel vaccines or travel medicine services.
  - The clinic visit can take from 30 minutes to 1 hour, depending upon use of ancillary personnel, preparation by the traveler (immunization history, trip details), health background, and itinerary.
  - Types of documentation
    - Communications with primary care providers: Used to foster continuity and document travel health services for the traveler's permanent record. Useful for generating further referrals from local primary care practitioners. Send a copy of the work-up form with a short cover letter, and list any follow-up immunizations (and schedules) to be administered at the travel medicine or primary care clinic.

- **Communication with patient:** Use to clarify the information given at the appointment about prescriptions and follow-up care. For example, include directions on when to start malaria medication, list vaccines given (or due to be given), and list any follow-up appointments.
- **Medical information or exemption letters:** Use to assist the traveler at border crossings and in the event of a medical problem abroad. This is highly recommended for any traveler needing an exemption letter for yellow fever, meningococcal, or polio vaccines; a needle and syringe permission letter; medication requirements letter; HIV status letter; and for persons with a chronic or unstable disease. Although no official requirement exists nowadays, occasionally border officials require documentation of cholera vaccination; thus noting an exemption for certain travelers crossing multiple international borders can prevent such inconveniences. An additional letter may be written by the primary care provider concerning the traveler's medical status, with EKG and/or lab copies attached, as needed. Sample letters are available in the Travax Medical Library under *Forms & Samples*.
- **Refusal of recommendation/treatment:** Document the traveler's refusal of immunizations, prescriptions, or travel health recommendations, either in the doctor's notes or in a prepared form. If a form is used, the clinic's legal department should aid in the design.
- **Traveler Handouts**
  - **Topic handouts:** See previous section for information on traveler handouts available in the Travax Medical Library.
  - **Country information:** Printed country-specific information and recommendations from Travax (see Destinations) and Report Builder.
  - **Travel Health Companion:** Shoreland: See "Traveler Education." A checklist for first aid and other items is included. Items could include first aid supplies, antimotility medications, antihistamines, antibacterial wipes and hand sanitizer, insect repellent with DEET or picaridin, sunscreen, pain relievers, etc.

## TRAVEL CLINIC FLOW



### After-Hours Care

- **Policy:** Establish and maintain a system whereby travelers can access care when the clinic is closed.
- **Purpose:** Ensure that all travelers have knowledge of and access to after-hours medical care.

**Travel Clinic Refrigerator** (See also *Storage and Handling* in the Travax Medical Library.)

- Policy: Set guidelines for choosing and maintaining the refrigerator/freezer.
- Purpose: Ensure proper storage of vaccines in the clinic refrigerator/freezer and avoid loss due to compromised or outdated stock.
- Consider purchasing a thermometer that can call or text someone when the power goes out (especially important for weekends or overnight if the clinic is closed). Some clinic sites may have access to or subscribe to services that monitor temperature and check on equipment if alerted about breaches in temperature.

**Immunization**

- Policy: Check state law for documentation requirements and immunization clinic operation.
- Purpose: Ensure standardized procedures are used for all vaccines, including travel vaccines.

**VACCINES AND MEDICATIONS****VACCINE STOCK**

Vaccine supplies should include routine, recommended, and required vaccines, in both adult and, if appropriate, pediatric formulations.

**Routine vaccines:** For a complete list of routine adult and pediatric vaccines by generic and brand names, see *Products* in the Travax Medical Library.

Because all routine immunizations should be up-to-date before travel, these vaccines should be stocked in the travel clinic for incompletely immunized travelers. Commonly stocked vaccines and biologics include:

- Tdap and Td vaccines
- Hepatitis A vaccine
- Hepatitis B vaccines and hepatitis A/B combination vaccines
- HPV vaccine
- Influenza vaccines
- MMR vaccine
- Meningococcal B vaccine
- Meningococcal ACYW vaccines (this may also be considered recommended or required for particular travelers)
- Pneumococcal conjugate (PCV13) and pneumococcal polysaccharide (PPSV23) vaccines
- Polio (IPV) and polio combination vaccines (may be recommended or required for particular travelers)
- Varicella vaccine
- Zoster vaccine
- Pediatric vaccines: DTaP, DT, and DTaP combination vaccines; Hib and Hib combination vaccines; rotavirus vaccines

**Recommended vaccines:** Vaccines that may be recommended to protect the traveler from endemic or epidemic diseases present in the country of destination include the following:

- Hepatitis A and hepatitis A/B combination vaccines (may also be routine vaccine for some travelers)
- Japanese encephalitis vaccine
- Meningococcal ACYW vaccines (may be required in some cases; see below.)
- Rabies vaccine
- Typhoid, injectable and oral vaccines
- Yellow fever vaccine (Yellow fever vaccine may be recommended when there is risk of yellow fever to the traveler or may be required by the destination country to prevent transmission of yellow fever virus into that country. See below.)

**Required vaccines:** Required by the country of destination, these vaccines are designed to protect the host country's population from the importation and spread of disease. Some vaccines are required only under certain conditions (e.g., during the Hajj in Saudi Arabia).

- *Yellow fever vaccine:* Many countries require this vaccine when the traveler has recently been in countries either known or thought to harbor yellow fever virus, though some countries require the vaccine for all travelers. Requirements as reported by individual countries to WHO can be found in Travax Report Builder or in individual country summaries in Travax Destinations.
  - Travelers with a specific contraindication to this vaccine should obtain a waiver before traveling to countries requiring vaccination.
  - Enter proof of vaccine in the ICPV, which can be obtained from CDC at <http://bookstore.gpo.gov/>.
  - All yellow fever vaccination centers should keep a Vaccine Administration Record, and some state health departments require a yellow fever vaccination logbook that includes the following information for each vaccine recipient: name, sex, date of birth, vaccine lot number, vaccination date, prior YF vaccination, destination countries, and Adverse Event/VAERS Report (U.S.) or the Report of Adverse Events Following Immunization (Canada).
  - Yellow fever vaccine may also be *recommended* if there is risk to the traveler of contracting yellow fever.
- *Meningococcal ACYW vaccine* is required by Saudi Arabia for visitors arriving in that country for purposes of the Hajj or Umra.
  - Meningococcal vaccine may also be *recommended* if there is risk to the traveler.



- **Polio vaccine:** A small number of countries, including Saudi Arabia for Hajj travelers, require proof of polio immunization for certain travelers, mainly those arriving from polio endemic countries. The U.S. and Canada are polio-free.
  - See *Polio and Hajj Travelers* in the Travax Medical Library for additional information.

### Other vaccines

**Cholera vaccine:** Not available in the U.S., oral cholera vaccine is available in Canada and elsewhere and may be obtained by travelers in transit, if feasible.

- Cholera vaccine is not recommended for typical travelers because of the low risk of cholera to most travelers, other than aid or refugee workers.
- Cholera vaccine is not officially required by any country, and a requirement is not legal under the International Health Regulations.

### Other biologics

- Immune globulin (IG), IM (if available)
- VZIG – Varicella Zoster Immune Globulin
- HRIG – Human Rabies Immune Globulin
- Tuberculosis skin testing (TST) with PPD

See *Products* in the Travax Medical Library for additional information, including contact information for vaccine manufacturers and distributors.

**Ordering vaccines and medications:** Clinics that are new or that have a low patient volume should order only what is needed for one month at a time. With experience, orders can be adapted according to need. Consider heavier travel periods, such as winter holiday season vacations, spring break, summer vacations, etc., when planning orders. April to June is typically the highest-volume period for clinics that see a significant proportion of leisure travelers. While often more expensive, single-dose vials and pre-filled syringes for less-commonly used vaccines are recommended to avoid waste.

**Vaccine suppliers:** Vaccines may be available from a wholesaler or directly from the manufacturer. Verify vaccine delivery time with the supplier. Delivery times should be agreed upon by both the distributor and facility in order to maintain the cold chain required to guarantee vaccine viability. The usual time from ordering to delivery is about 1-4 business days.

**Vaccine shortages:** Up-to-date information on vaccine shortages or backorders/delays can be found in the Travax Medical Library under *Vaccine Supply Shortages (Table VSS-1)*.

**Vaccine recalls:** Vaccine recalls are reported via *Travax News Alerts*, when significant to travel medicine practice. The FDA website can also be consulted ([www.fda.gov](http://www.fda.gov)).

**Vaccine storage and handling:** For guidance on the safe handling and storage of vaccines, see *Storage and Handling* in the Travax Medical Library and the CDC Pink Book (Epidemiology and Prevention of Vaccine Preventable Diseases). In addition, revised guidelines are available at [www.cdc.gov/vaccines/recs/storage/default.htm](http://www.cdc.gov/vaccines/recs/storage/default.htm).

**Recordkeeping:** See *Recordkeeping* in the Travax Medical Library.

**Refusal of recommendation:** Always document a traveler's refusal of indicated immunizations or prescriptions

### DRUG STOCK

It is frustrating for the traveler and clinician alike if prescribed or recommended medication is not available locally or is hard to find. Maintain a listing of area pharmacies that usually carry most travel vaccines and commonly used travel medications, along with their addresses, phone numbers, and hours of operation.

