

Travel Clinic Operations Guide

Edition 2

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INTRODUCTION

The *Travel Clinic Operations Guide* provides an overview of the resources and travel-specific information useful in starting and maintaining a travel medicine practice. Materials have been designed to help standardize delivery of service and reduce administrative workload. This guide focuses on aspects of clinic operations that are unique to the practice of travel medicine. Resources, policies and procedures, and other guidelines applicable to general medical clinics can be found in a multitude of other publications and will not be provided here.

ESTABLISHING A TRAVEL MEDICINE CLINIC

THE BASICS

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

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

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

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

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

SPECIALIZED EQUIPMENT AND SUPPLIES

Storage refrigerator: At minimum, a dedicated refrigerator with a separate freezer door and a device that records temperature (particularly observed high and low temperatures) are required for vaccine storage. However, clinics should consider a commercial-type refrigerator, which can best maintain stable temperatures for storage of biologicals.

- For guidance on the safe handling and storage of vaccines, see *"Storage and Handling" in the Travax Medical Library and the CDC "Pink Book" (Epidemiology and Prevention of Vaccine Preventable Diseases)*.

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

Yellow fever vaccine administration: When administering yellow fever vaccine, the following will be needed:

- a Yellow Fever Stamp (Uniform Stamp), which can be obtained from local public health authorities
 - Many states require completion of the online CDC course, "Yellow Fever Vaccine: Information for Health Care Professionals Advising Travelers," before they will issue a Yellow Fever Stamp.
- Stocks of *International Certificate of Vaccination or Prophylaxis (ICVP)*, which can be obtained from:
 - WHO: www.who.int/ihr/IVC200_06_26.pdf
 - Superintendent of Documents (U.S.): <http://bookstore.gpo.gov/collections/vaccination.jsp>

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

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

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. *Vaccine Information Statements (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.

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

- An alternative *VIS* (the multi-vaccine *VIS*) can be used when administering 1 or more of the following routine birth-through-6-months vaccines: DTaP, HepB, Hib, pneumococcal conjugate (PCV), polio (IPV), or rotavirus. It can also be used when giving combination vaccines (e.g., Pediarix, Pentacel, Comvax) or when giving 2 or more routine vaccines at other pediatric visits (e.g., 12-15 months, 4-6 years).

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

VISs are periodically updated, and it is the responsibility of the health care provider to obtain the most recent versions. *VISs* are available in the Travax Medical Library (see "*Vaccine Information Statements*") and on the CDC website (www.cdc.gov/vaccines/pubs/vis/default.htm). *VISs* are available in 35 languages at www.immunize.org/vis.

CDC regulations require that clinicians record (in the chart) the title and publication date of the *VIS* provided and the date that it was given to the patient or guardian. Clinicians are *not* required to obtain a patient signature acknowledging receipt of a *VIS*, as these are not consent documents.

VAERS form: Vaccine Adverse Event Reporting System (VAERS) forms should be kept on hand to report adverse events. In the U.S., call the VAERS 24-hour information line at 800-822-7967 with questions regarding adverse reactions or to order forms. VAERS forms can also be completed online (<https://vaers.hhs.gov/esub/step1>).

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

Prescription stamps: Practitioners may wish to maintain a supply of commonly used travel medicine prescription stamps, for example: acetazolamide, chloroquine, mefloquine, Malarone (atovaquone and proguanil hydrochloride), doxycycline, ciprofloxacin.

Supplies for anaphylaxis:

- aqueous epinephrine 1:1,000 (i.e., 1 mg/mL) dilution, in ampoules, vials, or pre-filled syringes, including epinephrine auto injectors (e.g., EpiPen). If EpiPens are used, both the EpiPen Jr. (0.15 mg) and the adult EpiPens (0.30 mg) should be stocked (3 each).
- diphenhydramine (Benadryl) injectable (50 mg/mL solution); 25 mg or 50 mg capsules or tablets and syrup (12.5 mg/5 mL suspension)
- syringes: 1-3 cc, 22-25 g, 1 in, 1½ in, and 2 in needles for epinephrine and diphenhydramine
- oxygen
- wristwatch with second hand
- pediatric and adult airways (small, medium, and large)
- sphygmomanometer (child, adult, and extra-large cuffs) and stethoscope
- pediatric- and adult-sized pocket masks with one-way valve; bag-valve-mask resuscitator
- alcohol swabs
- tongue depressors
- flashlight with extra batteries (for examination of the mouth and throat)
- cell phone or access to an on-site phone

See also the CDC "Pink Book" (*Epidemiology and Prevention of Vaccine-Preventable Diseases* Edition 12, Appendix D) for a protocol on managing vaccine reactions.

TRAVEL MEDICINE RESOURCES

TRAVAX[®] – SHORELAND

- web- and subscription-based, updated daily
- global near-real-time medical, environmental, resource, and countermeasure information relating to tropical infectious diseases and health threats/risks associated with international travel
- detailed country-specific recommendations; vaccine, medication, and safety recommendations; e-mail updates; News Alerts; Literature Watch Reviews; staff articles on diseases and safety issues; and printable patient handouts
- Report Builder calculates immunization requirements and generates comprehensive itinerary reports and recommendations.

TRAVEL AND ROUTINE IMMUNIZATIONS – SHORELAND

- vaccine guide, published annually
- concise reference for vaccine administration (adult and pediatric vaccinations; routine, required, and recommended immunizations). Includes information on immunizing special groups (e.g., persons who are immune compromised, persons with HIV/AIDS, health care workers), vaccine storage and handling, immunization schedules, thimerosal content in vaccines, recordkeeping, and manufacturers and distributors.
- This information is also available in the Travax Medical Library.

