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Review

Review

Improving access and provision of pre-travel healthcare for travellers visiting friends and relatives: a review of the evidence†

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Abstract

Background: Travellers visiting friends and relatives (VFR travellers) in their country of origin are at increased risk of a range of preventable infections. Risks are broadly related to circumstances of travel, risk misconceptions and access to health services. Despite nearly two decades of literature highlighting these increased risks little impact has been made on their risk disparity.

Methods: This review draws on evidence from travel medicine literature, supplemented by evidence from the broader field of immigrant health, and is structured to include strategies that aim to reduce barriers at the patient, provider and health system level.

Results: For the travel medicine provider, tailored risk communication that is cognisant of the unique health beliefs and barriers to travel health for VFR travellers is needed, including enhanced communication through the use of interpreters and supplementary written communication. Primary care providers are uniquely placed to identify future travel plans among immigrant patients, however, greater awareness of VFR traveller risks and training in travel medicine are required. Community health promotion interventions that are culturally appropriate, translated into multiple languages and takes into account the cumulative risk of multiple return visits are key to normalizing travel healthcare seeking behaviours and improving awareness of VFR travel risks. Currently, there are few examples of novel strategies to engage migrant communities in travel health with no formal evaluations of their effectiveness. Best practice includes the use of community-consulted approaches in collaboration with government, primary care and travel medicine.

Conclusions: Multifactorial barriers related to health beliefs and access to health services require a range of strategies and interventions in both reaching and providing advice to VFR travellers. To improve the evidence base, future research should focus on the evaluation of novel strategies that address these barriers and improve access and provision of pre-travel healthcare to VFR travellers.

Key words: Visiting friends and relatives, immigrants, travel health, risk, prevention

Introduction

Increases in global migration and changing patterns of source countries have altered the cultural diversity of many countries and subsequently, the geographical patterns of international travel. Immigrants comprise a substantial proportion of developed country populations.[1,2] An estimated one in four international travellers are travelling for the purpose of visiting friends and relatives ('VFR travellers')[3] with a greater share of travel to developing countries.[4]

While several definitions have been presented to classify VFR travellers,[5–7] for the purpose of a pre-travel risk assessment VFRs are generally considered to be returning to their country of origin (or parents' or spouse's country of origin) in which there is a higher infectious disease risk.[6]

A range of studies have identified a greater risk of several serious, preventable infectious diseases during travel for VFR travellers compared to those travelling for other purposes.[8–11] Several key review papers summarized these increased risks in the mid-2000s[12–15] and specific recommendations for risk assessment and provision of advice during pre-travel consultations for this special risk group were developed.[5,16] However, despite nearly two decades of literature highlighting increased risks for VFR travellers, little impact has been made on their risk disparity. Routine surveillance of cases of notifiable travel-associated diseases by country of birth, ethnicity or reason for travel provide an evidence base for identifying the at-risk traveller and the changing patterns of risk. Immigrants and their children are disproportionately represented in national notifiable disease data for infections acquired during travel, including malaria, hepatitis A and typhoid.[9,10,17,18] Children travelling for VFR purposes are over-represented,[8,9,19–21] particularly for vaccine-preventable diseases.[9,10]

Circumstances of the itinerary, misconceptions of health risks and limited access to preventative health services broadly categorize the factors associated with the increased risk for VFR travellers. VFR travel is not simply a reason for travel. By definition, this group of travellers are more likely to travel to high risk destinations[8,22] and for a longer duration.[8,22,23] VFR travellers, including VFR children, are approximately half as likely to seek pre-travel health advice from a health professional compared to other travellers.[4,20,21,24–27] Further, immigrants are less likely to seek pre-travel health advice, irrespective of reason for travel.[4,24,25,27] Perceptions of low risk when 'going home' and previous healthy travel are the main drivers of this poor attendance along with a reported lack of awareness of the need for advice.[4,24,28] Belief that they are immune, particularly to malaria, or that their vaccines are 'up to date' are also commonly reported.[24,28–30] Other important perceptions for this at-risk group are of a low disease severity, their ability to self-manage and obtain effective treatments when ill[24] and as well as not wanting to impose their preventative practices on friends and relatives.[31,32] As a consequence, VFR travellers may underestimate their or their children's risk profile and are less likely to impose diet restrictions[28] or take or correctly adhere to malaria chemoprophylaxis[24,33] and are more likely to decline vaccine recommendations[22–24,34] than other travellers. While health beliefs are significant drivers of low uptake, other factors also impact on access to and provision of pre-travel healthcare to this group, including financial costs, late presentation and language barriers. Improved access to pre-travel health advice has been associated with a longer length of migration.[35]

The current approach to reducing the infectious disease risks of travellers requires a traveller to acknowledge their risk and seek appropriate advice to reduce that risk. Both reaching and providing advice to VFR travellers are important issues for travel medicine. This review draws on evidence from travel medicine literature, supplemented by evidence from the broader field of immigrant health and is structured to review strategies that aim to reduce barriers at the patient, provider and health system level and provides recommendations for future research needs.

