Health Disparities among Travelers Visiting Friends and Relatives Abroad

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For an estimated 10 million trips abroad by U.S. residents in 2002, “visiting friends and relatives” (VFR) was a purpose for travel. Made up largely of foreign-born U.S. residents and their children, this population shows disparities in the number of reported cases of many preventable travel-related illnesses compared with people who travel for other purposes, such as tourism. High-risk illnesses in VFR travelers include childhood vaccine-preventable illnesses, hepatitis A and B, tuberculosis, malaria, and typhoid fever. Gaps in the prevalence of disease and access to care both between countries and within the United States uniquely influence disease risk in this population of travelers. We describe this population, a framework for understanding travel-related health disparities, and recommendations for improving the effective delivery of preventive travel-related care to VFR travelers. In addition to transnational efforts to control and eradicate disease, preventing illness in U.S. resident VFR travelers requires focused efforts to remove barriers to their care. In the United States, barriers exist at the systems level (for example, low insurance coverage), patient level (for example, misperception of disease risk), and provider level (for example, inadequate knowledge of travel medicine).


WHO ARE VFR TRAVELERS?

U.S. residents who travel to visit friends and family abroad largely consist of foreign-born persons and their U.S.-born children. This group now totals 56 million people, or one fifth of the U.S. population (Figure). Over 70% of the U.S. foreign-born are concentrated in 6 states (California, New York, Florida, Texas, New Jersey, and Illinois) (12); however, their presence is also increasingly evident across U.S. rural and urban communities (13). Nationally, the foreign-born make up over 10% of the population, although urban areas vary in their composition. For example, 60% of Miami, Florida, residents are foreign-born compared with only 3.2% of Toledo, Ohio, residents (14).

WHERE DO VFR TRAVELERS GO?

Destinations of VFR travelers reflect the travelers’ individual or family origin. Most U.S. immigrants now come from developing countries. More than half of U.S. foreign-born residents are from Latin America, and one quarter are from Asia (12). In 2002, the top 5 sources of legal immigrants were Mexico, India, China, the Philippines, and Vietnam (15).
The circumstances that lead to initial U.S. immigration influence the likelihood of return travel to countries of origin. While earlier immigrant waves were largely due to inhospitable conditions at home (so-called push factors), the most recent wave is more strongly attracted by opportunities in the United States (so-called pull factors). The latter includes employment or family reunification. In 2002, just over 1 million people were granted lawful permanent resident status in the United States. Sixty-three percent received family sponsorship, while 16% entered because of employment preferences. Only 12% were refugees or asylees (15). With increasingly affordable air travel and fewer socioeconomic and political obstacles, these New Americans and their families may be more likely to return to visit their country of origin—although not without potential health consequences.

What Are VFR Traveler Risks While Abroad?

U.S. residents en route to a developing country traverse more than just a national border. They cross the health care divide to destinations characterized by disproportionately limited resources for public health and sanitation when compared with the United States. Because of characteristics associated with their travel, VFR travelers going to developing countries are commonly considered at higher risk for illness than tourists going to those countries (16). They may go to more rural destinations, stay away for long periods, and make return visits (4, 5, 17). Sleeping accommodations may not include window screens or bed nets (18, 19). While staying with family members, they may have less control over their diet and be more likely to drink untreated water and eat uncooked foods. They may spend increased time in crowded living conditions and in markets, and may have sexual contact with local residents. They may use local medical and dental services for the treatment of acute and chronic illness, as well as for special procedures not available or unaffordable in the United States, such as plastic surgery. By approximating the living conditions of the local community, these behaviors increase VFR travelers’ risk for disease exposure to a level similar to that of the local population in the developing country. Yet, to conclude that increased risk for infection is merely a function of VFR travel characteristics would be to simplify a more complex pattern of risk distribution. We have the means to prevent most travel-related illnesses reported in VFR travelers, so why are we not effectively reaching this population? Prevalence gaps in disease and disparities in access to care exist not only across countries but also within countries.

Context for Disparities in Predeparture Care Delivery

Consider the socioeconomic status of potential VFR travelers. Although heterogeneity exists, foreign-born residents of the United States have higher rates of poverty and lower levels of formal education than the U.S. native-born. For example, among Latin American immigrants, the largest subgroup of the U.S. foreign-born residents, half of those older than 25 years of age had less than a high school education in 2000, and more than one fifth lived in poverty during 1999. In comparison, 13% of U.S. native-born residents older than 25 years of age had less than a high school education in 2000, and more than one fifth lived in poverty during 1999. In comparison, 13% of U.S. native-born residents older than 25 years of age had less than a high school education in 2000, and more than one fifth lived in poverty during 1999.