Examples of some prescription medications used for travelers:

- **Traveler's diarrhea:** quinolones (ciprofloxacin, norfloxacin, ofloxacin, levofloxacin), azithromycin, rifaximin, tinidazole (available in the U.S. as Tindamax)
- **Altitude illness:** acetazolamide (Diamox), dexamethasone (Decadron), nifedipine (Procardia; Adalat)
- **Antimalarials:** chloroquine (prophylaxis), mefloquine (prophylaxis), atovaquone/proguanil (prophylaxis or standby emergency treatment [SBET]), doxycycline (prophylaxis), artemether/lumefantrine (SBET), primaquine (prophylaxis, presumptive anti-relapse therapy, and radical cure)
- Motion sickness: scopolamine (patches and tablets)

**Self-care products:** Some clinics offer the full complement of products that a traveler may need by stocking a selection of OTC products in addition to prescription products and vaccines. The following categories of OTC products are frequently recommended:

- Insect repellent (DEET or picaridin/icaridin) and insecticide (permethrin)
- Mosquito net
- Anti-diarrheal (bismuth subsalicylate and loperamide)
- Oral rehydration solution (ORS)
- Water purification tablets

## MARKETING

This section presents strategies to increase public awareness of the clinic, whether a new or a well-established practice. Promotion should begin as soon as the clinic opens and continue for the duration of its lifespan.

### GOAL SETTING

Outline intended outcomes of the marketing campaign. Set quantifiable goals that will enable the success of the marketing plan to be gauged. Some common goals are:

- Identify demographic groups with the greatest potential for international travel.
- Inform target groups and likely referral sources about the clinic.
- Gain positive community visibility—both immediately and throughout the year.
- Become "the place" all international travelers in the community go before traveling.
- Attract a certain number of new patients during a given time period.

### RESEARCH

Start by contacting media outlets available within the community to request a media kit and demographic information about their listeners, viewers, or readers. During the conversation, determine to whom press releases and phone calls should be directed.

Identify local travel blogs and method of posting to them.

Define the geographic and demographic target audience. Most communities will have multiple competing travel clinics.

Compare the media audiences with the target audience to identify outlets with the most potential for the clinic.

### TARGET GROUPS

- **Individual or group travelers:** Demographically, this group includes the more affluent segment of the population and groups associated with educational institutions. This group can be reached through mass media promotions, direct mail, referrals, blogs, and websites oriented to local community events.
- **Student travelers:** Study abroad programs are expanding quickly. Contact student health services in boarding schools and colleges and reach students through campus media promotions, direct mail, or referrals.
- **Local health departments:** Many local health departments either don't have or have eliminated travel immunization services but still receive inquiries from the public. Where this is the case, clinics should start by contacting the local immunization outreach coordinator to determine next steps.
- **Travel agents:** Most agents are reluctant to broach the topic of travel health out of fear of dissuading their clients from traveling. However, most travel agents will welcome a source for handling their clients' health concerns, especially if the travel medicine specialist shows that the goals are the same: to ensure that international travelers have safe trips. Contact this group through personal visits, phone calls, direct mail, or speaking at local travel agents meetings may offer an efficient opportunity to recommend a visit to the travel medicine.
- **Corporate human resource departments:** Because an employee's health is a major concern when planning overseas business travel, many corporate human resource departments that oversee travel will be relieved to have a resource for all of the health services and information their employees need. Contact them through personal visits, phone calls, local professional meetings, or direct mail.
- **Primary care providers:** Many primary care providers recognize their limitations in advising the international traveler and welcome a comprehensive resource for information and services. Travel health specialists must convey to these clinicians that even the most well-informed general practitioners and internists will find it difficult to research and understand the complex health and safety risks a traveler may encounter. The traveler may be served best if referred to a resource for complete information and services. Even if the primary care provider chooses to administer the vaccinations, a consultation with a travel medicine specialist can be beneficial. Contact this group through personal visits, phone calls, or direct mail.

### ACTIONS

In the beginning, prioritize target groups. Concentrate on prospects with the highest potential for yielding the greatest number of patients. Focus on the other groups after the clinic is established.

It is possible to create professional-quality materials using desktop publishing software or contact a design professional to create unique, eye-catching pieces. Also consider contacting art or journalism students at a local college who may be interested in freelance work.

**Direct mail:** Direct mail should be narrowly targeted and have a personal appeal rather than the mass approach of a newspaper ad or website.

**Brochures:** Brochures are a simple way to communicate clinic information and the need for preventive travel medicine. The brochure should be written in a clear, concise, and easy-to-read manner, free of medical jargon. The brochure should be distributed to target audiences and be easily available within the clinic.

**Press releases:** Articles in community-oriented blogs, local websites, local newspapers, and magazines or appearing on local news can reach large audiences and can give the clinic name recognition. Press releases are also a common, inexpensive, and effective way to convey information, but some knowledge of electronic distribution channels monitored by media outlets is necessary.

**Advertising:** Although it is probably the most obvious marketing tool, it isn't always the most effective. Travel medicine specialists who choose to advertise should try to fit the medium to their audience.

**Website:** Set up a clinic website or integrate the travel clinic service into a well-visited part of the main institution website. Join or subscribe to an organization or service that maintains listings of travel clinics on a high-volume website; this includes Shoreland's Travel Health Online, ISTM, ASTMH, and other travel medicine resources.

**Special events:** The intrinsic appeal of international travel makes special events appropriate for promoting the travel clinic. It may be wise to have a computer with Travax installed as part of a hands-on display. Printed promotional materials should be available, as well as clinic staff to answer questions about services offered.

- Hold an open house and invite members of the targeted referral groups. Place a guest book at the door; this will be the beginning of a future mailing list.
- A 10-minute presentation at a hospital staff meeting may generate more provider referrals.
- Consider a display or booth at health fairs or conferences. Take clinic materials to local conferences of travel agents, health care providers, or corporate travel directors.

**Public speaking:** One of the most effective ways to reach the target audience is to deliver the message about travel medicine in person. Consider speaking to churches, especially those organizing travel groups; college-organized tour groups, such as foreign language clubs and alumni groups; high school exchange groups (invite parents, too); parent-teacher organizations; senior citizen groups; community service organizations; and professional organizations for health care providers.

**Referrals:** Obtaining referrals is one of the most successful ways of recruiting patients. Be sure to acknowledge all referrals by notifying the person who made the referral that a client has visited the clinic based on the referring traveler's recommendation and that it is appreciated. Always inform the referring provider about any medical treatment provided to his or her patients.

**Internal public relations:** For a travel health service located within a larger organization, this section offers some promotional ideas to heighten employee awareness of the travel health clinic.

- Participate in new employee orientation sessions, write a paragraph in the employee handbook, or distribute a brochure in new employee packets. Let everyone know that travel health is more than just immunizations.
- Request that the travel health clinician be added to the mailing list for new employee announcements. If the memo mentions or implies travel, send this employee a welcome note explaining the clinic's services.
- Target promotional efforts to the many subgroups within any workplace (e.g., first-time travelers, executives, employees traveling to specific regions). Contact Human Resources, Corporate Travel, and Corporate Security to learn which corporate groups travel, where they go, and how often. Send letters to the heads of all major divisions asking about frequent flyers.
- Ask Corporate Travel or the company's designated travel agent to include information about the clinic's services with any tickets to international destinations.
- Include a question about anticipated company travel on the standard pre-placement medical questionnaire and periodic examination questionnaire.
- Meet with key managers and HR personnel involved with hiring to educate them about the clinic and its benefit to the company.
- Participate in company meetings and activities. Set up a booth outside the cafeteria or at a health fair and demonstrate Travax.
- Get and keep the attention of managers. Outline the benefits of pre-travel care in a memo and follow up each time the clinic helps an employee return safely.
- Use the company communications system to the clinic's benefit. Consider sending seasonal alerts (e.g., "Safety tips for summer travel with kids") and respond rapidly to news reports of new infectious diseases (e.g., influenza outbreaks).
- Create a special "fast track" system for the business traveler. Establish a routine for seeing these travelers quickly, efficiently, and at the last minute if necessary. Know the most common travel itineraries for the company and have information packets readily available.

## TRAVEL MEDICINE RESOURCES

### TRAVAX – SHORELAND

- Web- and subscription-based, updated daily
- Global near-real-time medical, environmental, resource, and countermeasure information relating to tropical infectious diseases and health threats/risks associated with international travel written by in-house medical experts

- Detailed country-specific recommendations; vaccine, medication, and safety recommendations; e-mail updates; *News Alerts*; *Literature Watch Reviews*; staff articles on diseases and safety issues; and printable traveler handouts
- Detailed malaria, yellow fever, and elevation maps for each applicable country to guide preventive interventions
- Report Builder calculates immunization requirements and generates comprehensive itinerary reports for multi-country trips and recommendations

#### HEALTH INFORMATION FOR INTERNATIONAL TRAVEL (YELLOW BOOK) – CDC

- Published by CDC, available online or hardcopy
- Major content areas include pre-travel consultation, post-travel evaluation, infectious diseases related to travel, select destinations, transportation issues, traveling with children, travelers with special needs, and newly arrived immigrants and refugees

#### INTERNATIONAL TRAVEL AND HEALTH – WHO

- Available online with current updates only for malaria and yellow fever risk and requirements

#### INTERNATIONAL SOCIETY OF TRAVEL MEDICINE (ISTM)

- *The Body of Knowledge for the Practice of Travel Medicine* outlines the scope and extent of knowledge required for professionals working in the field of travel medicine. Knowledge categories highlighted include the global epidemiology of health risks to the traveler, vaccinology, malaria prevention, and pre-travel counseling designed to maintain the health of the traveling public. See [www.istm.org](http://www.istm.org).

