

Pharmacy Travel Health Clinic Operations Guide

Edition 3

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INTRODUCTION

The *Pharmacy Travel Health Clinic Operations Guide* provides an overview of the resources and travel-specific information useful to those starting and maintaining an international travel health clinic or administering travel-related vaccines within the context of a pharmacy practice. Additional considerations may apply to travel-medicine clinics in other care delivery settings, such as medical clinics, workplaces, and public health departments. Pharmacy-based initiation of vaccinations or travel-related medications is increasingly common but varies widely by state or province; thus, pharmacists should understand local laws related to vaccination and prescription medication provision. See Table: Travel Health Pharmacy Laws by State below.

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 pharmacy 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 PHARMACY-BASED TRAVEL HEALTH CLINIC

THE BASICS

Because the concept of travel medicine is often new to travelers, consider the unique aspects of establishing a travel health clinic. Pharmacists often focus on the pretravel, or travel health, aspects of travel medicine.

Location within a pharmacy: A highly visible location contiguous with the pharmacy dispensing area to maintain visual control of the pharmacy that also generates interest and prompts inquiries is desirable. The clinic may also be located within the pharmacy's wellness program area or other similar area.

Naming: Clinic names and signage should clearly indicate the unique services offered. The terms "Travel Clinic" or "Travel Health Clinic" are most appropriate.

Space and setup: The preferred layout consists of approximately 50 square feet of a private or semiprivate area in a consultation or patient-care setting. The pharmacist will need to conduct both consultations and vaccinations in the same space. No special modifications are needed for this space if the pharmacist is already providing vaccinations.

Legal aspects: U.S. state (See Table: Travel Health Pharmacy Laws by State) and Canadian provincial laws vary regarding the pharmacist's ability to provide vaccines and prescription medication. Additionally, some organizations have chosen to be more restrictive than state law. Pharmacists should understand the definitions of the following as they relate to vaccine administration and medication prescription authority and laboratory test ordering:

- Collaborative practice agreement (CPA) or individual physician protocol (IPP): A formal relationship with an individual physician or group that grants authority to the pharmacist.
- Independent: A pharmacist has independent authority without a CPA or IPP and operates under statewide protocols or standing orders within a healthcare facility.
- Physician prescription only: A pharmacist's authority to administer vaccines is limited to those ordered or prescribed by a physician.
- Vaccine list: Pharmacists are only authorized to administer vaccines on a preapproved list.

In addition to the legal authority aspects previously mentioned, the following questions regarding state or provincial law address some of the issues that must be considered before starting a pharmacy-based travel health clinic.

Vaccination

- Do age or pregnancy restrictions exist?
- Do route-of-administration restrictions exist (e.g., do state or provincial laws only allow vaccines by injection)?

Prescription Medication

- Do CPA laws allow pharmacists to initiate medications with or without referral from a primary care provider?
- Do CPA laws allow pharmacists to initiate medication when no previous diagnosis is required (e.g., malaria chemoprophylaxis, altitude illness, etc.)?
- Are pharmacists allowed to obtain a DEA license for controlled substances (e.g., sleep medications categorized as controlled substances) if allowed either through CPA or IPP laws?
- Are pharmacists able to independently initiate medications related to travel (e.g., California allows pharmacists to initiate travel-related prescription medications for people traveling outside the U.S., following the indications and dosing in CDC's Yellow Book)?

Table: U.S. Travel Health Pharmacy Laws by State									
State	Authority to Administer Travel Vaccines	Travel Vaccines Included in Authorization					Authority to Prescribe Travel Medications	Lab Tests	Training Requirements
		Typhoid	YF	Rabies	JE	IGIM			
Alabama	Collaborative	Yes	No	Yes	Yes	Yes	No	No	No
Alaska	Independent	Yes	Yes	Yes	Yes	Yes	CPA	No	Yes ¹
Arizona	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	No	No
Arkansas	Collaborative	Yes	Yes	Yes	Yes	No	No	Unknown	Yes ²
California	Independent	Yes	Yes	Yes	Yes	Yes	Independent	Independent	Yes ³
Colorado	Independent	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
Connecticut	Collaborative	No	No	No	No	No	No	Collaborative	N/A
Delaware	Rx	Yes	Yes	Yes	Yes	Yes	No	No	Yes ³
District of Columbia	Rx	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	Yes ³
Florida	Collaborative	Yes	Yes	Unknown	Unknown	Unknown	No	No	Yes ¹
Georgia	Rx	Yes	Yes	Yes	Yes	Yes	No	No	No
Hawaii	Independent	Yes	Yes	Yes	Yes	Yes	Independent	Independent	No
Idaho	Independent	Yes	Yes	Yes	Yes	Yes	Collaborative	Independent	Yes ³
Illinois	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	No	No
Indiana	Collaborative	No	No	No	No	No	No	No	N/A
Iowa	Collaborative	Yes	No	Yes	Yes	Yes	Collaborative	Collaborative	No
Kansas	Collaborative	Yes	Yes	Yes	Yes	Yes	No	No	No
Kentucky	Collaborative	Yes	Yes	Yes	Yes	No	Collaborative	Collaborative	No
Louisiana	Independent	Yes	No	Yes	Yes	Yes	No	Collaborative	No
Maine	Collaborative	Yes	Yes	Yes	Yes	Yes	No	No	N/A
Maryland	Independent	Yes	Yes	Yes	Yes	Unknown	Collaborative	Collaborative	No
Massachusetts	List	No	No	No	No	No	No	No	No
Michigan	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Unknown	No
Minnesota	Collaborative	Yes	No	Yes	Yes	Yes	Collaborative	No	No
Mississippi	Collaborative	Yes	No	Yes	Yes	Yes	Collaborative	Collaborative	No
Missouri	Rx	Yes	Yes	Yes	Yes	Unknown	No	Unknown	No
Montana	Rx	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
Nebraska	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Unknown	No
Nevada	Collaborative	Yes	Yes	Yes	Yes	Yes	No	No	No
New Hampshire	List	No	No	No	No	No	No	No	No
New Jersey	Rx	--	--	--	--	--	Collaborative	Collaborative	No
New Mexico	Independent ¹	Yes	Yes	Yes	Yes	No	Independent	Independent	Yes ³
New York	List	No	No	No	No	No	No	No	No
North Carolina	Rx	Yes	No	Yes	Yes	Yes	No	No	N/A
North Dakota	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
Ohio	Collaborative	Yes	Yes	Yes	Yes	No	No	Unknown	Yes ¹⁰
Oklahoma	Rx	Yes	Yes	Yes	Yes	Yes	No	Unknown	No
Oregon	Independent	Yes	Yes	Yes	Yes	No	Collaborative	Collaborative	Yes ¹¹
Pennsylvania	Collaborative	Yes	No	Yes	Yes	Yes	No	Collaborative	No
Rhode Island	Collaborative	Yes	Yes	Yes	Yes	No	Collaborative	Collaborative	Yes ¹²
South Carolina	Rx	Yes	No	Yes	Yes	No	No	No	No
South Dakota	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
Tennessee	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
Texas	List	No	No	No	No	No	No	No	N/A
Utah	No	No	No	No	No	No	No	No	No
Vermont	Collaborative	Yes	No	Yes	Yes	Yes	Collaborative	Collaborative	No
Virginia	Collaborative	Yes	Yes	Yes	Yes	Yes	No	No	No
Washington	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	No
West Virginia	No	No	No	No	No	No	No	No	No
Wisconsin	Collaborative	Yes	Yes	Yes	Yes	Yes	Collaborative	Collaborative	N/A
Wyoming	No	No	No	No	No	No	No	No	N/A