Figure. Foreign-born U.S. population, 1850–2000.
school education, and only one tenth lived in poverty. (12). In the United States, most foreign-born residents and their children are of minority race or ethnicity. These factors are associated with higher rates of morbidity and lower levels of access to and utilization of many general and specialty services (20, 21). Travel-related care appears to be no exception.

**WHAT ARE THE SYSTEMS-LEVEL BARRIERS TO PREDEPARTURE CARE?**

Barriers to care for VFR travelers exist at all levels. At a systems level, low rates of insurance coverage are important. Travel clinic visits are often considered “nonessential care” and are not typically covered by general health insurance. A visit to a primary care provider for select immunizations and travel advice, however, is often covered, although this may vary by state. For resource-restricted travelers, this may be their only source of travel-related care. Yet, only about 50% of foreign-born persons residing in the United States for less than 10 years have insurance coverage (12). Foreign-born adults are twice as likely as U.S.-born adults to be uninsured (22, 23). As a subgroup, children with foreign-born parents also have lower rates of insurance than U.S.-born children (24), especially children who are foreign-born themselves (25). Lower rates of insurance coverage translate into lower levels of access to travel-related care.

Even when specialty travel care is accessible, it may not be optimal for VFR travelers. Travel medicine clinics and care have evolved largely around the tourist industry. Such free-standing clinics are often not integrated into the patient’s longitudinal health care services. As a result, primary care provider access to travel-related records to assure that immunizations are up to date and to facilitate the exchange of other important information, such as adverse drug reactions and travel-related illnesses, can be delayed.

Separate medical records are especially problematic when VFR travel is frequent or regular or occurs at the last minute (for example, in the case of a family emergency).

Another systems-level contributor is incomplete routine childhood immunization coverage. In the United States, routinely administered vaccinations include those against diphtheria, pertussis, tetanus, poliovirus, measles, mumps, rubella, pneumococcal and *Haemophilus influenzae* type B pneumonia, varicella, hepatitis B (26), and sometimes hepatitis A (27). With the exception of varicella, the rates of all of these diseases are higher in developing countries. Herd immunity provides some protection to nonimmune individuals while they are in the United States; however, that protection is lost when a susceptible traveler enters a country with high disease prevalence.

Routinely recommended vaccinations become a cornerstone of basic travel medicine. Yet compared with U.S.-born children, foreign-born children have lower rates of immunization for hepatitis B (74% in foreign-born compared with 90% in U.S.-born); *Haemophilus influenzae* type B pneumonia (87% compared with 95%); and diphtheria, pertussis, and tetanus (76% compared with 83%) (28). Disparities in coverage do not resolve with U.S. nativity in later generations. Immunization rates in U.S. Latinos as a group are lower than those in nonminority white persons (29, 30).

For non-U.S. citizens, varying requirements at the time of entry into the United States contribute to under-vaccination. For example, those with refugee status can enter the United States without providing documentation of immunizations. Proof of complete age-appropriate vaccinations is required for all non–U.S. citizens at the time of application for lawful permanent U.S. resident status—a process that may begin after an individual has already resided in the United States (31). Even when vaccinations required for permanent status application are received, existing policies do not capture all those who may be at risk through postimmigration travel. Since September 1996, hepatitis B vaccination has been required only in people 19 years of age or younger applying for permanent resident status. As a result, large populations of adults and those who became permanent residents before 1996 may remain susceptible to this infection during travel. In sum, potential VFR travelers are less likely to have received complete routine immunizations than are travelers for other purposes.

While systems-level barriers contribute to disparities in VFR traveler health outcomes, they do not fully explain the differences. Countries with universal access and with more comprehensive safety nets (such as the United Kingdom, France, Italy, and Australia) also report higher rates of specific illness in VFR travelers (7, 32, 33). Other barriers exist at the patient–traveler and provider level.

**WHAT ARE THE TRAVELER-LEVEL BARRIERS TO PREDEPARTURE CARE?**

VFR travelers perceive less personal risk or threat from travel-related disease than tourists, probably a result of VFR travelers’ cultural and geographic familiarity with the destination country and its endemic diseases. Researchers conducting a qualitative study of Nigerian VFR travelers in Houston, Texas, asked participants about their perception of malaria in Nigeria. Although the respondents believed themselves susceptible, they did not consider malaria a severe illness. Malaria was described as “normal,” “expected,” and “like the flu” (34).