## GENERAL RESOURCES

### TRAVAX

Traveler education is an essential component of every travel health clinic visit.

Travax has an extensive Medical Library with traveler education articles on vaccine-preventable diseases, other infectious diseases, health and safety, and special needs travelers. These informational articles can be printed for the traveler and used as teaching handouts on specific topics. By using Travax Report Builder, clinicians can print country-specific traveler reports organized by destination. Examples of some of the traveler article topics available in the Travax Medical Library are listed below.

- Vaccine-preventable diseases such as cholera, diphtheria, tetanus, pertussis, hepatitis A and B, influenza, meningococcal, Japanese encephalitis, polio, rabies, tick-borne encephalitis, typhoid, varicella, and yellow fever
- Other infectious diseases such as Chagas' disease, chikungunya, dengue, Lassa fever, leishmaniasis, malaria, schistosomiasis, and traveler's diarrhea
- Health and safety issues such as air travel, altitude sickness, food and beverage precautions, insect precautions, jet lag, marine hazards, motion sickness, safety and security, seafood poisoning, and traveler's thrombosis
- Special needs such as cardiovascular disease and air travel, children and travel, Hajj travelers, pregnant travelers, disabled travelers, diabetic travelers, immunocompromised travelers, and HIV-infected travelers

### USEFUL FREE ONLINE TRAVEL MEDICINE RESOURCES

- Shoreland Travel Health Online: [www.tripprep.com](http://www.tripprep.com)
  - General country specific advice in lay language directed at consumers
- American Society of Tropical Medicine & Hygiene: [www.astmh.org](http://www.astmh.org)
- Centers for Disease Control and Prevention
  - Traveler's Health Branch: [www.cdc.gov/travel/index.html](http://www.cdc.gov/travel/index.html)
  - *Health Information for International Travel (The Yellow Book)*: [wwwnc.cdc.gov/travel/yellowbook/2016/table-of-contents](http://wwwnc.cdc.gov/travel/yellowbook/2016/table-of-contents)
  - *Epidemiology and Prevention of Vaccine-Preventable Diseases* (the Pink Book): [www.cdc.gov/vaccines/pub/pinkbook/index.html](http://www.cdc.gov/vaccines/pub/pinkbook/index.html)
  - *Morbidity and Mortality Weekly Report*: [www.cdc.gov/mmwr](http://www.cdc.gov/mmwr)
- Eurosurveillance Weekly & Monthly: [www.eurosurveillance.org](http://www.eurosurveillance.org)
- Health Canada (Canadian Health Network): [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)
  - Travel Health-Public Health Agency of Canada: [www.phac-aspc.gc.ca/tmp-pmv/](http://www.phac-aspc.gc.ca/tmp-pmv/)
  - *Canadian Communicable Disease Report*: [www.phac-aspc.gc.ca/publicat/ccdr-rmtc](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc)
- Immunization Action Coalition: [www.vaccineinformation.org](http://www.vaccineinformation.org)
- Infectious Diseases Society of America: [www.idsociety.org](http://www.idsociety.org)
- International Society of Travel Medicine (ISTM): [www.istm.org](http://www.istm.org)
- International Association for Medical Assistance to Travelers: [www.iamat.net](http://www.iamat.net)
- Pan American Health Organization: [www.paho.org](http://www.paho.org)
- U.K. National Travel Health Network and Centre: <http://travelhealthpro.org.uk/>
- U.S. Department of State Bureau of Consular Affairs: <http://travel.state.gov>

- Vaccine Adverse Event Reporting System: [www.vaers.hhs.gov](http://www.vaers.hhs.gov)
- Wilderness Medical Society: [www.wms.org](http://www.wms.org)
- World Health Organization (WHO): [www.who.int/en](http://www.who.int/en)
  - WHO. *International Travel and Health (The "Green Book")*, published annually: [www.who.int/ith/en/index.html](http://www.who.int/ith/en/index.html)
  - WHO. *Weekly Epidemiological Record*: [www.who.int/wer/en/index.html](http://www.who.int/wer/en/index.html)
  - WHO. *International Health Regulations*: [www.who.int/csr/ihr/en/index.html](http://www.who.int/csr/ihr/en/index.html)

## PUBLICATIONS AND REFERENCE BOOKS

- Committee to Advise on Tropical Medicine and Travel, Public Health Agency of Canada. Canada Communicable Disease Report: *Guidelines for the Practice of Travel Medicine*. Vol 35 (ACS-8). December 2009.
- Farrar J, ed. *Manson's Tropical Diseases*. 23<sup>rd</sup> edition. Philadelphia, PA: W.B. Saunders Co., 2014.
- Heymann DL, ed. *Control of Communicable Diseases Manual*. 20<sup>th</sup> edition. Washington, DC: American Public Health Association, 2014.
- Plotkin SA, Orenstein WA, Offit PA, eds. *Vaccines*. 6<sup>th</sup> edition. Elsevier, 2013.
- Keystone Jay R, et al. *Travel Medicine*. 3rd edition. Philadelphia, PA: Mosby Elsevier, 2013.

## PERIODICALS

- *AAOHN Journal*
- *American Journal of Tropical Medicine & Hygiene*
- *Annals of Internal Medicine*
- *Aviation, Space, and Environmental Medicine*
- *British Medical Journal*
- *Bulletin of the World Health Organization*
- *Clinical Infectious Diseases*
- *Current Infectious Disease Reports*
- *Current Opinion in Infectious Disease*
- *Emerging Infectious Disease*
- *Eurosurveillance Weekly & Monthly*
- *Infectious Disease Clinics of North America*
- *International Journal of Infectious Diseases*
- *JAMA*
- *Journal of Infectious Diseases*
- *Journal of Occupational and Environmental Medicine*
- *Journal of Travel Medicine*
- *Lancet*
- *Lancet Global Health*
- *Lancet Infectious Diseases*
- *Malaria*
- *Military Medicine*
- *Morbidity and Mortality Weekly Report (MMWR)*
- *Nature*
- *New England Journal of Medicine*
- *Nurse Practitioner*
- *Pediatrics*
- *Pediatric Infectious Disease Journal*
- *PLoS Currents: Outbreaks*
- *PLoS Medicine*
- *PLoS Neglected Tropical Diseases*
- *PLoS Pathogens*
- *Science*
- *Travel Medicine and Infectious Disease*
- *Transactions of the Royal Society of Tropical Medicine and Hygiene*
- *Tropical Medicine & International Health*
- *Vaccine*
- *Wilderness and Environmental Medicine*
- *Weekly Epidemiological Record*

## SEARCHABLE DATABASES

- Cumulative Index to Nursing and Allied Health Literature: [www.ebscohost.com/cinahl](http://www.ebscohost.com/cinahl)
- PubMed: [www.ncbi.nlm.nih.gov/sites/entrez](http://www.ncbi.nlm.nih.gov/sites/entrez)

## LISTSERVS

- ProMED (Program for Monitoring Emerging Diseases): <http://ww4.isid.org/promedmail/subscribe.php>
- TRAVELMED-ISTM Listserv: subscribe via the "Members Only" section of the ISTM website ([www.istm.org](http://www.istm.org))

## FORMS

This section describes forms that may be helpful in the travel medicine clinic. A few sample forms are provided, which can be revised for use in individual travel medicine clinics. These sample forms are also available in the Travax Medical Library under *Forms and Samples*.

- **Telephone triage form or log:** The first telephone contact with patients can be critical. It will ensure that all of the necessary questions are asked, answered, and documented during the first call from a traveler. Include such things as contact date, traveler's name, complete contact information, itinerary (countries in chronological order and locales/activities), departure date, length of stay, type of trip, appointment date and time, etc. An example of a telephone triage form is below.

### SAMPLE TELEPHONE TRIAGE FORM

Name	Telephone number	Emergency contact name and number	Address	Reason for Call	Appointment (date/time/provider)	Requests call-back

- **Traveler History Form:** Use to efficiently gather information about the patient (including trip details, health history, and current medications) before the appointment. This form can be mailed, faxed, or e-mailed to the patient to complete (or enter information online) and bring to his or her appointment; alternatively, the patient may fill in the form during the appointment.
- **Clinic Documentation Form:** Use to record specialized information such as patient health and immunization history, malaria medication history, care plan, vaccine administration record follow up vaccinations needed, and medications prescribed or recommended for the trip. Copies of the immunization and medications of the form may be provided to the patient to clarify medication instructions and follow-up care recommended.
- **Medical information or exemption letters:** Use to assist the patient at border crossings and in the event of a medical problem abroad. This is highly recommended for any patient needing an exemption letter for yellow fever or cholera, a needle and syringe permission letter, medication requirements letter, HIV status letter, and for persons with a chronic or unstable disease. Although no official requirement exists nowadays, occasionally border officials require documentation of cholera vaccination; providing a cholera exemption for certain travelers crossing multiple international borders can prevent such inconveniences. An additional letter may be written by the primary care provider concerning the patient's medical status, with EKG and/or lab copies attached, as needed.
- **Refusal of recommendation/treatment:** Use to document patient refusal of immunizations, prescriptions, or travel health recommendations (unless documented in the health care provider's notes). The clinic's legal department should aid in the design of this form, if one is used.
- **Communications with primary care providers:** Use to foster continuity and document travel health services for the patient's permanent record. Send a copy of the work-up form with a short cover letter, and list any follow-up immunizations (and schedules) to be administered at the travel medicine or primary care clinic.