Abbreviations: YF = Yellow fever. JE = Japanese encephalitis. IGIM = Immune globulin intramuscular.

Collaborative: Pharmacists have authority through a collaborative practice agreement (CPA; a formal relationship with an individual physician or group) or through an individual physician protocol (IPP). Both methods define the patient care functions that pharmacists can autonomously provide under specific situations and conditions.

Independent: Pharmacists have independent authority without a CPA or IPP and operate under statewide protocols or standing orders within a healthcare facility.

Rx: Limited to vaccines ordered or prescribed by a physician

List: Pharmacists are only authorized to administer vaccines on a preapproved list

1. Only for pharmacist clinicians
2. CPA has to be submitted to a board, which can designate training if warranted
3. Online CDC Yellow Fever Vaccine Course and malaria prevention and training
4. Pharmacists who furnish travel medications shall keep documentation of the following on site and available for inspection by the Board: 1. Completion of an approved travel medicine training program, which must consist of at least 20 hours and cover each element of the International Society of Travel Medicine's Body of Knowledge for the Practice of Travel Medicine (2012); 2. Completion of the CDC Yellow Fever Vaccine Course; and 3. Current basic life support certification. Pharmacists must complete 2 hours of ongoing continuing education focused on travel medicine (separate from continuing education in immunizations and vaccines) from an approved provider once every 2 years.
5. Board-approved training to administer medications (although not specific to travel health) and 2 hours of continuing education every renewal cycle
6. Training for vaccinations but not specific to travel health
7. Submit proof of completion of CDC Online Yellow Fever Vaccine Course
8. Pharmacists must complete a 20-hour course in order to vaccinate, although no specific additional requirement as it relates to travel vaccinations exists
9. Board of Pharmacy must approve training; Accreditation Council for Pharmacy Education (ACPE) accredited.
10. Pharmacists must complete a board-approved vaccination training program before administering any vaccines
11. American Pharmacist Association (APHA) Travel Program or state approved equivalent
12. Must have a PharmD, or have "advanced training" in the area of practice and be covered under a standing order for vaccines and have a CPA for medications and lab tests

Data provided by Karl Hess, Keri Hurley, and Sheila Sneed and adapted from Hess K. J Am Pharm Assoc. 2018 Mar - Apr; 58(2):163-167; CDC. Select Features of State Pharmacist Collaborative Practice Laws, 2013 (available at https://www.cdc.gov/dhdsppubs/docs/pharmacist_state_law.pdf)

Data represents a survey of state pharmacy association contacts, CDC 2013 publication and interpretation of state law. Note that laws may change, and readers should check with their state board of pharmacy for current practice standards.

SPECIALIZED EQUIPMENT AND SUPPLIES

Storage: Temperature monitoring is vital to proper cold-chain management. At a minimum, a dedicated stand-alone refrigerator, a dedicated stand-alone 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 biosafe glycol-encased probes to more accurately record vaccine temperature and digital data loggers for more frequent monitoring and documentation. At a minimum, pharmacists should monitor and record temperature twice daily.

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

Yellow fever vaccine administration: If administration of yellow fever vaccine is to be within the scope of practice, the following will be needed:

- Yellow Fever Stamp (Uniform Stamp), which can be obtained from local or state public health authorities
 - Check state law to ensure that pharmacists are authorized to administer yellow fever vaccine. If not, determine a suitable location to which to refer patients to obtain the vaccine.
 - 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: www.who.int/bookorders
 - U.S.: Superintendent of Documents: <https://bookstore.gpo.gov/catalog/vaccination-forms>
 - 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

WHO's *International Certificate of Vaccination or Prophylaxis (ICVP)*: A revised certificate took effect on June 15, 2007, replacing the previous *Certificate of Vaccination or Revaccination*. However, old certificates issued to persons vaccinated before that date remain valid.

- The name of the vaccine (e.g., yellow fever) or the prophylaxis must be written out each time on a page titled "International Certificate of Vaccination or Prophylaxis." Currently, WHO only mandates documentation of yellow fever vaccination in the ICVP.
- The ICVP 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 vaccination entry. (In the U.S., the Uniform Stamp is issued to nonfederal vaccination centers by state health departments.)
- Other vaccines may be entered on a separate page (titled "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 (e.g., for the Hajj), record the vaccine administered in "Other Vaccinations" in the column "Disease Targeted." A Uniform Stamp, although not required, lends credibility to this section.
- Although the entire yellow-colored booklet is frequently called the "certificate of vaccination," the official ICVP—and the only mandated portion—is the page on which the clinician enters the name and details of the required vaccination. The booklet itself includes additional material (e.g., "Instructions to Travelers," "Instructions to Physicians," and "Other Vaccinations" [or "Other Immunizations/Prophylaxis Received"]) but use of these sections is optional.
- Nonphysician 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 should also be accompanied by a signed and dated exemption letter on the physician's letterhead.

Vaccine Information Statements (VISs): Health care providers must inform patients (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.

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

VISs are periodically updated, and the health care provider is responsible for obtaining the most recent versions. VISs are available in the Travax Library (see *Vaccine Information Statements*) and on the CDC website (www.cdc.gov/vaccines/hcp/vis/index.html). VISs are available in more than 40 languages at 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 patient or guardian. Clinicians are *not* required to obtain a patient signature acknowledging receipt of a VIS because 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 or via a writeable PDF (<https://vaers.hhs.gov/reportevent.html>). The VAERS 24-hour information line (800-822-7967) can be called with questions regarding adverse reactions.