Strategies for the travel medicine practitioner

Structural and service modifications at a practice and provider level can have positive outcomes on VFR engagement. These include strategies to limit financial barriers, to provide a welcoming environment for immigrants and their families and strategies to reduce language and cultural barriers to improve attendance and the effectiveness of consultations. Assistance in prioritizing preventive health strategies, introducing sliding fee scales and referring patients to less costly services (if available) for immunization are options for reducing potential financial burden. Few quantitative studies identify cost as a barrier; of those studies 2–16% of travellers overall report cost as a barrier[24,36,37] with VFR travellers (6.2%) less likely to report cost as a barrier than other travellers (10.9%, $P = 0.04$).[24] However, cost associated with pre-travel consultations and vaccines are purported by providers[38] and in qualitative studies of VFR travellers[31,32] as an important barrier.

Currently, there is very little empirical evidence of the effectiveness of strategies to engage VFR travellers at the practice level. For travel medicine providers, strategies that include the tailoring of risk communication and enhancing communication, summarized below, aim to improve uptake and adherence to preventative health measures and retention of travel health messages among attending VFR travellers.

Tailoring risk communication

Barriers to and benefits of preventative practices are the strongest predictors of health behaviours[39] and there are several strategies for the practitioner to effect behaviour change. Recognizing the unique relationship of a VFR traveller to their destination is key. The common travel risk communication approach of first establishing the disease risk may conflict with VFR travellers' pre-conceived beliefs, resulting in a disregard of provider recommendations[13] or poor adherence to malaria chemoprophylaxis.[40] Qualitative studies have identified difficulties for VFRs in advocating for the use of bed nets and food choices with their host family and friends.[31,32] A patient-centred or shared decision-making approach which focuses on overcoming acknowledged barriers may be a more effective approach,[13,32] including negotiating risk avoidance in the context of fulfilling familial obligations.[32] Once established in their country of residence, immigrants are frequent visitors to their country of birth,[9,24,25] contributing to a lifetime of travel risks. A discussion of the cumulative risk of multiple return visits[41] may improve uptake of recommended vaccines, particularly those with a long duration of protection, as well as other preventative measures. Despite these challenges, provider recommendations remain central to increasing uptake, with recommendation by a health provider the single most important factor in the uptake of routine vaccines[42] and 'not being advised' a commonly reported reason for not receiving a vaccine prior to travel.[24] The Health Belief Model has been shown to align with vaccination behaviour for parents and adults, including healthcare workers,[43,44] particularly the constructs of perceived benefits, barriers and cues to action. However, less evidence has been presented for alignment of behavioural models with immigrant immunization or travel health.[45]

Enhancing patient–provider communication

Language and cultural barriers may impact on the effectiveness of advice provided at pre-travel consultations. Language barriers to

accessing pre-travel health services have not been adequately explored, with traveller studies likely to exclude those not speaking the dominant language, but is a well-established barrier to healthcare access in the immigrant health literature.[46] Of primary healthcare providers in multicultural areas of Sydney, Australia, 29% reported language as barrier to the provision of pre-travel health advice to VFR travellers.[38] When providing patient-centred travel healthcare, formal cultural competence training may enhance effective communication skills in the context of differing social, cultural and linguistic needs.[47] Differing cultural belief systems around health and disease may also depend on varying degrees of acculturalisation, time since migration and other factors.[32,48] Some VFR travellers, including Hajj pilgrims, may consider themselves or their family and friends to be more conversant of destination risks than a healthcare provider of a different ethnicity.[30,49] However, immigrant patients rate communication skills above shared ethnicity in their satisfaction with providers,[50] highlighting the benefits of socially and culturally informed communication strategies.