HEALTH INFORMATION FOR INTERNATIONAL TRAVEL (YELLOW BOOK) – CDC

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

INTERNATIONAL TRAVEL AND HEALTH – WHO

- published yearly by WHO, available online or hardcopy
- Major content areas include health risks and precautions related to mode of travel, environment, injuries and violence, infectious diseases, vaccine-preventable diseases, malaria, exposure to blood and body fluids, special groups of travelers, psychological health, and yellow fever risk and requirements, as well as the International Health Regulations.

INTERNATIONAL SOCIETY OF TRAVEL MEDICINE (ISTM)

- *The Body of Knowledge for the Practice of Travel Medicine* presents the scope and extent of knowledge required for professionals working in the field of travel medicine. Major content areas include the global epidemiology of health risks to the traveler, vaccinology, malaria prevention, and pre-travel counseling designed to maintain the health of the traveling public. See www.istm.org.

STAFFING

Depending on the size of the clinic, some or all of the following may be necessary: receptionist, medical assistant, registered nurse (BSN preferred), physician assistant (PA), nurse practitioner (NP), and advanced practice nurse (APN).

Professional requirements

RN: BSN with current license and CPR certification, minimum 2 years ambulatory care experience, and patient-teaching experience

PA, NP, APN: appropriate degree, current license and certification, current CPR certification, federal DEA number and state prescriptive authority; ACLS certification (advanced cardiovascular life support) preferred

Desirable qualifications

- Certificate in Travel Health™: Health care professionals who pass the ISTM examination in travel health will be awarded the Certificate in Travel Health™, which recognizes individual excellence in knowledge in the field of travel medicine associated with pre-travel care and consultation. See www.istm.org/ for details.
- ACLS certification
- cultural sensitivity, ability to speak multiple languages, experience in foreign travel
- previous travel health or foreign health care experience

TRAINING

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

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

- information about vaccine requirements and recommendations
- screening for medical conditions that may increase travel risk
- immunizations and prescriptive pharmaceuticals
- suggestions for non-prescriptive medications for travel

- information about risk at destination
- counseling regarding preventive behaviors
- referrals and resources

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

- Shoreland: Travax web-based travel medicine program
- Shoreland: *Travel Clinic Operations Guide*
- Shoreland: *Travel and Routine Immunizations* ("Blue Book")
- CDC: *Health Information for International Travel* ("Yellow Book")
- CDC: *Epidemiology and Prevention of Vaccine-Preventable Diseases* ("Pink Book")
- WHO: *International Travel and Health* ("Green Book")

Shoreland e-mail News Alerts and Literature Watch Reviews, available by subscription to Travax, are also helpful in accessing new developments and current literature on travel medicine.

Some helpful training topics include:

- scope of travel medicine and its impact
 - Distinguish between the concepts of travel medicine and tropical medicine.
 - Describe the global impact of travel-related disease and injury, including the direct and indirect monetary costs of travel-related illness.
 - Identify social, economic, and medical factors that may affect patient care in travel medicine.
 - Identify current trends in travel-related disease and travel health care delivery.
 - Describe the interface between primary care and travel medicine.
- travel-related disease and injury
 - Identify vaccine-preventable diseases of travelers.
 - Identify common vector-borne diseases of travelers.
 - Describe the clinical presentation and geographic distribution of the 4 different types of malaria.
 - Identify the most important communicable diseases of travel.
 - Describe the modes of transmission, clinical presentations, and areas of risk for dengue, American Trypanosomiasis (Chagas' disease), and schistosomiasis.
 - Discuss the health hazards associated with food and water, the major causative agents of food- and water-borne diseases for travelers, and preventive behaviors.
 - Describe the health problems of altitude and the risks of hot and cold climates.
 - Describe the major sources of travel-related accidents and injuries.
 - Describe how air and cruise travel contribute to travel health risks.
 - Describe the pathophysiology of jet lag, its clinical presentation, and preventive behaviors.
- travel health risk
 - List the essential elements of a pre-trip patient history.
 - Identify and compare different resources for researching itinerary risks (Travax, CDC "Yellow Book," etc.).
 - Describe how trip duration, accommodations, activities, and season affect risk.
 - Give examples of categories of geographic risk to travelers (high, medium, and low).
 - Describe the impact of immune deficiency and chronic health problems (e.g., diabetes, HIV, heart disease, asplenia, etc.) on travel risk.
 - List elements of personal lifestyle that impact travel health risk.
 - Describe the most common travel health risks and hazards for children
- promoting travel health
 - Describe the steps necessary to develop and implement an individualized prevention plan that includes immunizations, medications, and patient education.
 - Identify the different travel health vaccines: routine, required, and recommended.
 - Discuss adult and pediatric vaccine doses and duration of protection.
 - Discuss insect bite prevention.
 - Discuss the guidelines for rabies preexposure vaccine and postexposure treatment.
 - Define anaphylaxis and describe the symptoms and clinical interventions.
 - Describe the use of *Vaccine Information Statements (VIS)* and VAERS forms.
 - List the essential teaching topics routinely addressed with new travelers.

- Discuss malaria chemoprophylaxis: medications, indications, contraindications and precautions, side effects, schedules, cost, and long-term use.
- Discuss malaria standby emergency treatment.
- Describe prevention, assessment, and management of dehydration.
- Discuss the use of common anti-motility, anti-secretory, and anti-microbial medications.
- List components of a standard travel first aid kit.
- Discuss ways a traveler can access safe medical care abroad.
- caring for special populations
 - Describe travel health issues of HIV-infected or immunocompromised travelers.
 - Describe health risks and service delivery issues of business travelers, including employee confidentiality, frequent flyer stress, and last-minute care.
 - Identify cost-effective strategies to prepare groups for healthy travel.
- professional issues and travel medicine
 - Describe office policies concerning professional practice and development, including licensure, certification, and prescriptive practices.
 - Identify potential risks for liability in a travel clinic (e.g., immunizations and telephone advice).
 - List professional development resources.