In Canada, vaccine adverse events are reported to the Canadian Adverse Events Following Immunization Surveillance System (CAEFISS; <https://www.canada.ca/en/public-health/services/immunization/canadian-adverse-events-following-immunization-surveillance-system-caefiss.html>); the reporting form (Report of Adverse Events Following Immunization; AEFI) is available at <https://www.canada.ca/en/public-health/services/immunization/reporting-adverse-events-following-immunization.html>.

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

Preprinted prescription order forms: Using preprinted templates will save time and reduce errors, whether prescribing independently, 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 prefilled syringes, such as epinephrine auto-injectors (e.g., EpiPen or Auvi-Q). If vaccinating pediatric patients, either EpiPen Jr. (0.15 mg) or Auvi-Q pediatric (0.15 mg) should also be stocked. Three doses of each should be 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)
- Blood pressure measuring device (electronic or manual)
- Cell phone or access to an on-site phone to activate the emergency medical service (EMS)

See also the CDC "Pink Book" (*Epidemiology and Prevention of Vaccine-Preventable Diseases* Edition 13, Appendix D) for a protocol on managing vaccine reactions. A quick reference sheet for vaccine adverse events, including anaphylaxis, can also be found on the Immunization Action Coalition's website (www.immunize.org/handouts/vaccine-reactions.asp).

PERSONNEL AND TRAINING

In a community pharmacy, interns, technicians, and clerks can all play a role in supporting the pharmacist in a travel health clinic. In the U.S., only Idaho currently allows technicians to administer vaccinations, but no state or territory allows them to counsel patients. Clerks can neither administer nor counsel patients. However, they can assist the pharmacist with other functions, such as collecting and processing forms; scheduling appointments; ordering medications, supplies, and vaccines; prescription processing; and billing. In most states, all pharmacists' duties may be performed by student pharmacists under the supervision of a licensed pharmacist.

Ideally, all staff should have basic life support (BLS) certification, but especially those administering vaccinations. The American Pharmacists Association (APhA) Pharmacy-Based Immunization Delivery training certificate requires current BLS certification for the training certificate to be active.

Desirable Attributes for Travel Medicine Pharmacist Providers

- Graduate or postgraduate training in travel medicine that follows the International Society of Travel Medicine (ISTM) Body of Knowledge in Travel Health
- Certificate in Travel Health (CTH) from ISTM (www.istm.org), which recognizes knowledge in the field of travel medicine associated with pretravel care and consultation
- Significant patient counseling experience
- Cultural sensitivity, especially for the needs of those traveling to the family's country of origin
- Personal experience in foreign travel

Training and Orientation

Before they practice travel health, pharmacists in the U.S. should prepare by taking a comprehensive Accreditation Council on Pharmacy Education (ACPE)-approved course on vaccination and travel health. Currently, the only programs in the U.S. that fit this description are:

- APhA's Pharmacy-Based Immunization Delivery (12 hours self-study + 8 hours live)
- APhA's Pharmacy-Based Travel Health Services advanced competency training (6 hours self-study + 4 hours live); www.pharmacist.com/pharmacy-based-travel-health-services

Up-to-date knowledge about itinerary risks and prevention strategies is essential for the provision of quality pretravel 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

- Development of case studies from previous patients for ongoing pharmacists' education
- Attendance at ISTM and other travel medicine and pharmacy conferences
- Web-based updates on vaccinations and travel medicine from CDC

Orientation: Develop 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: a subscription-based online travel medicine program, which provides email alerts and Literature Watch Reviews.
- Shoreland: *Pharmacy Travel Health Clinic Operations Guide*
- CDC: *Health Information for International Travel* ("Yellow Book")
- CDC: *Epidemiology and Prevention of Vaccine-Preventable Diseases* ("Pink Book")
- Company/organization specific operations manual

Sample Readiness Checklist

- Demonstrate use of an authoritative resource by researching a trip for a basic and a complex itinerary (e.g., involving yellow fever vaccination and malaria chemoprophylaxis) using at least 2 resources (Travax, CDC Yellow Book, etc.).
- Review travel history and other documentation forms.
- Review documentation and administration procedures for vaccinations.
- Review procedures for completion of the ICVP.
- Review pharmacy workflow as it relates to the travel clinic.
 - Receiving the travel history form and scheduling an appointment
 - Procedures for itinerary review and time period for completion
 - Printing of patient- or itinerary-specific educational material
 - Clinic visit flow
 - Processing of prescriptions, vaccines, over-the-counter (OTC) medications, and supplies
 - Billing
- Quality assurance: Conduct periodic peer reviews of randomly selected pharmacy clinic visits to evaluate clinical decision making.

POLICIES AND PROCEDURES

Each pharmacy-based 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 pharmacy-based travel health clinic:

- All appointments should be scheduled rather than walk-in.
- Visits typically take 30 to 60 minutes, depending upon the setup of the travel clinic.
- Travel clinic costs should be discussed before or during the visit; pharmacists should strive for transparency of all fees.

The following relate to the figure below.

Travel History

- Traveler History Forms should be faxed, e-mailed, or made available via a website.
- Patients should complete and transmit forms to the pharmacist 24 to 48 hours prior to the scheduled visit.
- Prior to the appointment, the pharmacist should review the Traveler History Form (see sample form, page 16) to determine a prevention plan that includes vaccinations, 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 to 30 minutes, depending upon the patient, itinerary, and pharmacist's travel health experience.

Assess

- During the first 5 minutes of the visit, the pharmacist reviews the Traveler History Form with the patient.
- Reconfirm the itinerary. Use maps (available in Travax) to visually show where the patient has indicated he or she is traveling.
 - The pharmacist should attempt to verify all information when it is critical to the travel health recommendations. For example, vaccination 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 as such if it is used for decision making.

Educate

- Patient 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:
 - Explanation of routes of disease transmission and prevention strategies (most important)
 - Vector-borne diseases (insect repellents, insecticides, netting, etc.)
 - Food- and beverage-related illnesses (general precautions, getting potable water, etc.)
 - Vaccination recommendations
 - Medication-related prevention (e.g. malaria, travelers' diarrhea, altitude sickness, jet lag)
 - Nonvaccine, nonmedication prevention strategies by routes of transmission
 - Vector-borne, food/beverage, 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 Progress Note and Vaccine Information Statements.
- For pharmacists trained on adult/adolescent patients, the maximum number of intramuscular (IM) + subcutaneous (SC) injections is 6 (2 IM and 1 SC per arm). To increase the number of vaccines without violating this rule, consider other routes of administration where approved, such as intradermal, intranasal, and oral.
- Monitor patients for reactions for at least 15 minutes (up to 30 minutes for vaccination with YF vaccine) before they leave the travel clinic.
- Document all vaccines given on the patient's routine vaccination record or use the Progress Note (see sample form, page 16) or immunization registry. In addition, if a traveler requires yellow fever vaccine, make sure to record this on the ICVP.