**TRAVELER HISTORY FORM**

Complete this form and bring it to the clinic appointment along with all immunization records.

Name: \_\_\_\_\_ DOB: \_\_\_\_\_  Male  Female  
 Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_ Mobile Phone: \_\_\_\_\_  
 Home Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Primary care physician: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Patient ID# \_\_\_\_\_ Primary insurance: \_\_\_\_\_  
 Does your insurance cover:  
 Health care overseas?  Yes  No  Not sure  
 Medical evacuation?  Yes  No  Not sure  
 Birth country: \_\_\_\_\_

**TRAVEL PLANS** (list additional information on back of form if needed):

**Purpose of trip** (check all that apply)  
 Vacation  Education/research  Adoption  Visit friends or family  Missionary/volunteer/humanitarian relief  
 Work (urban, office-based, or conference)  Work (rural, outdoors, or in local community)  To obtain medical or dental care  
 Other: \_\_\_\_\_

**Planned activities** (list all): \_\_\_\_\_

**Will you be:**

Visiting areas that are:

- Rural  Yes  No  Not sure
- Urban  Yes  No  Not sure
- Primitive or remote  Yes  No  Not sure

Ascending to high altitudes (8,000 ft or higher)?  Yes  No  Not sure

Working with potential exposure to body fluids (e.g., medical or dental work)?  Yes  No  Not sure

Working with exposure to animals?  Yes  No  Not sure

Potentially having new sexual partners?  Yes  No  Not sure

**Accommodations** (check all that apply):

- Resort/large hotel  Small hotel/guest house/B&B  Cruise ship  Private home (with locals)  Private home (with relatives)
- Private home (expatriate or high-end)  Primitive camping  Up-scale camp/lodge  Dormitory/ hostel
- Other \_\_\_\_\_

**Previous international travel (year/destination):** \_\_\_\_\_

Countries and cities in order of visit	Arrival Date	Departure Date

<b>Name</b>	<b>DOB</b>	<b>Date</b>
-------------	------------	-------------

**HEALTH HISTORY (Check all that apply)**

**Allergies**

- Antibiotics (e.g., penicillin, sulfa) \_\_\_\_\_
- Other medications \_\_\_\_\_
- Egg
- Latex
- Gelatin
- Yeast
- Bees/wasps
- Seasonal
- Other \_\_\_\_\_
- Side effects/reactions from previous medications (e.g., nausea, dizziness, stomach upset): \_\_\_\_\_

**Cancers/blood disorder**

- Coagulation disorder
- History of cancer or blood disorder
- Other \_\_\_\_\_

**Cardiovascular**

- Arrhythmia (rhythm disturbance considered significantly abnormal including atrial fibrillation, heart block)
- Implanted pacemaker or automatic defibrillator
- Heart attack
- High cholesterol
- High blood pressure
- Stroke
- Other \_\_\_\_\_

**Endocrine**

- Diabetes
- Thyroid disease
- Other \_\_\_\_\_

**GI**

- Crohn's disease or ulcerative colitis
- IBS
- GERD
- Chronic hepatitis
- Cirrhosis or liver failure
- Other \_\_\_\_\_

**Immune system**

- Steroids by mouth within last 3 months
- Immune suppressive medications or treatments within last 3 months (e.g., radiation, cancer chemotherapy drugs, methotrexate, azathioprine, adalimumab, anakinra, etanercept, infliximab, leflunomide, rituximab)
- Spleen removed
- Thymus disease or thymectomy
- HIV/AIDS
  - Most recent CD4: \_\_\_\_\_
  - Most recent viral load: \_\_\_\_\_
- Organ, bone marrow, stem cell transplant \_\_\_\_\_
- Other \_\_\_\_\_

**Kidneys**

- Dialysis
- Kidney insufficiency
- Other \_\_\_\_\_

**Lungs**

- Asthma
- Emphysema/COPD
- Other \_\_\_\_\_

**Musculoskeletal**

- RA
- Psoriatic arthritis
- Other \_\_\_\_\_

**Neurologic/psychiatric**

- Seizures or epilepsy
- Anxiety /depression
- History of Guillain-Barré
- Other \_\_\_\_\_

**Skin**

- Psoriasis
- Other \_\_\_\_\_

**OB/GYN**

- Pregnant: \_\_\_\_\_ weeks/trimester
- Breastfeeding
- Possible pregnancy in next 3 months
- Other \_\_\_\_\_

**VACCINATION HISTORY**  
(Please bring all vaccination records to your appointment.)

Have you received the following immunizations?

- |                       |                              |             |                             |                                   |
|-----------------------|------------------------------|-------------|-----------------------------|-----------------------------------|
| Hepatitis A           | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Hepatitis B           | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Meningococcal         | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Measles/Mumps/Rubella | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Polio                 | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Tetanus               | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Typhoid               | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Yellow Fever          | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Japanese Encephalitis | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Influenza             | <input type="checkbox"/> Yes | When? _____ | <input type="checkbox"/> No | <input type="checkbox"/> Not sure |
| Other: _____          |                              |             |                             |                                   |

Have you ever had an adverse reaction to an immunization?  No  Yes Explain:

\_\_\_\_\_



Name	DOB	Date
<b>CURRENT MEDICATIONS</b>		
<b>Prescription medications: List all current prescription medications</b>		
<b>Medication</b>	<b>Reason for use/medical condition</b>	
<b>Non-prescription products: List current over-the-counter, herbal, homeopathic products, vitamins, supplements, etc.</b>		
<b>Product</b>	<b>Reason for use/medical condition</b>	
<b>QUESTIONS/CONCERNS</b>		
<b>Additional questions or concerns about your travel:</b>		
_____		
_____		
_____		
_____		
_____		
_____		
_____		
_____		
_____		
_____		

<b>CLINIC DOCUMENTATION FORM</b> (Clinician completes this form at time of appointment.)					
<b>Name</b>			<b>DOB</b>	<b>Date</b>	
<b>Itinerary</b>					
<b>Departure Date</b>	<b>Length of trip</b>	<b>Purpose of trip</b>		<b>Urban / Rural / Both</b>	
<b>VACCINATION HISTORY (review with traveler)</b>					
<b>Vaccine</b>	<b>Date</b>	<b>Date</b>	<b>Date</b>	<b>Date</b>	<b>Date</b>
Cholera (oral)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Hepatitis A	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Hepatitis B	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Hepatitis A/B	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Hib	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
HPV (indicate: 9-valent, 4 valent, or 2-valent)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Immune globulin	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Influenza	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Japanese encephalitis (cell based; available since 2009)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Japanese encephalitis (mouse-brain; available pre-2009)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Measles/mumps/rubella	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Meningococcal (quadrivalent conjugate)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Meningococcal (quadrivalent polysaccharide)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Meningococcal (monovalent B)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Pneumococcal conjugate (PCV13)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Pneumococcal polysaccharide (PPSV23)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Polio primary series	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Polio adult booster (1 dose)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Rabies pre-exposure	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Rabies post-exposure	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Rotavirus	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
TBE	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Td series	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Tdap	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Typhoid (IM)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Typhoid (oral)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Varicella	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Yellow Fever	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Zoster (shingles)	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Other:					

<b>Name</b>	<b>DOB</b>	<b>Date</b>
<b>MALARIA MEDICATION HISTORY</b>		
Antimalarials that the traveler has used in the past (check all that apply)		
<input type="checkbox"/> Chloroquine <input type="checkbox"/> Doxycycline <input type="checkbox"/> Malarone or generic (atovaquone/proguanil)	<input type="checkbox"/> Mefloquine <input type="checkbox"/> Coartem <input type="checkbox"/> Primaquine	
Side effects experienced: _____		
<b>TEACHING CHECKLIST</b>		
<b>Date done</b>	<b>Brief review</b>	
<b>Travax handouts given to the patient (check all that apply)</b>		
<b>VACCINE-PREVENTABLE DISEASES</b> <input type="checkbox"/> Cholera <input type="checkbox"/> Hepatitis A <input type="checkbox"/> Hepatitis B <input type="checkbox"/> Herpes Zoster <input type="checkbox"/> Human Papillomavirus <input type="checkbox"/> Influenza <input type="checkbox"/> Influenza Antivirals Handout <input type="checkbox"/> Japanese Encephalitis <input type="checkbox"/> Measles, Mumps, Rubella <input type="checkbox"/> Meningococcal Meningitis <input type="checkbox"/> Pneumococcal <input type="checkbox"/> Polio <input type="checkbox"/> Rabies <input type="checkbox"/> Tetanus, Diphtheria, Pertussis <input type="checkbox"/> Tick-Borne Encephalitis <input type="checkbox"/> Typhoid Fever <input type="checkbox"/> Varicella <input type="checkbox"/> Yellow Fever  <b>OTHER INFECTIOUS DISEASES</b> <input type="checkbox"/> African Trypanosomiasis <input type="checkbox"/> Avian Influenza <input type="checkbox"/> Influenza Antivirals Handout <input type="checkbox"/> Chikungunya <input type="checkbox"/> Dengue <input type="checkbox"/> Ebola Virus Disease <input type="checkbox"/> Leishmaniasis <input type="checkbox"/> Leptospirosis <input type="checkbox"/> Malaria	<input type="checkbox"/> MERS Coronavirus <input type="checkbox"/> Rickettsial Infections <input type="checkbox"/> Schistosomiasis <input type="checkbox"/> Sexually Transmitted Infections <input type="checkbox"/> Tick-Borne Diseases <input type="checkbox"/> Traveler's Diarrhea  <b>HEALTH &amp; SAFETY</b> <input type="checkbox"/> Air Travel <input type="checkbox"/> Altitude Illness <input type="checkbox"/> Cruise Ship Travel <input type="checkbox"/> Food and Beverage Precautions <input type="checkbox"/> Insect Precautions <input type="checkbox"/> Traveler's Thrombosis <input type="checkbox"/> Treating Water  <b>COUNTRY HANDOUTS:</b> _____  _____  <b>OTHER:</b>  _____  <b>ADDITIONAL NOTES:</b>  _____  _____  _____	
<b>Health care provider signature and printed name</b>  _____ / _____		<b>Date</b>  _____