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

- Describe how to take a post-trip patient health history.
- Describe the clinical presentation of common travel-related health problems.
- Outline a cost-effective post-trip laboratory-testing plan.
- Delineate practice protocols for the work-up and management of travel-related health problems.
- List community resources for specialty-care referral.

ASSESS TRAINING EFFECTIVENESS

To assess training effectiveness and clinician readiness, a post-test that evaluates travel health knowledge and clinical skill is useful. *See examples below.*

Travel health skills

- Demonstrate use of Travax.
- Take pre-trip health histories of new and established patients.
- Research a trip for a basic and a complex itinerary (e.g., involving yellow fever vaccination and malaria prophylaxis) using at least 2 resources (Travax, CDC “Yellow Book,” etc.).
- Develop an accelerated immunization schedule for an adult and a child.
- Administer immunizations.
- Calculate pediatric doses of anti-malarial medications.
- Teach a patient about:
 - anti-malarial medications: how and when to take them and possible side effects
 - insect precautions
 - how to take oral typhoid pills
 - how to prevent, recognize, and treat altitude sickness
 - how to prevent the health problems (e.g., DVT) associated with long duration air travel
 - food and water precautions; symptoms and treatment of diarrheal diseases
- Evaluate a client’s knowledge following a patient-teaching session.
- Demonstrate the use of the *International Certificate of Vaccination or Prophylaxis*.
- Counsel a patient on the need for post-travel follow-up and screening.

CONTINUING EDUCATION

Up-to-date knowledge about itinerary risks and prevention strategies is essential for the provision of quality pre-trip care. Travel medicine information changes constantly. Systems for ongoing 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
- a separate budget item for staff education
- designation of a single staff professional to administer a continuing education program
- regular case conferences and weekly *MMWR* review, access to weekly updates, e-mail alerts, and Travax Literature Watch Reviews
- development of case studies for staff training
- attendance at International Society of Travel Medicine (ISTM) and other travel medicine conferences

VACCINES AND MEDICINES

VACCINE STOCK

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

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

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

- DTaP, DT, and DTaP combination vaccines; Tdap, Td, and TT
- hepatitis B and hepatitis B combination vaccines
- Hib and Hib combination vaccines
- HPV vaccine
- influenza vaccines (TIV and LAIV)
- MMR and MMRV vaccines
- pneumococcal conjugate and pneumococcal polysaccharide vaccines
- polio (IPV) and polio combination vaccines
- rotavirus vaccines
- varicella and herpes zoster vaccines
- PPD (TST)

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

- cholera (where available)
- hepatitis A and hepatitis A/B combination vaccines
- influenza (TIV and LAIV)
- Japanese encephalitis
- meningococcal (*This may be a required vaccine in some cases; see below.*)
- rabies
- typhoid, injectable and oral
- yellow fever (Yellow fever vaccine may be recommended when there is risk of yellow fever to the traveler or may be required by the destination country to prevent transmission of yellow fever virus into that country. *See below.*)

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

- **Yellow fever vaccine:** Many countries require this vaccine when the traveler has recently been in countries either known or thought to harbor yellow fever virus, though some countries require the vaccine for all travelers.
 - Travelers with a specific contraindication to this vaccine should obtain a waiver before traveling to countries requiring vaccination.
 - Enter proof of vaccine in the *International Certificate of Vaccination or Prophylaxis (ICVP)*, which can be obtained from CDC at <http://bookstore.gpo.gov/>.
 - All yellow fever vaccination centers should keep a yellow fever vaccination logbook that includes the following information for each vaccine recipient: name, sex, date of birth, vaccine lot number, vaccination date, prior YF vaccination, destination countries, and Adverse Event/VAERS Report.

- Yellow fever vaccine may also be *recommended* if there is risk to the traveler of contracting yellow fever.
- *Meningococcal meningitis vaccine* (quadrivalent) is required by Saudi Arabia for visitors arriving in that country for purposes of the Hajj or Umra.
 - Meningococcal vaccine may also be *recommended* if there is risk to the traveler.
- *Polio vaccine*: Saudi Arabia also requires proof of polio immunization with oral polio vaccine (OPV) for certain travelers.
 - See “Polio” and “Hajj Travelers” in the *Travax Medical Library* for additional information.

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

- Cholera vaccine is not recommended for most travelers because of the brief and incomplete immunity it confers and the low risk of cholera to most travelers.
- Cholera vaccine is not officially required by any country, but “unofficial” requirements might be in effect in certain destinations. Consult *Travax* for up-to-date guidelines.

Other biologics:

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

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

Ordering vaccines and medications: Clinics that are new or that have a low patient volume should order only what is needed for a 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.

Pharmaceutical suppliers: Facilities may choose to deal with a wholesaler or directly with the pharmaceutical distributors. Verify vaccine delivery time with the supplier. Delivery times should be agreed upon by both the distributor and facility in order to maintain the cold chain required to guarantee vaccine viability. The usual time from ordering to delivery is about 1-4 business days. See “Manufacturers and Distributors” in the *Travax Medical Library*.

Vaccine shortages: Up-to-date information on vaccine shortages or backorders/delays can be found in the *Travax Medical Library* under “Vaccine Supply Shortages.”

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 Medical Library* and the CDC “Pink Book” (*Epidemiology and Prevention of Vaccine Preventable Diseases*).