Pharmacy

- One of the advantages of a pharmacy-based travel health clinic is that, depending upon state or provincial law, all aspects of a travel health service can be conducted in 1 location, including dispensing and retailing.

- Prescription medications should be adjudicated and dispensed per standard operating procedures in the pharmacy. To enhance efficiency, the technician or other pharmacist should prepare the prescription medications while the patient is still in the travel clinic (e.g., the pharmacist can input these orders from the travel clinic area).
- OTC medications and supplies that were recommended during the travel clinic visit can be gathered by the clerk or technician while the patient is still being seen by the travel clinic pharmacist (e.g., the pharmacist can enter these medications or supplies in the pharmacy computer system or create a paper order list).

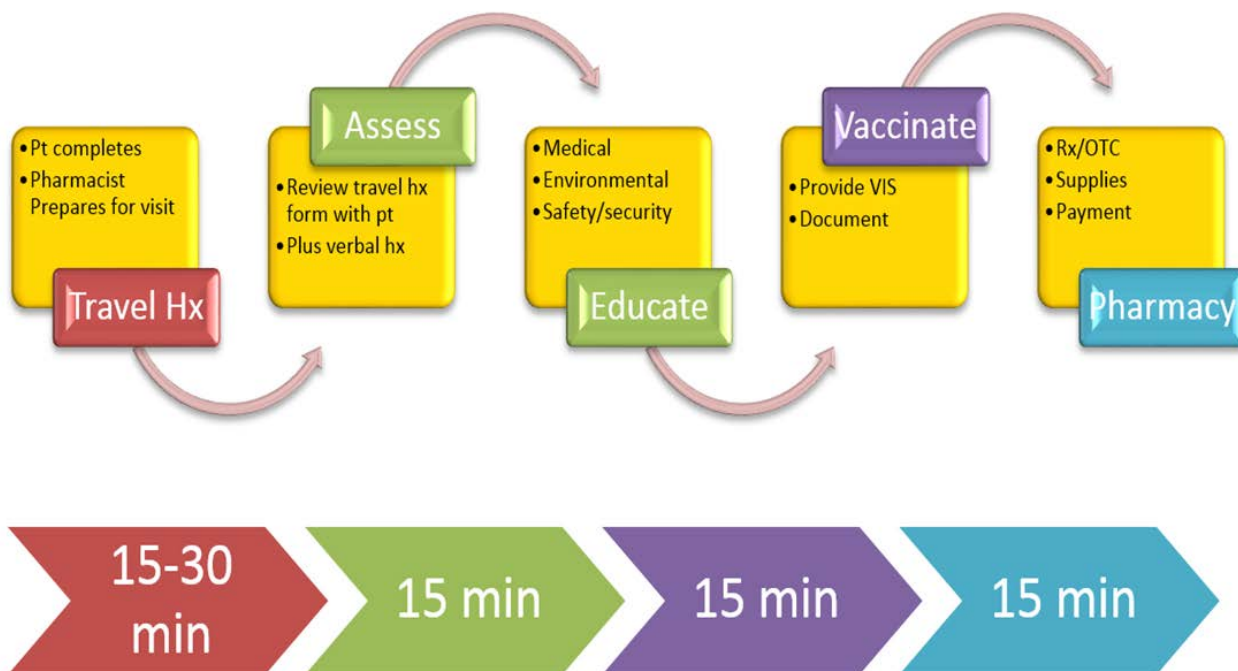
Documentation

- Communications with primary care providers: Fosters continuity and documents travel health services for the patient's permanent record and is valuable 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 vaccinations (and schedules) to be administered at the travel medicine or primary care clinic.
- Communication with patients: 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 points of entry and in the event of a medical problem abroad. This is highly recommended for any traveler needing an exemption letter for yellow fever or cholera, a needle and syringe permission letter, a medication requirements letter, an HIV status letter, and for persons with a chronic or unstable disease. An additional letter may be written by the primary care provider concerning the patient's medical status, with ECG and/or lab copies attached, as needed. Samples letters are available in the Travax Library under *Operational Materials*.
- Refusal of recommendation/treatment: Use to document patient refusal of vaccinations, prescriptions, or travel health recommendations. The clinic's legal department should aid in the design of this form.
- Patient Handouts
 - Topic handouts: See Travel Health Resources section for information on traveler educational articles available in the Travax Library.
 - Country information: Printed country-specific information and recommendations from Travax (see Destinations and Report Builder).
 - *Travel Health Companion*

Check-out

- Payment is collected and any follow-up visits for vaccination are scheduled.
- The entire clinic visit can last from 30 to 60 minutes, depending on the use of ancillary personnel for parallel processing; components of the process that can be completed in the pharmacy; and the traveler's itinerary.

PHARMACY TRAVEL HEALTH CLINIC FLOW



AFTER-HOURS CARE

Policy: Establish and maintain a system whereby patients can access care when the pharmacy is closed.

Purpose: Ensure that all travel clinic patients have knowledge of and access to after-hours medical care.

TRAVEL CLINIC REFRIGERATOR

Policy: Set guidelines for choosing and maintaining a refrigerator and freezer.

Purpose: Ensure proper storage of vaccines in the clinic refrigerator and freezer and avoid loss due to compromised or outdated stock.

Consider purchasing a thermometer that will send an alert (call or text) when the power goes out (especially important for weekends or overnight if the pharmacy is closed). See also *Storage and Handling* in the Travax Library.

VACCINATION

Policy: Check state or provincial law for documentation requirements and vaccination clinic operation.

Purpose: Ensure standardized procedures are used for all vaccinations, including travel vaccinations.

VACCINES AND MEDICATIONS

VACCINE STOCK

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

Routinely stocked vaccines: For a complete list of routine adult and pediatric vaccines by generic and brand names, see *U.S. Vaccine Products* in the Travax Library.