<b>Name</b>	<b>DOB</b>	<b>Date</b>
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**VACCINE ADMINISTRATION RECORD**

Date	Vaccine	Dose	Lot #	Site given	VIS date	Signature of vaccine administrator

**PATIENT CONSENT:** I have read the written information given to me and I have discussed with my provider the benefits and risks of the vaccines noted above, which are required and/or recommended for my protection while traveling abroad. I have had a chance to ask questions, which were answered to my satisfaction. I request that these vaccines be given to me or to the person named below for whom I am authorized to make this request.

<b>Signature</b>	<b>Date</b>
------------------	-------------

**Relationship to patient:**

**FOLLOW UP VACCINATIONS NEEDED**

Vaccine	Date of Next Dose	Date of Next Dose	Date of Next Dose	Vaccine	Date of Next Dose	Date of Next Dose	Date of Next Dose
	__/__/__	__/__/__	__/__/__		__/__/__	__/__/__	__/__/__
	__/__/__	__/__/__	__/__/__		__/__/__	__/__/__	__/__/__
	__/__/__	__/__/__	__/__/__		__/__/__	__/__/__	__/__/__

<b>TB test 3 or more months after return</b>	<b>Other series to complete</b>
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**Note:** Pharmacists may wish to set appointment refill reminders in the computer system.

AFFIX CLINIC INFORMATION HERE

Name	DOB	Date
<b>MEDICATIONS FOR CURRENT TRIP</b>		
<b>Given</b>	<b>TRAVELER'S DIARRHEA - Treatment</b>	<b>QTY</b>
	<b>Azithromycin 500 mg:</b> 1 tablet taken QD x 3 days	
	<b>Ciprofloxacin 500 mg:</b> 1 tablet taken BID x 3 days	
	<b>Levofloxacin 500 mg:</b> 1 tablet taken QD x 3 days	
	<b>Rifaximin 200 mg</b> TID x 3 days	
<b>MALARIA - Prevention</b>		
	<b>Atovaquone/proguanil (Malarone) 250 mg/100 mg:</b> 1 tablet taken starting 1 day before entering the malarious area, 1 tablet taken QD during the stay, and then 1 tablet taken QD for 7 days after leaving area. Should be taken with food.	
	<b>Chloroquine phosphate 500 mg (300 mg base):</b> 1 tablet taken weekly starting 1 week before entering the malarious area, 1 tablet taken weekly during the stay, and then 1 tablet taken weekly for 4 weeks after leaving area. Should be taken with food.	
	<b>Mefloquine 250 mg (228 mg base):</b> 1 tablet taken weekly starting 2 weeks before entering the malarious area, 1 tablet taken weekly during the stay, and then 1 tablet taken weekly for 4 weeks after leaving the malarious area.	
	<b>Doxycycline 100 mg:</b> 1 tablet taken QD starting 1 day before entering the malarious area, 1 tablet taken QD during the stay, and 1 tablet taken QD for 4 weeks after leaving area.	
	<b>Primaquine (off-label for prevention) 52.6 mg (30 mg base):</b> taken orally, once/day. Start 1 day before entering malarious area; continue daily during exposure and for 1 week after leaving the malarious area.	
	<b>Primaquine (relapse prevention) 52.6 mg (30 mg base):</b> taken orally, once/day for 14 days.	
<b>MALARIA – Self-treatment</b>		
	<b>Atovaquone/proguanil (Malarone) 250 mg/100 mg:</b> 4 tablets taken daily as a single dose x 3 days. Should be taken with food.	
	<b>Artemether/lumefantrine (Coartem) 20 mg/120 mg:</b> 4 tablets taken as a single dose, then 4 tablets 8 hours later, and then 4 tablets BID on days 2 and 3. Should be taken with food.	
<b>ALTITUDE ILLNESS</b>		
	<b>Acetazolamide</b> <b>Prevention: 125 mg BID:</b> 1 tablet BID taken the day before ascent, 1 tablet BID taken each day during ascent, and then 1 tablet BID taken for 1-2 days after arrival at highest altitude. <b>Treatment:</b> 250 mg q 12 hrs	
	<b>Dexamethasone</b> <b>Prevention (if highly susceptible to HAPE):</b> 2-4 mg q8-12 hrs <b>Treatment:</b> 8 mg initial dose followed by 4 mg q 6 hrs	
	<b>Nifedipine</b> <b>Prevention of HAPE if known to be susceptible:</b> 20 mg sustained release q8 hrs or 30 mg sustained release q 12 hrs <b>Treatment:</b> 20 mg sustained release q8 hrs or 30 mg sustained release q 12 hrs	
	<b>Salmeterol</b> <b>Prevention: 125 ug (5 puffs) inhaled q12 hrs</b> (adjunctive medication if known to be susceptible)	

<b>Name</b>		<b>DOB</b>	<b>Date</b>
<b>Given</b>	<b>MOTION SICKNESS - Prevention</b>		<b>QTY</b>
	<b>Transderm Scop, Transderm-V (Scopolamine) 1.5-mg patch:</b> 1 patch applied to skin behind the ear 4 hours before antiemetic effect is needed. The patch may be left in place for 3 days.		
<b>TYPHOID - Prevention</b>			
	<b>Typhoid Vaccine Live Oral Ty21a:</b> 1 capsule taken PO once daily for 4 alternate days (days 0, 2, 4, and 6). Should be taken 1 hour before meals with cold or lukewarm water.		4
<b>OTHER MEDICATIONS (Check)</b>			
<b>Motion Sickness</b> <input type="checkbox"/> Promethazine <input type="checkbox"/> Meclizine <input type="checkbox"/> Dimenhydrinate <input type="checkbox"/> Diphenhydramine  <b>Altitude</b> <input type="checkbox"/> Sildenafil (Viagra) <input type="checkbox"/> Tadalafil (Cialis)		<b>Influenza</b> <input type="checkbox"/> Oseltamivir (Tamiflu) <input type="checkbox"/> Zanamivir (Relenza)  <b>Over the counter</b> <input type="checkbox"/> Acetaminophen <input type="checkbox"/> Aspirin <input type="checkbox"/> Ibuprofen <input type="checkbox"/> Loperamide	
<b>OTHER (Check)</b>			
<input type="checkbox"/> Insect repellent <input type="checkbox"/> Mosquito net <input type="checkbox"/> Water purifier <input type="checkbox"/> _____			
<b>Valid after provider signature and date are entered</b>			
<b>Provider (Print)</b>		<b>Date</b>	
<b>Provider (Sign)</b>	<b>License #</b>	<b>NPI #</b>	
For pharmacy travel clinics that may require primary care provider authorization for prescriptions, this form may be faxed back to the pharmacy. Fax number:			

## THE PRE-TRAVEL CONSULT

### CASE STUDIES

Pre-travel encounters should cover the following elements, although not all elements will be applicable to destinations outside the developing world.

- Gather itinerary information.
- Perform risk-hazard assessment.
- Educate on basic preventive measures.
- Discuss immunization prioritization and provide as indicated.
- Provide malaria prevention (if indicated).
- Educate on traveler's diarrhea.
- Reinforce other health concerns.

The sample case studies below are for illustrative purposes only and are not intended to represent the current "standard of care." They are merely examples of how to assess travelers' needs and provide pre-travel recommendations based on those needs. They should not be taken as applicable to all travelers. Each traveler situation must be evaluated individually. Cases studies are also available to members of ISTM (see "Expert Opinions in Travel Medicine"). The Expert Opinions present a pre- or post-travel situation discussed by an invited ISTM member with expertise in that topic.

#### CASE 1: GOING HOME FOR A VISIT: MAKING THE IMMUNIZATION DECISION

The patient is a 37-year-old male who grew up in Ethiopia and has lived in the U.S. for about 12 years. He is leaving in 3½ weeks for a 2-month visit with his family, who live throughout Ethiopia. He will be staying in both urban and rural locations. The lifestyle of the family members is modest but not poor. He is not sure what he needs, but a friend told him to call a travel clinic. He brings no immunization history to the appointment and does not have a regular health care provider. He speaks some English.