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

Refusal of recommendation: Always document patient refusal of immunizations or prescriptions.

DRUG STOCK

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

Examples of some prescription medications used for travelers:

- **traveler’s diarrhea:** quinolones (ciprofloxacin, norfloxacin, ofloxacin, levofloxacin), azithromycin, rifaximin, tinidazole (available in the U.S. as Tindamax)
- **altitude illness:** acetazolamide (Diamox), dexamethasone (Decadron), nifedipine (Procardia; Adalat)
- **antimalarials:** chloroquine (prophylaxis), mefloquine (prophylaxis), atovaquone/proguanil (prophylaxis or standby emergency treatment [SBET]), doxycycline (prophylaxis), co-artemether or Coartem (SBET)

MARKETING

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

GOAL SETTING

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

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

RESEARCH

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

Define the geographic and demographic target audience. If the travel clinic is the only one in the metropolitan area, its target audience will include the entire region, plus all population centers within a reasonable distance.

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 segments of the population and groups associated with educational institutions. This group can be reached through mass media promotions, direct mail, referrals, and the Internet.
- **Student travelers:** These travelers are especially in need of travel medicine specialists because they plan long trips on tight budgets. Contact student health services in boarding schools and colleges and reach students through media promotions, direct mail, or referrals.
- **Travel agents:** Most international travelers have some contact with a travel agent, offering an opportunity to recommend a visit to the travel medicine clinic or share promotional materials. Some agents may be reluctant to broach the topic of travel health out of fear of dissuading their clients from traveling. However, most travel agents will welcome a source for handling their clients' health concerns, especially if the travel medicine specialist shows that the goals are the same: to ensure that international travelers have safe trips. Contact this group through personal visits, phone calls, speeches to travel agent organizations, or direct mail.
- **Corporate travel directors:** Because an employee's health is a major concern when planning overseas business travel, many corporate travel directors will be relieved to have a resource for all of the health services and information their employees need. This group also becomes an important referral source for new and repeat travelers. Contact them through personal visits, phone calls, 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. Some, however, may view the travel clinic as competition. Travel medicine specialists must convey to these doctors 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 patient may be served best if referred to a resource for complete information and services. Even if the primary care provider chooses to administer the vaccinations, a consultation with a travel medicine specialist can be beneficial. Contact this group through personal visits, phone calls, or direct mail.
- **Specialty retail outlets:** Stores and businesses frequented by international travelers may be willing to display brochures or posters or include promotional inserts in billings and other mailings as a service to their customers. Consider businesses such as stores selling luggage or camping equipment, photographers or passport photo counters, and banks issuing traveler's checks. Contact these groups with personal visits, phone calls, or direct mail.

ACTIONS

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

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

Direct mail: Direct mail is particularly successful in reaching prospective clients and referral sources. This marketing technique can be narrowly targeted and has a personal appeal rather than the mass approach of a newspaper ad.

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

Press releases: Articles in local newspapers and magazines or appearing on local news can generate a tremendous response and automatically gives the clinic name recognition. Press releases are also a common, inexpensive, and effective way to convey information.

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

Internet: Set up a clinic website; clinics may also be listed with Shoreland, ISTM, and other travel medicine resources.

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

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

Public speaking: One of the least expensive and most effective ways to reach the target audience is to deliver the message about travel medicine in person. International travel is a topic that appeals to most groups, particularly older citizens who have both the resources to travel and a growing concern about health. Consider speaking to churches, especially those organizing travel groups; college-organized tour groups, such as foreign language clubs and alumni groups; high school exchange groups (invite parents, too); parent-teacher organizations; senior citizens groups; community service organizations; and professional organizations for health care providers.

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

Timeline: Use the following timeline to create a splash for the clinic's grand opening or to reintroduce the established clinic to the public.

- one month before the clinic opens
 - Identify the target clinic audience.
 - Contact key travel agents and corporate travel directors with letters announcing the opening and follow up with phone calls.
 - Announce the opening date and details in hospital internal and external publications.
 - Send a proposal for a travel health question-and-answer column to a selected local newspaper.
- one week before the clinic opens
 - Ensure a staff member is available to answer the publicized phone number.
 - Distribute the first press release announcing the clinic's opening.
 - Distribute introductory letters and a patient information brochure to travel agents, corporate travel directors, and primary care providers.
 - Call appropriate retail outlets to see if they will display or distribute clinic brochures.
 - Supply clinic brochures to sites where community information is displayed (e.g., airport and shopping mall information counters, libraries, educational institutions, visitors' bureau information centers).
- week of the clinic opening
 - If using print advertising, run an ad in the community's major newspaper.
 - Hold a "dry run" open house for travel agents and press members. This will give the staff the opportunity to practice serving clients and will give excellent exposure to these important groups. Ensure enough promotional brochures and ticket stuffers are available for travel agents to take back to their offices.

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

- Participate in new employee orientation sessions, write a paragraph in the employee handbook, or distribute a brochure in new employee packets. Let everyone know that travel health is more than just immunizations.

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

TRAVELER EDUCATION

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

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

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

The booklet *Travel Health Companion* (available from Shoreland) and the Guided Overview in the Medical Library are convenient guides that help acquaint travelers with basic issues in international travel. They provide summaries of food- and insect-borne diseases, common travel-related ailments, preventive measures, and treatment suggestions. These resources will help travelers recognize a wide variety of travel-related health problems and offer practical advice on issues such as street and hotel safety, modes of transportation, and traveling with children. A series of useful charts and checklists is also included.