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

- Tdap and Td vaccines
- Hepatitis A and hepatitis A/B combination vaccines
- Hepatitis B vaccines
- HPV vaccine
- Influenza vaccines
- Measles, mumps, rubella (MMR) vaccine
- Meningococcal B vaccine
- Pneumococcal conjugate (PCV13) and pneumococcal polysaccharide (PPSV23) vaccines
- Polio (IPV) and polio combination vaccines
- Quadrivalent meningococcal conjugate (MenACWY) vaccine. (This may be a required vaccine in some cases; see below.)
- Varicella and herpes zoster vaccines
- Pediatric vaccine: DTaP, DT, and DTaP combination vaccines; Hib and Hib combination vaccines; rotavirus vaccines

Vaccines only used for travel consultations: Vaccines that may be recommended to protect the traveler from endemic or epidemic diseases present in the country of destination include the following:

- Cholera
- Japanese encephalitis vaccine
- Rabies vaccine
- Typhoid, injectable and oral vaccines
- Yellow fever vaccine (This may be recommended when risk of yellow fever exists for the traveler or may be required by the destination country to prevent transmission of yellow fever virus into that country; see below.)

Special considerations for travel to certain countries: Required by the destination country, 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, although 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 vaccination in the ICVP.
 - All yellow fever vaccination centers should keep a Vaccine Administration Record, and some state/province 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 yellow fever 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 risk to the traveler exists of contracting yellow fever.
- *Meningococcal meningitis vaccine* (quadrivalent) is required by Saudi Arabia for visitors arriving in that country for the Hajj or Umra.
 - Meningococcal vaccine may also be *recommended* if risk to the traveler exists.
- *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 countries.
 - See *Polio* and *Hajj and Umra Travelers* in the Travax Library for additional information.

Other biologics

- Immune globulin (IG), IM (if available)

- Tuberculosis screening tests include: interferon gamma release assay (IGRA) or tuberculin skin test (TST) with purified protein derivative (PPD)

Ordering vaccines and medications: Clinics that are new or that have a low patient volume should order only what is needed for 1 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. Although often more expensive, single-dose vials and prefilled 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 to maintain the cold chain required to guarantee vaccine viability. The usual time from ordering to delivery is about 1 to 4 business days. Note that the manufacturer of the yellow fever vaccine will not ship the vaccine to the pharmacy until the pharmacy has the Uniform Stamp.

Vaccine shortages: Up-to-date information on vaccine shortages or backorders/delays can be found in Travax What's New.

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).

Vaccine storage and handling: For guidance on the safe handling and storage of vaccines, see *Storage and Handling* in the Travax 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.

Recordkeeping: See *Recordkeeping* in the Travax Library.

Refusal of recommendation: Always document patient refusal of indicated vaccinations or prescriptions.

DRUG STOCK

Most of the medications used in travel health are usually routinely stocked by the pharmacy.

Examples of some prescription medications used for travelers:

- Travelers' diarrhea: azithromycin, quinolones (ciprofloxacin, ofloxacin, levofloxacin), rifaximin
- Altitude illness: acetazolamide (Diamox), dexamethasone (Decadron), nifedipine (Procardia; Adalat)
- Malaria: atovaquone-proguanil (chemoprophylaxis or standby emergency treatment [SBET]), doxycycline (chemoprophylaxis), mefloquine (chemoprophylaxis), artemether/lumefantrine (SBET), primaquine, tafenoquine
- Motion sickness: scopolamine patches
- Typhoid: Oral typhoid vaccine

Self-care products: To offer the full complement of products that a traveler may need, the pharmacy should consider stocking an appropriate selection of OTC products in addition to prescription products and vaccines. Having at least 1 OTC product from each of the following categories should be sufficient:

- Insect repellent (DEET or picaridin/icaridin) and insecticide (permethrin)
- Mosquito net
- Antidiarrheal (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 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.
- Attract a certain number of new clients during a given time period.

RESEARCH

Start by contacting media outlets 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 methods 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.
- **Current pharmacy patients:** Potential travel clinic clients include current pharmacy patients who bring in prescriptions for medications that may be travel-related (such as a short course of azithromycin or ciprofloxacin) or are clearly travel-related (e.g., antimalarials or altitude illness medication) or who request early refills or vacation overrides for extra refills. If applicable, place information at the pharmacy photo center to capture potential passport photo customers.
- **Student travelers:** Study abroad programs are expanding quickly. Contact student health services in boarding schools and colleges and reach out to students through campus media promotions, direct mail, or referrals.
- **Local health departments:** Many local health departments either don't have or have eliminated travel vaccination services but still receive inquiries from the public. Where this is the case, pharmacists should start by contacting the local vaccination 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. Limited time should be spent on unsolicited discussions with travel agents, but direct mail or speaking at local travel agents' meetings may offer an efficient opportunity to recommend a visit to the travel health clinic or to share promotional materials.
- **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 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 best served 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, email, or direct mail.

ACTIONS

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

A design professional can create unique, eye-catching pieces and webpages; likewise, professional-quality materials can be created using desktop publishing software.

In-store advertising: Because the equivalent of the U.S. population walks through the doors of a pharmacy every week, in-store signage can be the most effective tool to raise awareness of the pharmacy clinic to the people who come into the store. Signage can be as simple as a banner or window advertising and shelf-talkers (small advertisements co-located with OTC travel-related products).

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: Providing articles to community-oriented blogs, local websites, local newspapers, and magazines or appearing on local news is inexpensive and reaches surprisingly large audiences. 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: This obvious marketing tool isn't always the most effective because multiple impressions per consumer are necessary and most potential clients only notice the message right before they travel.

Website: Set up a clinic website or integrate the travel clinic service into a well-visited part of the main pharmacy website. Join or subscribe to an organization or service that maintains listings of travel clinics on a high-volume website; this includes Shoreland's TripPrep.com, ISTM, American Society of Tropical Medicine and Hygiene (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 available 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.
- 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: Consider speaking to churches, especially those organizing travel groups; college-organized tour 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 and show appreciation for all referrals by notifying the referring provider that a client has visited the clinic based on their recommendation. Always inform the referring provider about any medical treatment provided to their patients. Although primary care providers are an important source of referrals, infectious disease specialists to whom pharmacists refer suspected returned traveler diseases may also refer pretravel patients to the pharmacy.

Internal public relations: For a travel health service located within a larger pharmacy or pharmacy within a larger retail outlet, this section offers some promotional ideas to heighten 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 vaccinations.
- Request that the travel health provider be added to the mailing or email distribution list for new employee announcements. If the memo mentions or implies travel, send this employee a welcome note explaining the clinic's services.
- Ask the corporate travel department or the company's designated travel agent to include information about the clinic's services with any tickets to international destinations.
- Meet with key managers and human resources (HR) personnel involved with hiring to educate them about the clinic and its benefit to the company. Target promotional efforts to the many subgroups within any workplace (e.g., first-time travelers, executives, other employees traveling to specific regions). Contact HR, corporate travel, and corporate security departments to learn which employee groups travel, where they go, and how often.
- 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 pretravel 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 internal employees that are traveling on business. 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

Traveler education is an essential component of every travel health clinic visit. Many travelers are unfamiliar with travel health risks and protection measures.