VFR travelers are less likely to seek travel-related medical care and are less likely to adhere to recommended medications and travel precautions, associated in many studies with low perception of personal risk for disease (18, 34–37). A survey of migrants in an Italian public health clinic found that 70% of VFR travelers knew of malaria in their country of origin. Of those who visited their country of origin in the previous year, 82% did not seek pretravel...
advice. Of the reasons listed for not seeking care, 52% did not perceive malaria as a personal risk (36).

**WHAT ARE THE PROVIDER-LEVEL BARRIERS TO PREDEPARTURE CARE?**

Because VFR travelers may be less likely to seek out travel-related care, providers can play an increasingly important role in assuring that care is delivered. However, there are many barriers at this level. Primary care physicians often have competing priorities for regular health care visits, and this probably decreases screening for frequent high-risk travel. Providers may also assume that a pattern of frequent travel means that travel-related health services have been previously provided. Even when travel care is delivered, several studies have demonstrated high rates of inappropriately prescribed medications (such as for malaria chemoprophylaxis) and vaccinations, suggesting inadequate training and knowledge in travel medicine (6, 17, 18, 34, 38).

Providers may also find guidelines for screening VFR travelers unclear when return trips to endemic areas are frequent and short-term. One such example is screening for tuberculosis. The tuberculin skin test is the recommended screening tool for latent infection. To decrease the likelihood of a false-positive finding and unnecessary drug treatment, CDC screening guidelines target specific high-risk populations. For example, all immigrants residing in the United States less than 5 years should have 1 tuberculin skin test (39). However, while evidence suggests that VFR travel may contribute to infection and disease (2–5, 40), there are no clear expert panel recommendations for continued screening in persons who travel repetitively for short visits to endemic regions.

In sum, VFR travel-related illnesses are largely preventable. In the United States, however, barriers to the effective delivery of these health services exist at the systems (for example, low insurance coverage), provider (for example, inadequate knowledge of travel medicine), and patient (for example, misperception of disease risk) levels.

**WHAT IS THE ROLE OF TRANSNATIONAL EFFORTS TO CONTROL ILLNESS?**

VFR travelers are the product of global economic, social, and political forces. Their transnational visits result in the repetitive physical interface of local communities across national borders. We would be remiss if we did not state the obvious cause of VFR traveler illness—the disproportionate burden of preventable illnesses in resource-poor countries. As such, the eradication of these diseases from all regions of the world is the solution. Such a discussion is beyond the scope of this paper; however, it is important to note the existence of international collaborative models in disease control that include the population of VFR travelers. One such example is the U.S.–Mexico Binational Tuberculosis Referral and Case Management Project. Led by the CDC and National Tuberculosis Program of Mexico, it includes the collaborative involvement of national, state, and local health authorities. Binational health cards with unique identification numbers and toll-free telephone numbers in the United States and Mexico are given to patients with tuberculosis who are receiving treatment. Through this information, card holders are linked to a network of providers, and providers are linked to critical medical information to ensure appropriate continuity of care for patients with tuberculosis on both sides of the United States–Mexican border. Such a model is ideal for U.S. resident VFR travelers who are receiving treatment for tuberculosis and who spend extended periods in Mexico (Laserson K. US-Mexico Binational Tuberculosis Referral and Case Management Project. International Union Against TB and Lung Disease North America Region Annual Meeting—Working Without Borders to Stop TB. Presented on 26 February 2004 in Austin, Texas). Eliminating global disease requires global effort. Current interventions should be applauded and encouraged, but they are not enough to prevent VFR traveler morbidity. Opportunities to improve VFR traveler health also exist within the United States.

**TAKING ACTION**

Removing barriers to VFR traveler care starts with focused research. Several large databases are tracking the global movement of infectious disease and its relationship with population migration. The databases vary by geographic region, institutional partnership, and disease. Some include VFR travel as a risk factor (for example, GeoSentinel, the global surveillance network of the CDC and the International Society of Travel Medicine) (41, 42). Still, the increased inclusion of travel-related information in general health databases and in case reports across all VFR travel-associated diseases is needed. To date, a detailed understanding of VFR traveler risk behavior and the ability to follow trends in rates across all high-risk illnesses as compared with tourists does not exist.

**WHAT CAN BE DONE TO INCREASE ACCESS?**

Current national efforts to eliminate racial and ethnic disparities in health are expected to improve access for these high-risk travelers. Efforts to increase provider cultural competency and address language barriers are especially important in this population. Special attention should be given to an important subgroup of VFR travelers, the foreign-born. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 prohibits legal U.S. immigrants living in the United States for less than 5 years from participating in specific federally funded programs, such as Medicaid (43). Although some restrictions have been lifted, the policy remains largely intact. Limiting coverage of care in this group of new immigrants
also acts as a barrier to their access of preventive travel-related services.