RESOURCES

PUBLICATIONS AND REFERENCE BOOKS

- Beers MH, editor. *The Merck Manual of Diagnosis and Therapy*. 18th edition. Rahway NJ: Merck & Co., Inc., www.merck.com/mmpe/index.html.
- Committee to Advise on Tropical Medicine and Travel, Public Health Agency of Canada. Canada Communicable Disease Report: *Guidelines for the Practice of Travel Medicine*. Vol 35 (ACS-8). December 2009.
- Cook GC, ed. *Manson's Tropical Diseases*. 22nd edition. Philadelphia, PA: W.B. Saunders Co., 2008.
- Hill DR, et al. The Practice of Travel Medicine: Guidelines by the Infectious Diseases Society of America. *CID* (43): 1499 ff. December 14, 2006. www.journals.uchicago.edu/doi/pdf/10.1086/508782.

- Dupont H, Steffen R, eds. *Textbook of Travel Medicine and Health*. Hamilton, Ontario: B.C. Decker, Inc., 2001.
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- Jong EC, Sanford C, eds. *Travel and Tropical Medicine Manual*. 4th edition. Philadelphia, PA: W.B. Saunders Co., 2008.
- Peters W, Pasvol G, eds. *Atlas of Tropical Medicine and Parasitology*. 6th edition. Elsevier Mosby, London, 2007.
- Plotkin SA, Orenstein WA, Offit PA, eds. *Vaccines*. 5th edition. Elsevier, 2008.
- Rose SR, Keystone J. *International Travel Health Guide*. 2010. www.travmed.com/health_guide.htm.
- Wilson-Howarth J. *Bugs, Bites, and Bowels: Travel Health*. 5th edition. London: Cadogan Books; Old Saybrook, CT: Globe Pequot Press, 2009.
- Keystone Jay R, et al. *Travel Medicine*. 2nd edition. Philadelphia, PA: Mosby Elsevier, 2008.

ONLINE TRAVEL MEDICINE RESOURCES

- American Society of Tropical Medicine & Hygiene: www.astmh.org
- CDC: www.cdc.gov/travel/index.html
- *Epidemiology and Prevention of Vaccine-Preventable Diseases (The Pink Book)* www.cdc.gov/vaccines/pubs/pinkbook/default.htm
- *Health Information for International Travel (The Yellow Book)* www.cdc.gov/travel/contentYellowBook.aspx
- *Morbidity and Mortality Weekly Report* www.cdc.gov/mmwr
- GIDEON (Global Infectious Disease and Epidemiology Online): www.gideononline.com
- Health Canada (Canadian Health Network): www.hc-sc.gc.ca
- International Association for Medical Assistance to Travelers: www.iamat.net
- International Society of Travel Medicine (ISTM): www.istm.org
- Pan American health Organization: www.paho.org
- Shoreland Travel Health Online: www.tripprep.com
- Shoreland: www.shoreland.com
 - Travax is a subscription-based travel medicine resource published by Shoreland, Inc., providing travel medicine information for health care professionals.
 - *Travel and Routine Immunizations: A Practical Guide for the Medical Office ("The Blue Book")*.
- U.K. National Travel Health Network and Centre: www.nathnac.org/travel/index.htm
- USDOS Consular Affairs: travel.state.gov
- World Health Organization (WHO) www.who.int/en; www.who.int/publications/en
- *International Travel and Health (The "Green Book")*, published annually: www.who.int/ith/en/index.html
- *International Health Regulations*: www.who.int/csr/ihr/en/index.html
- *Weekly Epidemiological Record*: www.who.int/wer/en/index.html

PERIODICALS

- | | |
|--|---|
| • <i>AAOHN Journal</i> | • <i>Journal of Travel Medicine</i> |
| • <i>American Journal of Tropical Medicine & Hygiene</i> | • <i>Lancet</i> |
| • <i>British Medical Journal</i> | • <i>Lancet Infectious Diseases</i> |
| • <i>Bulletin of the World Health Organization</i> | • <i>Morbidity and Mortality Weekly Report (MMWR)</i> |
| • <i>Clinical Infectious Diseases</i> | • <i>New England Journal of Medicine</i> |
| • <i>Current Opinion in Infectious Disease</i> | • <i>Nurse Practitioner</i> |
| • <i>Emerging Infectious Disease</i> | • <i>Transactions of the Royal Society of Tropical Medicine and Hygiene</i> |
| • <i>Eurosurveillance Weekly & Monthly</i> | • <i>Tropical Medicine & International Health</i> |
| • <i>Infectious Disease Clinics of North America</i> | • <i>Vaccine</i> |
| • <i>International Journal of Infectious Diseases</i> | • <i>Weekly Epidemiological Record</i> |
| • <i>JAMA</i> | |
| • <i>Journal of Infectious Diseases</i> | |

SEARCHABLE DATABASES

- Cumulative Index to Nursing and Allied Health Literature: www.ebscohost.com/cinahl
- Government publications: www.access.gpo.gov
- Medline: <http://medlineplus.gov>
- PubMed: www.ncbi.nlm.nih.gov/sites/entrez

LISTSERVS

- malaria: email listserv@wehi.edu.au; to subscribe, write in the text body (not in the message's subject line): subscribe malaria (your name)
- ProMED (Program for Monitoring Emerging Diseases): www.isid.org/promedmail/subscribe.lasso
- TRAVELMED-ISTM Listserv: subscribe via the "Members Only" section of the ISTM website (www.istm.org)