Shoreland Travax

- Subscription-based online resource, 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; vaccination, medication, and safety recommendations; email updates; *News Alerts*; *Literature Watch Reviews*
- Detailed interactive malaria, yellow fever, and elevation maps for each applicable country to guide preventive interventions
- Extensive library with traveler education articles on vaccine-preventable diseases (e.g., cholera, Japanese encephalitis, etc.), other infectious diseases (e.g., dengue, malaria, etc.), health and safety (e.g., altitude sickness, insect precautions, etc.), and special needs travelers (e.g., cardiovascular disease and air travel, immunocompromised travelers, etc.)
- Report Builder calculates vaccination requirements and generates comprehensive itinerary-specific recommendation and requirement reports.
- *Travel Health Companion* booklet provides travelers with information on travel-related health and medical issues.

Health Information for International Travel (Yellow Book) – CDC

- Published by CDC, available online or as a hardcopy
- Major content areas include pretravel consultation, posttravel 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

- *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 pretravel counseling designed to maintain the health of the traveling public. See www.istm.org.

Useful Free Online Travel Medicine Resources

- Shoreland TripPrep.com
 - General country-specific advice in lay language directed at travelers
- *Epidemiology and Prevention of Vaccine-Preventable Diseases* (the Pink Book): www.cdc.gov/vaccines/pubs/pinkbook/index.html
- *Morbidity and Mortality Weekly Report*: www.cdc.gov/mmwr
- International Society of Travel Medicine: www.istm.org
- U.K. National Travel Health Network and Centre: <http://travelhealthpro.org.uk>
- Travel Health-Public Health Agency of Canada: www.canada.ca/en/public-health/services/travel-health.html
- U.S. Department of State Bureau of Consular Affairs: <http://travel.state.gov>
- World Health Organization (WHO): www.who.int/en
- American Pharmacists Association: www.pharmacist.com
- Immunization Action Coalition: www.vaccineinformation.org

FORMS

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

- **Telephone triage form or log:** The first telephone contact with patients can be critical. It will ensure that all 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 emailed to the patient to complete (or enter information online) and bring to his or her appointment; alternatively, the patient may complete the form during the appointment. (See sample form, page 16.)
- **Progress Note:** Use to record specialized information such as patient health and medication history, care plan, follow vaccinations needed, and medications prescribed or recommended for the trip. A copy may be provided to the patient to clarify medication instructions and follow-up care recommended.
- **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 or cholera, a needle and syringe permission letter, a medication requirements letter, or an HIV status letter, and for persons with a chronic or unstable disease. Although no official requirement currently exists, 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 vaccinations, 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 vaccinations (and schedules) to be administered at the travel health or primary care clinic.

TRAVELER HISTORY FORM

Complete this form and bring it to the pharmacy clinic appointment along with all vaccination 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 (2,500 m [8,200 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

HEALTH HISTORY

Allergies: _____
 Current medical conditions: _____

Name	DOB	Date
-------------	------------	-------------

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

Have you received the following vaccinations?

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
Influenza	<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
Meningococcal, quadrivalent ACWY	<input type="checkbox"/> Yes When? _____	<input type="checkbox"/> No	<input type="checkbox"/> Not sure
Meningococcal B	<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

Other _____

Have you ever had an adverse reaction to a vaccination? No Yes Explain: _____

CURRENT MEDICATIONS

Prescription medications: List all current prescription medications

Medication	Reason for use/medical condition

Nonprescription products: List current over-the-counter, herbal, homeopathic products, vitamins, supplements, etc.

Product	Reason for use/medical condition

QUESTIONS/CONCERNS

Additional questions or concerns about your travel:

PROGRESS NOTE	AFFIX PHARMACY INFORMATION HERE
Name	
DOB	
Date	

Subjective/Objective
Destination: _____ Departure Date: _____ Return Date: _____ Details of Itinerary: _____ Past Medical History: _____ _____ Medications: _____ _____ G6PD Status: _____ Vaccination History: <u>See Traveler History Form</u>

Assessment
1. Needs recommendations for medications, vaccinations and supplies 2. Needs counseling on itinerary and patient specific disease and safety concerns _____ _____

Plan

✓	Vaccine	Recommended to receive by date:	Comments
	Cholera (oral)		
	Hepatitis A: Doses 1, 2		
	Hepatitis B: Doses 1, 2, 3 or 1, 2 depending on brand		
	Hepatitis A/B combination: Doses, 1, 2, 3		
	Influenza (Inactivated/Live)		
	Japanese encephalitis: Doses 1, 2		
	Measles/mumps/rubella: Doses 1, 2		
	Meningococcal, quadrivalent ACWY		
	Meningococcal B		
	Pneumococcal (PPSV23/PCV13)		
	Polio (IPV)		
	Rabies preexposure: Doses 1, 2, 3		
	Td or Tdap		
	Typhoid (IM or oral)		
	Yellow Fever		
	Other:		

✓	Counseling Provided	✓	OTC/Supplies Recommended
	General advice (including accident and risk awareness)		Nonprescription medications/supplies
	Food/water precautions		Insect repellent (DEET, picaridin)
	Travelers' diarrhea and loperamide and BSS use		Permethrin 0.5%
	Vector-borne disease precautions		Mosquito net
	HIV/Hepatitis B/Hepatitis C precautions		Water purifier
	Malaria prophylaxis, nets, DEET, and permethrin use		Loperamide or BSS
	Rabies: Animal bites and scratches		Oral rehydration solution
	Other:		Iodine or chlorine dioxide