There is little time before departure. Unfortunately, it is not unusual for patients to visit a travel clinic just prior to a trip. This often occurs because of lack of knowledge about the importance of preventive measures or may be due to an emergency trip for family illness or death.

Many patients seeking pre-travel care in travel clinics grew up in foreign countries, have lived in the countries to which they emigrated for several years, and occasionally return home to visit friends and family members. These patients pose unique problems for the travel medicine professional.

Even though this is a difficult scenario, the travel medicine professional must approach the patient as he or she would any other. A major obstacle may be language: despite moving to a new country, many immigrants continue to speak the mother tongue and do not develop a facility for their new language.

#### Medical history

Even with a translator, obtaining a medical history may be difficult because the names of the various diseases and immunizations do not translate easily. As much as possible, help the patient fill out a travel medicine questionnaire and to answer the following questions:

- Is the patient in good health? If not, what are the patient's health problems?
- Does he take any medications?
- Does he have any allergies to medications?
- Does he have any history of seizures, psychiatric problems, or heart conduction abnormalities? (This is a challenge when working with patients who are non-native language speakers.)

This patient states he has no health problems, is not taking any medications, and has no allergies. He has no history of seizures, psychiatric problems, or heart conditions.

#### Immunization and disease history

Immunization history (particularly those received in childhood) and disease history are often not known, and patients might be vague about the vaccines that have been received. Ask the following questions, rephrasing as simply as possible for best translation and understanding.

- Did he receive any immunizations while growing up?
- Did his school give medications and immunizations?
- Did he receive any immunizations prior to arrival in the U.S.?
- Did he receive any immunizations when he immigrated?
- If the patient is sure he had tetanus shots and polio vaccine growing up, when was his last Td? Has he ever had 1 dose of Tdap?

- Has he had any emergency visits to the hospital for lacerations? (If so, it is possible that a dose of tetanus/diphtheria was given.)
- Has he returned to Ethiopia before or traveled to other foreign countries, and did he have any immunizations before those trips? Does he have an immunization record book anywhere? (Show him a WHO *International Certificate of Vaccination* booklet.)
- Did he have the usual childhood diseases (e.g., measles, mumps, rubella, chickenpox)? It is often necessary to describe the diseases, including manual or drawn descriptions because of difficulties with translation.  
See table below for recommendations based on this traveler's immunization history and destination.

## Recommendations for this traveler

### Immunizations

Vaccine	Recommended	Comments
Cholera	No	Vaccine not available in U.S. and is only recommended for aid and refugee workers in this country.
Hepatitis A	No	Probably unnecessary; likely immune due to childhood exposure. Could offer 1 dose hepatitis A vaccine (or IG if available) before travel, or perform antibody screening.
Hepatitis B	Yes	While the normal schedule (0, 1, 6 months) cannot be used due to time constraints, an acceptable accelerated schedule (0, 7, 21 days + return in 6 months for booster dose) can be used for persons traveling to endemic areas on short notice.
Influenza	Yes	Recommended for all travelers. He has not received influenza vaccine this year.
MMR	No	States he had these diseases as a child.
Meningococcal	Yes	Recommended for all travelers to Ethiopia throughout the year, especially if prolonged contact with the local populace is anticipated.
Polio	Yes (booster)	States he has had primary series as a child but not an adult dose.
Rabies preexposure series	Yes	Risk of rabies is presumed to occur in most parts of the country; patient will be traveling widely over a 2-month time period, so vaccine is indicated.
Td/Tdap	Yes (Tdap)	States he completed primary series as a child but has not had a dose of Tdap.
Typhoid	Yes	Recommended for all travelers on this itinerary. May be preferable to give the injectable vaccine due to potential language difficulties explaining dosing for oral vaccine.
Varicella	No	States he had chickenpox as a child.
Yellow fever	Yes	Recommended for health protection of all travelers aged 9 months and older for all areas (including Addis Ababa) except the provinces of Afar and Somali. This patient will be traveling widely so vaccine is indicated.



**Malaria**

Extremely high transmission occurs throughout the year, predominantly *P. falciparum*.

- Evening and nighttime insect precautions are essential.
- Provide Rx for mefloquine, atovaquone/proguanil (A/P), or doxycycline for malaria prophylaxis; encourage traveler to carry enough antimalarials for entire trip, as effective drugs may not be available.
- Because this traveler is staying longer than 3 weeks, consider providing a treatment dose of co-artemether or atovaquone/proguanil (if A/P is not chosen for prophylaxis), in case the prophylactic drug fails; instruct traveler that treatment dose should be administered under the supervision of a qualified local health care provider.

**Traveler's diarrhea**

High risk exists throughout the country.

- Food and beverage precautions are essential.
- Traveler should carry loperamide and/or be given Rx for ciprofloxacin for presumptive self-treatment.

**Other recommendations**

**Tuberculosis:** Ethiopia has a high incidence of TB. Since this traveler is staying for > 1 month, he should receive a pre-departure PPD skin test and be instructed to avoid crowded public places and public transportation, if possible.

**Dengue:** Low risk. Daytime insect precautions are recommended.

**Leishmaniasis** occurs. Evening and nighttime insect precautions are recommended.

**Schistosomiasis** presents significant risk. Avoid freshwater exposure.

**Medical evacuation:** Adequate evacuation insurance coverage is a high priority. In the event of a serious medical condition, medical evacuation to Nairobi, Kenya, is likely to be necessary.

**Traveler education**

Education of the traveler returning to his home country is especially important, because he is at extremely high risk for health problems.

- Family in his home country will not be taking antimalarial medication, so it is important to explain that any immunity he may have developed while growing up will have been lost during the years in the U.S. He should be advised not to stop the medication, even if family and/or friends try to pressure him.
- Mosquito precautions are essential. The importance of using insect repellents, mosquito nets (if available), and protective clothing should be stressed.
- Great care should be taken with food and water concerns. The patient should be reminded that his immunity to the local bacteria has also waned while he has been away. He should drink only safe beverages (such as boiled, treated, or pre-bottled, carbonated water) and stick to hot, cooked foods. Tactfully discuss the difficulties in choosing foods while eating with friends and family.
- Explain how to deal with illness abroad, what to do if he is ill or if bitten by a dog, and review self-treatment for diarrhea and malaria.

**Conclusion**

- Methodically work through the patient's history, gathering any data possible and deciding on the best solution given the patient's desires and financial capability.
- Remember that many people who grew up in an area endemic for hepatitis A or B may have positive antibody tests and may not need immunization.
- Education of the traveler returning home to a developing country is one of the biggest challenges of the travel health advisor. It is often not possible for the traveler to adhere to the usual guidelines given to the typical tourist. Giving too much information, especially in the form of impossible "do's and don'ts" will overwhelm the traveler and make him far less likely to adhere to the more important recommendations. Stress the most crucial items and the fact that a febrile illness acquired while traveling or on return to the U.S. requires immediate medical evaluation.

**CASE 2: THE TRAVELER WHO DOESN'T KNOW WHERE HE IS GOING**

Dave is a 25-year-old male with plans to travel for "as long and as far as my savings account will get me." He just graduated from law school and wants to "see the world before I settle down and work 80 hours a week." He thinks he needs "some shots and some antibiotics" and plans to leave next week.

All travel health professionals eventually encounter the challenge of the traveler with no set itinerary. Travelers such as Dave seek care in many different travel health settings. College health clinics often see students with open-ended travel plans. Certain well-recognized

occupational groups, including the international press, disaster relief workers, and global couriers, often travel without definitive itineraries. The newly married and the newly retired are others who may travel with some spontaneity built into their trip plans.

How can the clinician best prepare these travelers for safe and healthy, yet not-fully-defined, journeys?

At the outset, the clinician may be somewhat overwhelmed by the challenge of seemingly preparing a patient for travel to potentially anywhere or everywhere. In reality, this is rarely the case. Begin by helping this client better define his clinical expectations and needs and clarify his travel plans.

1. Does the traveler really understand the potential hazards of travel and the scope of travel health preparation? Does he understand that health and safety risks increase with trip duration? Dave had read a little about hepatitis but knew nothing about vector-borne disease, food and water sanitation, sexually transmitted diseases, the high incidence of accidents in travel, or freshwater hazards.
2. Goals and limitations of pre-trip care: Does the client seek maximum preparation without consideration for time or cost? Or does he have specific goals and/or limitations for the intervention, no matter where he finally chooses to travel? Can he delay the trip? Dave thought 4 days of preparation time would be plenty and was visibly shocked to learn the cost of some common travel vaccines.
3. Does this client have any special travel health needs or issues? Disabilities? Chronic or unstable medical or dental problems that may have an impact on travel? Allergies to travel health medications? Special at-risk travel plans, such as scuba diving, mountain climbing, etc.? Dave was healthy and took no regular medications. He did have questions about preventing AIDS while traveling. He planned to try lots of new things while traveling, including bungee jumping and parasailing.
4. What previous travel health care has this client received? What is his immunization history? What experience does he have with travel health medications? What is his level of self-care knowledge, including first aid and accessing medical resources abroad?
5. By now, the client should be able to better define his trip. Is it still as open-ended as first described? As part of the consultation service, he has already learned more about travel hazards and travel health preparation. He most likely recognizes the importance of better defining his journey. If not, it may be necessary to continue to ask questions. For example, employees who say they need to leave on a moment's notice to "fly anywhere" actually may work for companies only serving the Western Hemisphere. Or retirees who want to "see the world" may hate the cold and have no plans to set foot in the northern latitudes. Even reporters who cover the world's "hot spots" usually can predict their next few assignments.