INSTITUTION-BASED RESOURCES

ACIP: www.cdc.gov/vaccines/recs/acip
American Academy of Pediatrics: www.aap.org
American College of Physicians: www.acponline.org
American Public Health Association: www.apha.org
American College of Obstetricians and Gynecologists: www.acog.org
American Society of Tropical Medicine and Hygiene: www.astmh.org
Canadian Communicable Disease Report: www.phac-aspc.gc.ca/publicat/ccdr-rmtc
CDC: www.cdc.gov/travel/index.html
Eurosurveillance Weekly & Monthly: www.eurosurveillance.org
FDA: www.fda.gov
Immunization Action Coalition: www.vaccineinformation.org
Infectious Diseases Society of America: www.idsociety.org
Pan American Health Organization: www.paho.org
Public Health Agency of Canada: www.phac-aspc.gc.ca/tmp-pmv/index-eng.php
Shoreland, Inc.: www.shoreland.com
U.S. Department of Health and Human Services: www.hhs.gov
Vaccine Adverse Event Reporting System: www.vaers.hhs.gov
U.S. Department of State, Bureau of Consular Affairs: <http://travel.state.gov>
Wilderness Medical Society: www.wms.org
World Health Organization (WHO): www.who.int/en

POLICIES AND PROCEDURES

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

After-hours care

- Policy: The travel clinic will establish and maintain a system whereby patients can access care when the office is closed.
- Purpose: To ensure that all travel clinic patients have knowledge of and access to after-hours medical care.

Travel clinic refrigerator (*See also "Storage and Handling" in the Travax Medical Library.*)

- Policy: Set guidelines for choosing and maintaining the travel clinic refrigerator.
- Purpose: Ensure proper storage of vaccines in the travel clinic refrigerator and avoid loss due to compromised or outdated stock.

Educating the traveler on prevention of food- and water-borne diseases

- Policy: Teach the approaches to the prevention of diseases caused by contaminated food and drink: food and beverage consumption, immunization, use of non-antimicrobial medications, and prophylactic antimicrobial drugs.
- Purpose: This policy and procedure will provide the travel health clinician with patient teaching guidelines and educate at-risk patients about self-care measures they can use to prevent food- and water-borne diseases.

FORMS

This section describes forms that may be helpful in the travel medicine clinic. A few sample forms are provided, which can be revised for use in individual travel medicine clinics.

Telephone triage form: The first telephone contact with patients can be critical. It will ensure that all of the necessary questions are asked, answered, and documented during the first call from a traveler. Include such things as contact date,

traveler's name and complete contact information, itinerary (countries in chronological order and locales/activities), departure date, length of stay, type of trip, appointment date and time, etc.

Patient questionnaire: To efficiently gather information about the patient before the appointment, create a form that can be mailed, faxed, or e-mailed to the patient to complete and bring to his or her appointment. An adaptable patient questionnaire is also available in the Travax Medical Library under "Forms."

The example below is for the first pre-trip appointment.

Please fill out this form and bring it to your Travel Clinic appointment.		
Bring all immunization records. (Check with previous health care providers if necessary.)		
Name:	Date of birth:	Sex: M/F
Address:	Tel:	
Indicate which diseases and vaccinations you have had, with dates, if possible.		
Disease	Have you had this disease? (Y/N & date)	Had you had these vaccines? (Y/N & dates)
Measles (rubeola)		
Mumps		
Rubella (German measles)		
Chicken pox (varicella)		
Have you had: <ul style="list-style-type: none"> • at least 3 doses tetanus/diphtheria vaccine (DTaP, DT, Td, Tdap) at any time in your life? • 1 dose of Tdap (if 7 years and older)? <ul style="list-style-type: none"> ○ date of last tetanus/diphtheria shot (Td or Tdap) • at least 3 doses of polio vaccine, including childhood doses? <ul style="list-style-type: none"> ○ date of last dose of polio vaccine 	Yes / No Yes / No _____ Yes / No _____	
Circle any of the following that you are allergic to:		
eggs thimerosal sulfa neomycin streptomycin bee stings		
Other allergies:		
Are you currently being treated for cancer? Yes / No		
Do you have a deficiency of the immune system? Yes / No		
Do you have any existing medical conditions , such as diabetes, heart disease, or lung disease?		
Please explain:		
List all medications you are currently taking, either prescription or over-the-counter:		

YOUR TRAVEL PLANS: <i>Bring complete details of itinerary to appointment.</i>	
Date of departure:	Length of trip:
List the countries you will travel to, in order of travel, and length of stay in each country.	
Is your travel to: urban areas? rural areas? urban and rural areas? (Please circle one.)	
What is the reason for travel (pleasure, business, medical work, etc.)?	
Business name and address:	
How did you hear about our services?	
WOMEN:	
Are you pregnant, suspect you may be pregnant, or trying to become pregnant? Yes / No	
If pregnant, how many weeks?	
Are you breastfeeding? Yes / No	
Do you have any special concerns or questions?	

Charting (work-up) forms: Use these forms to record specialized information such as patient health and immunization history, care plan, immunizations given, and consent forms.

Sample work-up form 1

TRAVEL WORK-UP FORM			
Name:		MR#:	
Itinerary:			
Date of departure:		Length of trip:	
Purpose of trip:		Urban / Rural / Both	
Additions to health history:	History of seizures?	Psych problem?	History of psoriasis?
Summary of immunization history:			
DTaP/Td/ series completed? Yes / No		Date/type of most recent booster (Td or Tdap):	
1 dose of Tdap? Yes / No			
Polio series completed? Yes / No		Adult polio booster date:	
MMR/Varicella disease history:			
Measles	Mumps	Rubella	Varicella
HIB dates:			
Hepatitis A	#1	#2	
Immune globulin:			