✓	Prescriptions Ordered	Qty
	Azithromycin 500 mg: Take 1 tablet as a single dose. If symptomatic after 24 hr, take 1 tablet daily for 2 more days. Preferred regimen for dysentery (bloody diarrhea): Take 2 tablets on day 1 followed by 1 tablet daily for 2 more days (full 3-day course).	
	Ciprofloxacin 500 mg: Take 1 ½ tablets (750 mg) as a single dose. If symptomatic after 24 hr, take 1 tablet twice per day for 2 more days (for a total of 4 more doses).	
	Levofloxacin 500 mg: Take 1 tablet as a single dose. If symptomatic after 24 hr, take 1 tablet daily for 2 more days.	
	Atovaquone-proguanil (Malarone) 250 mg/100 mg: Take 1 tablet daily starting 1 day before entering the malarious area, 1 tablet daily while in the malarious area, and 1 tablet daily for 7 days after leaving the malarious area. Take with food.	
	Chloroquine phosphate 500 mg (300 mg base): Take 1 tablet weekly starting 1 week before entering the malarious area, 1 tablet weekly while in the malarious area, and 1 tablet weekly for 4 weeks after leaving the malarious area. Take with food.	
	Mefloquine 250 mg (228 mg base): Take 1 tablet weekly starting at least 2 weeks before entering the malarious area, 1 tablet weekly while in the malarious area, and 1 tablet weekly for 4 weeks after leaving the malarious area. Take with food.	
	Doxycycline 100 mg: Take 1 tablet daily starting 1 day before entering the malarious area, 1 tablet daily while in the malarious area, and 1 tablet daily for 4 weeks after leaving the malarious area.	
	Tafenoquine (Arakoda) 100 mg: Take 2 tablets once daily for 3 consecutive days before entering the malarious area, 2 tablets once weekly while in the malarious area starting 7 days after the previous dose, and 2 tablets taken as a single dose, after leaving the malarious area, 7 days after the previous dose.	
	Primaquine (off-label for prevention) 26.3 mg (15 mg base): Take 2 tablets once daily starting 1 day before entering the malarious area, 2 tablets once daily while in the malarious area, and 2 tablets once daily for 1 week after leaving the malarious area.	
	Primaquine (relapse prevention) 26.3 mg (15 mg base): Take 2 tablets once daily for 14 days.	
	Atovaquone-proguanil (Malarone) 250 mg/100 mg for self-treatment: Take 4 tablets (as a single dose) once daily for 3 days. Take with food.	
	Artemether-lumefantrine (Coartem) 20 mg/120 mg for self-treatment: Take 4 tablets (as a single dose), then 4 tablets (as a single dose) 8 hr later, and then 4 tablets every 12 hours for days. Take with food.	
	Acetazolamide 125 mg: Take 1 tablet twice per day starting the day before ascent, 1 tablet twice per day each day during ascent, and 1 tablet twice per day taken for 1 to 2 days after arrival (arriving and staying) at highest elevation.	
	Scopolamine (Transderm Scop, Transderm-V) 1.5-mg patch: Apply 1 patch to skin behind the ear 4 hrs before antiemetic effect is needed. The patch may be left in place for 3 days.	
	Typhoid Vaccine Live Oral Ty21a (Vivotif): Take 1 capsule for 4 alternate days (days 0, 2, 4, and 6), 1 hr before meals with cold or lukewarm water.	4

All medications: called in to: _____ or Given a printed prescription (date): _____
 Printed patient and itinerary specific handout given
 Additional notes: _____

Pharmacist Provider (Sign)	Date
Pharmacist Provider (Print)	

CASE STUDIES

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 pretravel 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 "ISTM Educational Patient Cases"), with a pre- or posttravel situation discussed by an invited ISTM member with expertise in that topic.

CASE 1 — GOING HOME FOR A VISIT: MAKING THE VACCINATION DECISION

Abraham, 37-year-old male who grew up in Ethiopia, 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 vaccination 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 travelers to visit a travel clinic just prior to a trip. This often occurs due to lack of knowledge about the importance of preventive measures or may be due to an emergency trip for family illness or death.

Many travelers seeking pretravel 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 travelers pose unique challenges for the travel medicine professional.

Although this is a difficult scenario, the travel medicine professional must approach the traveler as he or she would any other. A major obstacle may be language: Despite moving to a new country, many immigrants continue to speak their 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 vaccinations do not translate easily. As much as possible, help the traveler complete a travel medicine questionnaire and answer the following questions:

- Is Abraham in good health? If not, what are the traveler'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.)

Abraham 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.

Vaccination and Disease History

Vaccination history (particularly those received in childhood) and disease history are often unknown, and patients might be vague about the vaccines they have received. Ask the following questions, rephrasing as simply as possible for best translation and understanding.

- Did he receive any vaccinations while growing up?
- Did his school give medications and vaccinations?
- Did he receive any vaccinations prior to arrival in the U.S.?
- Did he receive any vaccinations when he immigrated?
- If Abraham is sure he had tetanus and polio vaccinations growing up, when was his last Td or Tdap? Has he ever had a 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 vaccinations before those trips? Does he have a vaccination record book anywhere? (Show him an ICPV booklet as an example.)
- 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 the table below for recommendations based on this traveler's vaccination history and destination.

Recommendations for This Traveler**Vaccinations**

Vaccine	Recommended	Comments
Cholera	No	Recommended only for aid and refugee workers.
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	Although 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 going to Ethiopia throughout the year, especially if prolonged contact with the local populace is anticipated.
Polio	Yes (booster)	States he completed a primary series as a child but has not had 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 period, so vaccine is indicated.
Td/Tdap	Yes (Tdap)	States he completed a primary series as a child but has not had a dose of Tdap or the last dose of Tdap was given 10 years previously.
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 a prescription for mefloquine, atovaquone-proguanil, or doxycycline for malaria chemoprophylaxis; encourage traveler to carry enough antimalarial medication for the entire trip because effective drugs may not be available.
- Because this traveler is staying longer than 3 weeks, consider providing a treatment dose of coartemether or atovaquone-proguanil (if it is not chosen for chemoprophylaxis), in case the prophylactic drug fails; the traveler should be instructed to have the treatment dose administered under the supervision of a qualified local health care provider.

Travelers' diarrhea

High risk exists throughout the country.

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

Other Recommendations

Tuberculosis: Ethiopia has a high incidence of TB. Because this traveler is staying for more than 1 month, he should receive a predeparture 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 beverage 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 prebottled, 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 he is 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 vaccination.

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. This is rarely the case. Begin by helping the traveler better define his clinical expectations and needs and clarify his travel plans.

- 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 beverage sanitation, sexually transmitted diseases, the high incidence of accidents in travel, or freshwater hazards.
- Goals and limitations of pretrip care: Does the traveler 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.
- Does this traveler 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 HIV while traveling. He planned to try lots of new things while traveling, including bungee jumping and parasailing.
- What previous travel health care has this traveler received? What is his vaccination 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?
- By now, the traveler 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" 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" can usually predict their next few assignments.

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

- 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 traveler a risk taker?
- Will he travel solo or with others?
- Do the clinic and the traveler 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 traveler learn best: counseling or reading?