**HOW DO WE INCREASE THE DELIVERY OF VACCINATIONS AND TRAVEL-SPECIFIC MEDICATIONS?**

Even when public or privately funded coverage for general health care is available, specific travel-related services, such as typhoid fever immunization, hepatitis B vaccination in adults, and malaria chemoprophylaxis may be only variably included. In this high-risk population, resources saved by restricting coverage are probably offset by the costs of treating the resulting preventable diseases. Policies related to financing travel-related services for all high-risk travelers should be carefully evaluated. Immunization policies exempting large populations of refugees and long-term nonpermanent residents in the United States should be changed to increase routine vaccination coverage. Currently, the cost of immunizations falls on the individual (such as when an immigrant applies for legal permanent resident status) or on state or local resettlement projects (as in the case of refugees). Methods of financing immunizations for these groups may contribute to disparities and should be evaluated.

**HOW DO WE REORGANIZE SERVICE DELIVERY?**

Common models of travel medicine delivery for VFR travelers should be assessed for efficacy. Ideally, travel clinics should be close to or located within longitudinal care facilities. Information technology should provide rapid information exchange and facilitate access to travel-related records for primary care providers.

**HOW DO WE OVERCOME INDIVIDUAL-LEVEL BARRIERS?**

Travel medicine typically emphasizes disease risk in the destination country as individual motivation for seeking care and for adherence to recommendations. Having evolved largely around the tourist industry, this approach may not be as effective in VFR travelers who have preconceived health beliefs of low personal risk for illness while abroad and who represent a more culturally diverse population. The efficacy of current and alternative approaches to travel medicine counseling should be studied across VFR traveler populations. In regions with large immigrant populations, related community-based interventions will probably maximize impact.

**HOW SHOULD PRIMARY CARE PROVIDERS RESPOND?**

Providers in the primary care setting have a unique role in the global control of infectious disease through the delivery of travel-related care to VFR travelers. Because many VFR travelers may consider their travel “routine” and do not seek physician attention, attentive high-risk travel screening should occur in all patients, particularly those in large urban areas. Basic routine immunization records should be reviewed in adults, as well as in children, at their first primary care visit. In general, immunizations may be considered an investment toward the potential traveler’s future health, since most need not be repeated.

Enhanced travel-medicine training for the generalist is needed to assure delivery of high-quality care and appropriate referrals to specialists. Many excellent travel medicine resources are available in print and online (44, 45). Providers should refer to www.cdc.gov/travel for up-to-the-minute, country-specific travel recommendations and details on medications and vaccinations when counseling patients. For those who visit friends and relatives in developing countries, travel-related care becomes an important component of their primary care. The quality and content of the visit should reflect that need.

**PROTECTING TRAVELERS PROTECTS COMMUNITIES AT HOME AND ABROAD**

VFR travelers make up a large and growing number of travelers to developing regions of the world. The repetitive juxtaposition of disparate health care systems and an inequitable global burden of disease present new opportunities and challenges in disease control. Through addressing VFR travelers’ unique health risks, we not only protect individuals but may also potentially disrupt the cycle of transmission in communities on both sides of the border. We have the means to prevent most diseases for which VFR travelers are at increased risk. For this relatively marginalized population of travelers, opportunities in prevention depend on global efforts to eradicate and control disease and, importantly, on eliminating barriers to the effective delivery of U.S. resident VFR travel-related care at home.

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**Note:** This manuscript was completed while Dr. Angell was a fellow in the Robert Wood Johnson Clinical Scholars Program at the University of Michigan, Ann Arbor, Michigan.

**Acknowledgments:** The authors thank Sonya DeMonner, MPH, and Namrata Shah for their assistance with graphics and reference management and Ava Navin for critical review and editorial assistance.

**Grant Support:** By the Robert Wood Johnson Clinical Scholars Program.

**Potential Financial Conflicts of Interest:** None disclosed.

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APPENDIX: METHODS

We identified relevant studies by searching MEDLINE (1966 to August 2004) using disease-specific, population-specific, migration-related, and travel-related Medical Subject Heading terms and keywords alone and in combination. Relevant article bibliographies were then hand-searched. We reviewed U.S. Census Bureau and World Health Organization data and consulted Centers for Disease Control and Prevention experts for additional sources. We critically reviewed all studies and included data relevant to the population of travelers, travel-related disease prevalence, access to services, and related policy influencing traveler health.

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