Hepatitis B	#1	#2	#3	#4
Typhoid			Ty21a or Typhim Vi?	
Rabies	#1	#2	#3	Booster
J. encephalitis		#1	#2	Booster
Yellow Fever	Meningococcal (MCV4 or MPSV)	Cholera	Flu	Pneumococcal
Rx taken in past for Malaria:				
Side effects:				
Plan:				
Chloroquine #			Mefloquine #	
Doxycycline #			Malarone #	
Antibiotic:				
Other medication:				
Rx called to:				
Teaching checklist: (date done)			Done previously	Brief review
Handouts given to the patient — mark all that apply				
General information	Checklist/what to take	Air travel/jet lag	Altitude illness	Cholera
Food/water concerns	Dengue fever	Diabetes issues	Diarrhea TX & SEs	Hotel safety
Insect precautions	Japanese encephalitis	Malaria Rx information	Marine issues	Pregnancy issues
Rabies	Safety issues/STDs	Schistosomiasis	Country handouts	Other
Vaccine Information Statements:				
Cholera	Flu	Hepatitis A	Hepatitis B	DTaP/DT
J. encephalitis	Measles	Meningococcal	MMR	Oral typhoid
Pneumococcal	Polio	Rabies	Td/Tdap	Typhoid
Yellow fever			Other	
Additional notes:				
Work-up prepared by:			MD approval	

PATIENT HANDOUTS

- **Topic handouts:** See previous section for information on traveler handouts available in the Travax Medical Library.
- **Country information:** Printed country-specific information and recommendations from Travax (see *Destinations*) and Report Builder.
- **Travel Health Companion** -- Shoreland: See *Traveler Education*.
- **Document checklist:** A document checklist is provided in the *Travel Health Companion* and "Guided Overview" in the Travax Medical Library.
- **Trip Kit checklist:** A checklist for first aid and other items is available in the *Travel Health Companion* booklet and in the Guided Overview in the Travax Medical Library. Items could include first aid supplies, antimotility medications, antihistamines, antibacterial wipes and hand sanitizer, insect repellent with DEET or picaridin, sunscreen, pain relievers, etc.

THE PRE-TRAVEL CONSULT

These elements should be covered in patient encounters, although not all elements will be applicable to destinations outside the developing world.

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

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 pre-travel recommendations based on those needs. They should not be taken as applicable to all travelers. Each traveler situation must be evaluated individually.

Cases studies are also available to members of ISTM (see "*Expert Opinions in Travel Medicine*"). The Expert Opinions present a pre- or post-travel situation discussed by an invited ISTM member with expertise in that topic.

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

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

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

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

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

Medical history

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

- Is the patient in good health? If not, what are the patient's health problems?
- Does he take any medications?
- Does he have any allergies to medications?

- Does he have any history of seizures, psychiatric problems, or heart conduction abnormalities? (This is a challenge when working with patients who are non-native language speakers.)

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

Immunization and disease history

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

- Did he receive any immunizations while growing up?
- Did his school give medications and immunizations?
- Did he receive any immunizations prior to arrival in the U.S.?
- Did he receive any immunizations when he immigrated?
- If the patient is sure he had tetanus shots and polio vaccine growing up, when was his last Td? Has he ever had 1 dose of Tdap?
- Has he had any emergency visits to the hospital for lacerations? (If so, it is possible that a dose of tetanus/diphtheria was given.)
- Has he returned to Ethiopia before or traveled to other foreign countries, and did he have any immunizations before those trips? Does he have an immunization record book anywhere? (Show him a WHO *International Certificate of Vaccination* booklet.)
- Did he have the usual childhood diseases (e.g., measles, mumps, rubella, chickenpox)? It is often necessary to describe the diseases, including manual or drawn descriptions because of difficulties with translation.

See table below for recommendations based on this traveler's immunization history and destination.

Recommendations for this traveler

Immunizations

Vaccine	Recommended	Comments
Cholera	No	Vaccine not available in U.S., and is only recommended for aid and refugee workers in this country.
Hepatitis A	No	Probably unnecessary; likely immune due to childhood exposure. Could offer 1 dose hepatitis A vaccine (or IG if available) before travel, or perform antibody screening.
Hepatitis B	Yes	While the normal schedule (0, 1, 6 months) cannot be used due to time constraints, an acceptable accelerated schedule (0, 7, 21 days + return in 6 months for booster dose) can be used for persons traveling to endemic areas on short notice.
Influenza	Yes	Recommended for all travelers. He has not received flu vaccine this year.
MMR	No	States he had these diseases as a child.
Meningococcal	Yes	Recommended for all travelers to Ethiopia throughout the year, especially if prolonged contact with the local populace is anticipated.
Polio	Yes (booster)	States he has had primary series as a child but not an adult dose.

Rabies preexposure series	Yes	Risk of rabies is presumed to occur in most parts of the country; patient will be traveling widely over a 2-month time period, so vaccine is indicated.
Td/Tdap	Yes (Tdap)	States he completed primary series as a child but has not had a dose of Tdap.
Typhoid	Yes	Recommended for all travelers on this itinerary. May be preferable to give the injectable vaccine due to potential language difficulties explaining dosing for oral vaccine.
Varicella	No	States he had chickenpox as a child.
Yellow fever	Yes	Recommended for health protection of all travelers over 9 months of age for all areas (including Addis Ababa) except the provinces of Afar and Somali. This patient will be traveling widely so vaccine is indicated.

Malaria

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

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

Traveler's diarrhea

High risk exists throughout the country.

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

Other recommendations

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

Dengue: Low risk. Daytime insect precautions are recommended.

Leishmaniasis occurs. Evening and nighttime insect precautions are recommended.

Schistosomiasis presents significant risk. Avoid freshwater exposure.

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

Traveler Education

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

- Family in his home country will not be taking antimalarial medication, so it is important to explain that any immunity he may have developed while growing up will have been lost during the years in the U.S. He should be advised not to stop the medication, even if family and/or friends try to pressure him.
- Mosquito precautions are essential. The importance of using insect repellents, mosquito nets (if available), and protective clothing should be stressed.