After completing the pretrip 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

Vaccinations

- **Vaccines:** Provide required and recommended vaccines appropriate to this traveler and his chosen destinations. (see the 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 vaccination history. Discuss the advantages of "preloading" vaccinations 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 student travelers. By contrast, with corporate travel, it is customary to maximally prepare employees. Factor in any future travel plans when addressing this issue. Vaccinations have 3 costs: vaccine cost, visit charges, and the value of the patient's time.
- **Time constraints:** Decide with the traveler if he can complete the recommended series prior to departure. Consult accelerated schedules as needed. Consider directing the traveler to services abroad if additional vaccinations are indicated.

- **Document:** Thoroughly document all care, including full vaccination details (such as manufacturer) because this traveler may need to seek care abroad.
- **Important:** Educate the traveler about the need to verify vaccination requirements and recommendations if he adds destinations. This may be critical if he has elected not to receive all recommended vaccinations.

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

Vaccine	Recommended	Comments
Cholera	No	Recommended only for aid and refugee workers.
Hepatitis A	Yes	Recommended for all travelers. Give Hep A/B on days 0, 7, and 21. Instruct traveler to return in 12 months for booster dose. Although 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	See above.
Influenza	Yes	Recommended for all travelers. The traveler 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). Inform the 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 vaccination records provided by mother.)
Meningococcal	No	Not in risk area.
Polio	Yes (booster)	Completed 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, and Vietnam). Because the traveler does not know if he will always be within 24 hours' travel of a reliable source of human rabies immune globulin (HRIG) and vaccine, he opts to receive rabies preexposure series for maximum preparedness.
Td/Tdap	Yes (Tdap)	Completed primary series of tetanus-containing vaccine. 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 observe tick precautions.
Typhoid	Yes	Recommended for all travelers going 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 exists for both *P. vivax* and *P. falciparum* at potential destinations.
- Do areas with resistant strains exist?
 - Mefloquine resistance exists in Thailand and Vietnam.
- Does the traveler have any contraindications to the use of standard antimalarials?
 - No contraindications
- Be sure the traveler knows the potential side effects of any malaria chemoprophylaxis.

Because he may travel to areas of mefloquine resistance, antimalarials recommended were doxycycline or atovaquone-proguanil. Dave chose to use doxycycline due to the high cost of atovaquone-proguanil 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 traveler need to take medication continuously or intermittently?
- How well does the traveler comply with medication schedules?
- Consider providing this traveler 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 traveler to recognize the risk of malaria and the need to seek medical treatment quickly if symptoms occur.
- Unless contraindicated, provide this traveler with a course of self-treatment of malaria ("stand-by" treatment) and detailed instructions on how and when to self-treat.
- Provide resources for malaria care abroad.
- Dave was supplied with atovaquone-proguanil for self-treatment, along with instructions on how and when it should be used.

Travelers' diarrhea

Risk exists in most of his potential destinations.

- Food and beverage precautions are essential to reduce chance of illness.
- Dave will carry loperamide and was given a prescription for azithromycin for presumptive self-treatment of diarrhea if it occurs, as well as instructions on use.

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. It had been 4 years since Dave had visited a dentist; he required 3 visits to bring his oral health up to date. Review the traveler's health insurance and need for evacuation insurance. Dave 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 predeparture testing. Travelers 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 several 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 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 ORS to his kit. He also brought an ample supply of his usual brand of condoms. Because Dave was planning to travel solo, he purchased a first aid book and asked lots of questions about self-care. He carried the ISTM 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 several 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 traveler 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.
- **Posttravel:** Recommend a posttrip assessment visit. Advise the traveler to seek care upon return if he is symptomatic (especially if 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 he knew from his consultation to update his pretravel care before flying into Madras. Dave was sick a few times and used just about everything in his medical kit, but his posttrip exam at 7 weeks was normal.

Conclusion

The traveler with an open-ended itinerary poses a special challenge. Key elements for successful preparation of this traveler include up-to-date travel health references, knowledge of travel health and other medical resources worldwide, adequate preparation time, a traveler'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 the family will be staying with his affluent family. However, they will also be traveling to rural areas in the southern part of the country. In addition to the parents, 3 children, aged 10 years, 4 years, and 18 months will be traveling. The first thing the baby does is 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 vaccination histories, including current medications and allergies, and discuss the plan for vaccinations. In this situation, the travelers were all established members of our health care plan, so their vaccination histories were readily accessible. All 5 travelers were in good health, took no regular medications, and had no allergies. The mother was not pregnant.

Vaccination and Disease History

	Td/Tdap DTP/DTaP	Last dose Td/Tdap/DTaP	Hib	Polio	MMR	Varicella	HepB	Influenza
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-month-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

Vaccinations

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

Routine vaccines	
Father	No routine vaccinations needed.
Mother	No routine vaccinations 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 dose 2 before leaving.
18-month-old	Give MMR dose 2; see below for hepatitis A. Consider accelerating varicella dose 2. No other routine vaccinations are indicated, and it is too early for the DTaP 4-6 year booster.

Travel vaccines	Recommended?	Comments
Hepatitis A	Yes – for all	No one in the family has had this vaccine. Recommended for all because 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. Give first dose prior to travel and instruct family to return for a second dose in 6 months.
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 observed.
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 *ICVP*. 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.

- Atovaquone-proguanil or mefloquine can be prescribed for malaria chemoprophylaxis, depending on final travel plans for in-country rural excursions.
 - Although doxycycline is protective, it cannot be used in children less than 8 years of age.
 - Choice of drug can be left to the parents to decide. Mefloquine must be started 2 to 3 weeks before entering malarious area but is only taken weekly; atovaquone-proguanil 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 Travax Malaria article for dosing.)
- If they will assuredly not be in rural risk areas, mosquito precautions would be recommended and no prescription given for malaria chemoprophylaxis.
- 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 to health care provider.

Travelers' diarrhea

Except for deluxe accommodations, high risk exists everywhere. Offer azithromycin for self-treatment of travelers' diarrhea. If the parents ask about a prescription for the children, point out the importance of oral rehydration in addition to antibiotics.

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 throughout the year, but particularly during the rainy season. Children are especially at risk, as are adults wading in shallow water, launching boats, or fishing.

Traveler Education

Because 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 one 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 beverage concerns, travelers' 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 one 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 one of the parents to set up an appointment to come in alone to provide the patient histories before bringing in the entire family.

Gather the vaccination 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 beverage 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 vaccinations may be necessary when cost is an issue.