With the history complete, it is necessary to know answers to these classic assessment questions to best prepare the client:

- What is the final itinerary?
- In terms of priority, what are the highest health risk destinations and activities of this trip?
- Will any "required" vaccines be necessary, such as yellow fever or meningitis?
- Can the risk of malaria be eliminated? Which type and how much malaria medication will he need?
- What is the general and potential risk level of accommodations and types of transport?
- Is the client a risk-taker?
- Will he travel solo or with others?
- Do the clinic and the client have the resources (time, funds, vaccine supply, etc.) to fully prepare before departure?
- What other services will he need before departure (lab work, dental care, etc.)?
- What health resources may he need during his trip: services, insurance, Internet resources?
- What will be the contents of his travel medical kit?
- How does this client learn best: counseling or reading?

After completing the pre-trip assessment and doing some more thinking about his trip, Dave decided he would visit Australia, Asia, and the Pacific Islands, to include Japan, China, Malaysia, Thailand, Vietnam, French Polynesia, Papua New Guinea, and Guam); while traveling, he also decided to visit India. He made the personal choice to forgo some spontaneity to maximize his health and safety. He asked to read everything available about potential health issues for this trip.

## Recommendations for this traveler

### Immunizations

- **Vaccines:** Provide required and recommended vaccines appropriate to this traveler and destinations. (*See table below for vaccine recommendations.*) Base recommendations on proposed travel areas with the highest risks, projected duration of travel, and expected travel style, as well as immunization history. Discuss the advantages of "pre-loading" immunizations when future needs are not always known or predictable. Help him make decisions about rabies, Japanese encephalitis, hepatitis B, tetanus, pertussis, and diphtheria, typhoid, and cholera using up-to-date resources to ascertain risk.
- **Finances:** As needed, explore ways to obtain all recommended vaccines if money is an issue, as is often the case in college settings. By contrast, in the corporate setting, it is customary to maximally prepare employees. Factor in any future travel plans when addressing this issue. Immunizations have 3 costs: vaccine cost, visit charges, and the value of client time.
- **Time constraints:** Decide with the client if he can complete the recommended series prior to departure. Consult accelerated schedules as needed. Consider directing the client to services abroad if additional immunizations are indicated.
- **Document:** Thoroughly document all care, including full immunization details, such as manufacturer, because this client may need to seek care abroad.

- **Important:** Educate the client about the need to verify immunization requirements and recommendations if he adds destinations. This may be critical if he has elected not to receive all recommended immunizations recommended.

Dave had adequate funds for a full set of immunizations and wanted to get everything. He chose to postpone his trip by a month and complete his immunizations.

Vaccine	Recommended	Comments
Cholera	No	Vaccine not available in U.S.; recommended only for aid and refugee workers.
Hepatitis A	Yes	Recommended for all travelers. Give HepA/B on days 0, 7, and 21. Instruct traveler to return in 12 months for booster dose.  While the normal schedule cannot be used due to time constraints, an acceptable accelerated schedule to protect against hepatitis B (as well as hepatitis A) can be used for persons traveling to endemic areas on short notice.
Hepatitis B	Yes	<i>See above.</i>
Influenza	Yes	Recommended for all travelers. He has not had influenza vaccine this season.
Japanese encephalitis	Yes	Risk exists in several of his potential destinations. Give 2 doses (days 0 and 28).  Instruct traveler that the second dose will not be able to be given 1 week before possible exposure, so strict insect precautions are necessary.
MMR	No	Had 2 doses MMR as a child. (Childhood immunization records provided by mother.)
Meningococcal	No	Not in risk area.
Polio	Yes (booster)	Had primary series as a child, but has not had a 1-time adult booster.
Rabies preexposure series	Yes	Risk exists in several potential destinations (e.g., Thailand, China, Vietnam, etc.). Since traveler does not know if he will always be within 24 hours of reliable source of HRIG and vaccine, he opts to receive rabies preexposure series for maximum preparedness.
Td/Tdap	Yes (Tdap)	Had primary series.  Has not had 1 dose of Tdap.
TBE	No	Only recommended for travelers with prolonged stays participating in outdoor activities in certain areas of China and Japan. Traveler instructed to practice tick precautions.
Typhoid	Yes	Recommended for all travelers to several of his potential destinations.
Varicella	No	Had chickenpox as a child.
Yellow fever	No	Not required for entry or recommended for protection on this itinerary.

## Malaria

### Chemoprophylaxis choice

- What are the malaria risks of the possible destinations in this more open itinerary?
  - Risk for both *P. vivax* and *P. falciparum* at potential destinations.
- Are there areas with resistant strains?
  - Mefloquine resistance exists in Thailand and Vietnam.
- Does the client have any contraindications to the use of standard antimalarials?
  - No contraindications.
- Be sure the client knows the potential side effects of any malaria prophylaxis.

Because he may travel to areas of mefloquine resistance, antimalarials recommended were doxycycline or atovaquone/proguanil (A/P). Dave chose to use doxycycline due to the high cost of A/P for a long trip.

### Chemoprophylaxis supply:

- Address the issue of medication purchase.
- Discuss the pros and cons of waiting to buy medications abroad.
  - Pros: The medication is purchased only if needed, eliminating the need for storage. Medication prices vary between countries and may be less expensive abroad.
  - Cons: The medication may not be available when needed, quality may be questionable, or language conflicts may occur.
- Dave chose to purchase enough antimalarial to last for the entire trip and was also given names of clinics where he might obtain additional supplies, if needed.

### Medication schedule and compliance:

- With an unplanned itinerary, will this client need to take medication continuously or intermittently?
- How well does the client comply with medication schedules?
- Consider providing this client with a calendar to plan his medication intake.
- Dave chose to use the drug continuously while in Asia, and, with the resource list provided, he planned to review malaria issues at clinics in Nepal and Australia.

### Review mosquito precautions:

- Will he bring his own bed netting?
- How much repellent is he able to carry?
- Stress the importance of not leaving behind items necessary for health and safety.
- Also discuss ways to obtain these supplies in the regions he plans to visit.

### Self-treatment:

- Educate the client to recognize the risk of malaria and the need to seek medical treatment quickly if symptoms occur.
- Unless contraindicated, provide this client with a course of self-treatment of malaria ("stand-by" treatment or "reliable supply") and detailed instructions on how and when to self-treat.
- Provide resources for malaria care abroad.
- Dave was supplied with A/P for self-treatment, along with instructions on how and when it should be used.

## Traveler's diarrhea

Risk exists in most of his potential destinations.

- Food and beverage precautions are essential in order to reduce chance of illness.
- Dave will carry loperamide and was given Rx for both ciprofloxacin and azithromycin (for coverage in areas of quinolone resistance, such as Thailand and India) for presumptive self-treatment of diarrhea if it occurs, as well as instructions on use.
  - Because of the increasing incidence of quinolone-resistant *campylobacter* in many countries, azithromycin should be started in all patients who have no response at all to a quinolone in 36-48 hours. In Thailand and India and any other country with known high rates of quinolone resistance, azithromycin should be the first line therapy.

## Other recommendations

Recommend the usual guidelines for any travel: up-to-date dental care, evaluation for any acute problems, review of any chronic medical problems, and laboratory testing as indicated. Dave had avoided a dentist for 4 years and required 3 visits to undo the damage. Review the client's health insurance and need for evacuation insurance. He spent some of his trip money to purchase his first health care policy but decided not to get evacuation coverage.

**Tuberculosis** is common in developing countries. Consider pre-departure PPD skin test. Traveler should avoid crowded public places and public transportation, if possible.

**Dengue** fever presents a risk, especially in areas of French Polynesia, Malaysia, Papua New Guinea, Thailand, Australia, and Vietnam. Daytime insect precautions are recommended.

**Chikungunya** presents risk in parts of Asia, Africa, the Caribbean, and the Americas. Daytime insect precautions are recommended.

**Leishmaniasis** present risks in parts of Asia. Daytime and nighttime insect precautions are recommended.

**Monkey bites** occur among tourists. Monkeys may transmit a number of diseases, including rabies and herpes B. Avoid feeding monkeys; if bitten, immediately cleanse bites thoroughly with soap or detergent under running water for at least 15 minutes, and seek urgent medical consultation.

**Medical kit:** Anticipate needs for self-care while traveling. Encourage Dave to prepare a travel medicine kit that maximizes his ability to safely self-treat while traveling but doesn't overburden his luggage. Include a first aid pamphlet, and indicate destinations where he can safely refill his kit.

- Assess the need for additional antibiotics (e.g., for respiratory infections, skin infections, and genital-urinary problems). Dave denied all allergies and took ciprofloxacin and azithromycin in addition to the standard list of travel kit items. Discuss proper transport and safe storage of medications.
- Dave doubled the amount of sunscreen he had originally planned to take and added 2 packets of oral rehydration solution (ORS) to his kit. He also brought an ample supply of his usual brand of condoms. Since Dave was planning to travel solo he purchased a first aid book and asked lots of questions about self-care. He carried the International Society of Travel Medicine listings with him plus some embassy phone numbers.