- Great care should be taken with food and water concerns. The patient should be reminded that his immunity to the local bacteria has also waned while he has been away. He should drink only safe beverages (such as boiled, treated, or pre-bottled, carbonated water) and stick to hot, cooked foods. Tactfully discuss the difficulties in choosing foods while eating with friends and family.
- Explain how to deal with illness abroad, what to do if he is ill or if bitten by a dog, and review self-treatment for diarrhea and malaria.

Conclusion

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

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

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

All travel health professionals eventually encounter the challenge of the traveler with no set itinerary. Travelers such as Dave seek care in many different travel health settings. College health clinics often see students with open-ended travel plans. Certain well-recognized occupational groups, including the international press, disaster relief workers, and global couriers, often travel without definitive itineraries. The newly married and the newly retired are others who may travel with some spontaneity built into their trip plans.

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

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

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

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

- What is the final itinerary?
- In terms of priority, what are the highest health risk destinations and activities of this trip?

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

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

Recommendations for this traveler

Immunizations

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

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

Vaccine	Recommended	Comments
Cholera	No	Vaccine not available in U.S.; recommended only for aid and refugee workers.
Hepatitis A	Yes	Recommended for all travelers. Give Hep A/B on days 0, 7, and 21. Instruct traveler to return in 12 months for booster dose. While the normal schedule cannot be used due to time constraints, an acceptable accelerated schedule to protect against hepatitis B (as well as hepatitis A) can be used for persons traveling to endemic areas on short notice.
Hepatitis B	Yes	See above.

Influenza	Yes	Recommended for all travelers. He has not had influenza vaccine this season.
Japanese encephalitis	Yes	Risk exists in several of his potential destinations. Give 2 doses (days 0 and 28). Instruct traveler that the second dose will not be able to be given 1 week before possible exposure, so strict insect precautions are necessary.
MMR	No	Had 2 doses MMR as a child. (Childhood immunization records provided by mother.)
Meningococcal	No	Not in risk area.
Polio	Yes (booster)	Had primary series as a child, but has not had a 1-time adult booster.
Rabies preexposure series	Yes	Risk exists in several potential destinations (e.g., Thailand, China, Vietnam, etc.). Since traveler does not know if he will always be within 24 hours of reliable source of HRIG and vaccine, he opts to receive rabies preexposure series for maximum preparedness.
Td/Tdap	Yes (Tdap)	Had primary series. Has not had 1 dose of Tdap.
TBE	No	Only recommended for travelers with prolonged stays participating in outdoor activities in certain areas of China and Japan. Traveler instructed to practice tick precautions.
Typhoid	Yes	Recommended for all travelers to several of his potential destinations.
Varicella	No	Had chickenpox as a child.
Yellow fever	No	Not required for entry or recommended for protection on this itinerary.

Malaria

Chemoprophylaxis choice

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

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

Chemoprophylaxis supply:

- Address the issue of medication purchase.
- Discuss the pros and cons of waiting to buy medications abroad.
 - Pros: The medication is purchased only if needed, eliminating the need for storage. Medication prices vary between countries and may be less expensive abroad.
 - Cons: The medication may not be available when needed, quality may be questionable, or language conflicts may occur.

- Dave chose to purchase enough antimalarial to last for the entire trip and was also given names of clinics where he might obtain additional supplies, if needed.

Medication schedule and compliance:

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

Review mosquito precautions:

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

Self-treatment:

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

Traveler's diarrhea

Risk exists in most of his potential destinations.

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

Other recommendations

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

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

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

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

Monkey bites occur among tourists. Monkeys may transmit a number of diseases, including rabies and herpes B. Avoid feeding monkeys; if bitten, immediately soak and scrub the bite for at least 15 minutes, and seek urgent medical consultation.

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

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

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

Traveler Education

- **Updated information:** Especially for this type of traveler, reiterate the changing nature of travel health risks and recommendations. Encourage the client to check in with U.S. consulates and get regular updates on health conditions and travelers' advisories for the next destination.
- **Paper trail:** For safety's sake, remind the traveler to always keep someone at home informed of his whereabouts and next destination. Recommend that he leave copies of all important papers with that contact person to allow for emergency replacement.
- **Post-travel:** Recommend a post-trip assessment visit. Advise the client to seek care upon return if 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 knew from his consultation to update his pre-travel care before flying into Madras. Dave was sick a few times and used just about everything in his medical kit, but his post-trip exam at 7 weeks was normal.

Conclusion

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

CASE 3: A FAMILY AFFAIR: COORDINATING CARE DELIVERY

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

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

Immunization and disease history

	Td/Tdap DTP/DTaP	Last dose Td/Tdap/DTaP	Hib	Polio	MMR	Varicella	Hep B	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
Immunizations

Assess need to update routine immunizations or for necessary travel vaccines (*see table below*). (*Also see Shoreland's Travel & Routine Immunizations for routine and accelerated schedules for children.*)

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

Travel vaccines	Recommended?	Comments
Hepatitis A	Yes – for all	No one in the family has had this vaccine. Recommended for all since they probably will travel again and will want the long-term protection. In addition, hepatitis A is a routine vaccination for young children, with first dose usually given at age 12-15 months. 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 employed.
Varicella	Consider giving second dose to 18-month-old	Second dose may be given 3 months after first dose.
Yellow fever	Yes – for all	Recommended for health protection when traveling in rural risk areas in the southern part of the country.

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

Malaria

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

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

Traveler’s diarrhea

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

Other recommendations

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

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

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

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

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

Traveler education

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

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

Conclusion

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