**Medical care:** Provide appropriate resources for care and questions abroad. Dave made a last-minute decision to bring a laptop computer and learned how to access a number of travel health websites for future use.

### Traveler education

- **Updated information:** Especially for this type of traveler, reiterate the changing nature of travel health risks and recommendations. Encourage the client to check in with U.S. consulates and get regular updates on health conditions and travelers' advisories for the next destination.
- **Paper trail:** For safety's sake, remind the traveler to always keep someone at home informed of his whereabouts and next destination. Recommend that he leave copies of all important papers with that contact person to allow for emergency replacement.
- **Post-travel:** Recommend a post-trip assessment visit. Advise the client to seek care upon return if s/he is symptomatic (especially if s/he has a fever) or otherwise wait for 6 weeks so appropriate laboratory tests (such as schistosomiasis screens) can be performed accurately.
- Emphasize that malaria may occur up to 1 year or more after travel, particularly in the first 2 months. If Dave develops a fever, he should seek medical attention immediately and request blood films to rule out malaria.

Dave added India to his itinerary while traveling, but knew from his consultation to update his pre-travel care before flying into Madras. Dave was sick a few times and used just about everything in his medical kit, but his post-trip exam at 7 weeks was normal.

### Conclusion

The client with an open-ended itinerary poses a special challenge. Key elements for successful preparation of this client include: up-to-date travel health references, knowledge of travel health and other medical resources worldwide, adequate preparation time, a client's willingness and ability to engage in self-care education, and flexibility for all involved.

### CASE 3: A FAMILY AFFAIR: COORDINATING CARE DELIVERY

A family of 5 is going on a 2-week vacation to Venezuela, leaving 3 months from today. The father grew up in Caracas, where they will be staying with his well-to-do family. However, they will also be traveling to rural areas in the southern part of the country. In addition to the parents, there are 3 children, aged 10 years, 4 years, and 18 months. The first thing the baby does is to toddle over to the computer and push the button to restart the system. No one is listening very well.

After determining travel destination, style of travel, departure date, and length of the trip, review the medical and immunization histories, including current medications and allergies, and discuss the plan for immunizations. In this situation, the patients were all established members of our health care plan so their immunization histories were readily accessible. All 5 clients were in good health, took no regular medications, and had no allergies. The mother was not pregnant.

**Immunization and disease history**

	<b>Td/Tdap DTP/DtaP</b>	<b>Last dose Td/Tdap/DtaP</b>	<b>Hib</b>	<b>Polio</b>	<b>MMR</b>	<b>Varicella</b>	<b>HepB</b>	<b>Influenza</b>
Father	Had Td series, including 1 dose Tdap	Within 3 yrs	No	Had series	Had diseases	Had disease	No	Had vaccine this season
Mother	Had Td series, including 1 dose Tdap	Within 2 yrs	No	Had series	Had 2 doses MMR	Had disease	No	Had vaccine this season
10-year-old	Had DtaP series	5 yrs ago	No	Had series	MMR 2 doses	Had disease	Had series	Had vaccine this season
4-year-old	4 doses DtaP	At age 18 mos	3 doses	3 doses	MMR 1 dose at age 12 mos	Had disease	Had series	Had vaccine this season
18-mo-old	4 doses DtaP	At age 16 mos	4 doses	3 doses	MMR 1 dose at age 12 mos	Had 1 dose vaccine at 12 months.	Had series	Had vaccine this season

**Recommendations for these travelers****Immunizations**

Assess need to update routine immunizations or for necessary travel vaccines (*see table below*).

**Routine vaccines**

Father	No routine immunizations needed.
Mother	No routine immunizations needed.
10-year-old	Consider giving adolescent Tdap dose (routinely recommended at age 11-12 yrs).
4-year-old	Give DtaP (4-6 year booster), Hib (booster), and MMR #2 before leaving.
18-month-old	Give MMR #2; <i>see below for hepatitis A</i> . Consider accelerating VAR #2. No other routine immunizations are indicated, and it is too early for DTaP 4-6 year booster.

<b>Travel vaccines</b>	<b>Recommended?</b>	<b>Comments</b>
Hepatitis A	Yes – for all	<p>No one in the family has had this vaccine.</p> <p>Recommended for all since they probably will travel again and will want the long-term protection. In addition, hepatitis A is a routine vaccination for young children, with first dose usually given at age 12-15 months.</p> <p>Give first dose prior to travel, and instruct family to return for a second dose in 6 months.</p>

Influenza	No	All family members have received this season's vaccine, which is the same as the vaccine for the Southern Hemisphere.
Rabies	Discuss with parents	Rabies is a risk, particularly for children. Discuss risk and options, including vaccination (including cost) and avoidance behaviors. (Prioritization of vaccinations may be necessary when costs are prohibitive.)
Typhoid	Optional	If food preparation will be closely monitored, the parents may choose to decline this vaccine. If the vaccine is desired, the parents and the 10-year-old could take the oral typhoid vaccine (a series of 4 capsules) or a single dose of the injectable typhoid vaccine; the 4-year-old would be given a dose of injectable typhoid vaccine. The baby is too young to receive typhoid vaccine; careful food and beverage precautions should be employed.
Varicella	Consider giving second dose to 18-month-old	Second dose may be given 3 months after first dose.
Yellow fever	Yes – for all	Recommended for health protection when traveling in rural risk areas in the southern part of the country.

**International Certificate of Vaccination or Prophylaxis:** Appointments with families take a great deal of time on the part of the consultant, not the least of which is completing the *International Certificate of Vaccination or Prophylaxis*. At this point, all 5 family members may be anxious to leave, so if it is possible mail the certificates to them or have them return to pick up the certificates later.

### **Malaria**

Malaria, predominantly *P. vivax*, is a risk, especially in the southern part of the country and rural areas of other locations.

- Mefloquine or atovaquone/proguanil (A/P) can be prescribed for malaria chemoprophylaxis, depending on final travel plans for in-country rural excursions.
  - While doxycycline is protective, it cannot be used in children < 8 years of age.
  - Choice of drug can be left to the parents to decide. Mefloquine must be started 2-3 weeks before entering malarious area but is only taken weekly; A/P can be started the day before entering malarious area but requires daily dosing and is more expensive. For the children, the dose will depend on their weight. (See the package insert or the Shoreland malaria article for dosing.)
- If they will assuredly not be in rural risk areas, mosquito precautions would be recommended and no Rx.
- Travelers should be instructed to seek immediate medical attention for fever or flu-like illness within 3 months after travel in a malaria risk area. Include mention of travel history.

### **Traveler's diarrhea**

Except for deluxe accommodations, high risk exists everywhere. Offer ciprofloxacin to the parents for self-treatment of traveler's diarrhea. If the parents ask about a prescription for the children, point out the importance of oral rehydration and offer azithromycin for the children (drug of choice for TD treatment in children).

### **Other recommendations**

**Dengue fever** presents significant risk in urban and rural areas, including in Caracas. Daytime insect precautions are recommended.

**Leishmaniasis** occurs throughout the country. Daytime and nighttime insect precautions are recommended.

**Chagas' disease** occurs in rural areas; risk to travelers is unknown but is thought to be negligible. Avoid overnight stays in houses constructed of mud, adobe brick, or palm thatch.

**Schistosomiasis** presents significant risk in focal areas of Aragua, Carabobo, and Vargas states. Travelers should avoid freshwater exposure in these areas.

**Marine hazards** may include jellyfish (often causing sea bather's eruption), coral, and sea urchins. Dangerous (potentially deadly) jellyfish are present year-round, but particularly during the rainy season. Children are especially at risk, and adults wading, launching boats, or fishing.

### Traveler education

Since the parents may be preoccupied with the children, educating them about travel health issues will be difficult. It may be advisable to lend an educational DVD to the parents, if available, or have 1 parent remain in the office while the rest of the family stays in the waiting room. Having a quiet environment is important when discussing complicated instructions for food and water concerns, traveler's diarrhea, mosquito precautions, prescriptions, and other trip-related information.

Emphasize that malaria may occur up to 1 year or more after travel, particularly in the first 2 months. If 1 of the family members develops a fever, he or she should seek medical attention immediately and request blood films to rule out malaria.

### Conclusion

- Make sure the parents know that the appointment will take a long time so waiting does not frustrate them. Suggest they bring along toys or games to occupy the children. In some cases, they may want to bring a babysitter. Consider asking 1 of the parents to set up an appointment to come in alone to provide the patient histories before bringing in the whole family.
- Gather the immunization histories before the appointment.
- Plan a clear, organized education session, referring parents to written materials that they can review later.
- Emphasize the important things: mosquito precautions, taking malaria medication as directed, seriousness of rabies exposure, safety issues, and food and water precautions. With so many family members, a vacation can be ruined if anyone has health problems on the trip.
- Families traveling with children may want to know what signs and symptoms should prompt them to seek medical care while abroad. It may be helpful to have printed information on this subject specifically regarding infants and children.
- Prioritization of immunizations may be necessary when cost is an issue.