Studies show a poor recall of travel health messages in the absence of language barriers.[51,52] The use of professionally trained interpreters and supplementary written travel health information are strategies to overcome language barriers and potentially improve retention of travel health messages for VFR travellers. While evidence of improved pre-travel risk communication is lacking, a large body of research across multiple healthcare disciplines shows the positive impact of professionally trained interpreters on the quality of patient communication, including better recall of information, self-reported understanding and satisfaction with the quality of care provided.[53] While there are challenges in the integration of professionally trained interpreters into patient consultations, informal interpreters are not considered best practice but may be beneficial when trained interpreters are not available or practicable.[54] Reinforcing verbal advice provided during a travel consultation through the provision of supplementary written advice is more important for travellers for whom language is a barrier. While written information in the patient's preferred language is desirable, written advice can be read by other family members, friends or migrant services.[55]

Strategies to enhance VFR travel advice in primary care

Primary care providers play a key role in the provision of pre-travel health advice to VFR travellers. Of travellers who report seeking pre-travel health advice, up to 80% do so from their primary care provider[26,27,36] and this proportion is greater for VFR travellers.[27] Primary care providers may be better suited to providing care to VFR travellers, with the advantages of reduced financial barriers, continuity of care and ease of access.[10, 56] Despite their key role, few primary care providers have additional postgraduate training in travel medicine.[38,57,58] Primary care providers may not be aware of the increased risk of VFR travel,[38] and may lack confidence in counselling immigrants regarding risks in their country of birth.[38] Training in travel risk assessment and risk communication by primary care providers has been shown to improve the provision of advice[59–61] and the quality of advice given[57,62–64] to holiday travellers. For primary care providers who see few travellers, stronger partnerships with travel medicine practitioners for referral or expert advice is important. However, referral to travel medicine specialists is generally low with immigrants or VFR travellers not reported as common reasons for referral[38,56,58] despite their increased risk profile.

Primary care providers are key players at the intersect of immigrant and travel health and opportunistic pre-travel consultations for immigrants and their families has the potential to increase VFR travellers access to pre-travel health advice. In a US paediatric outpatient clinic, screening for future travel identified a third of families originating from high malarial risk areas had future travel plans.[65] VFR travellers attended the Global TravEpiNet Boston clinics a median of 17 days before departure compared to 26 days for non-VFR travellers ($P < 0.0001$).[4] Routinely enquiring about future travel during consultations aims to reduce missed opportunities in providing pre-travel health advice, reduces the barrier of late presentation to the completion of vaccine schedules,[4,21,38] and conveys the importance of a holistic, whole of life approach to immigrant travel health.[41] Further, written information is not a tool commonly utilized by primary care providers.[58,59,66] Numerous quality travel health resources for practitioners are available and wider distribution of these resources to primary care providers, particularly those practicing in ethnically diverse communities is warranted. A greater awareness by primary care providers of the increased risk associated with VFR travel is required in order to opportunistically target immigrants for pre-travel consultations. Continuing medical education in travel medicine, the promotion of integrating discussion of future travel plans into routine practice, and improved partnerships are approaches in the primary care setting aimed at improving access to and provision of high quality pre-travel healthcare for VFR travellers.

Community travel health promotion and education strategies

A lack of travel health information or services targeting culturally diverse backgrounds may contribute to the low uptake of professional, targeted advice by VFR travellers.[67] Cues to action, such as health promotion messages, are important motivators to undertake preventative health behaviours. Health promotion messages at the community level aim to increase awareness of the risks associated with VFR travel, motivate VFR travellers to protect their health and to encourage greater attendance for pre-travel health consultations with health providers. However, the diversity of ethnicities in countries with high migrant populations poses a challenge in addressing travel risks for all VFR travellers that are tailored to their specific needs.[13]

Development of culturally appropriate messages

Various printed travel health promotion and educational materials are available but often not widely circulated. Few published accounts of health promotion strategies aimed at VFR travellers[68–70] and international students[71] are available in the peer reviewed literature and are summarized in Table 1. All use multiple pathways to disseminate simple travel health messages. Interactive, tailored Internet-based travel health resources have also been developed.[70] Multiple dissemination channels reinforce key travel health messages and normalize pre-travel health seeking behaviours as well as provide opportunities to engage immigrants with varying language proficiency, and written and digital literacy related to the diverse ages, educational attainment and length of

settlement and acculturation.[73] While evidence suggests distribution of health promotion messages through mass media does increase health service utilization in general,[74] the broader immigrant health evidence base provides limited, inconsistent evidence of the increased effectiveness of tailored health educational messages through ethnic print and broadcast media compared to general population messages.[75,76] However, the use of ethic media to disseminate health information may be of value to those with low English-language proficiency and low health system literacy, such as recent immigrants.[77,78]

Community participation

Immigrants rely on informal information sources through social networks and particularly in early stages of settlement and for those with poor language proficiency.[78] VFR travellers may be more likely to seek pre-travel health information from friends and relatives, indicating the potential for whole of community approaches and the use of peer educators to promote travel health. Health promotion messages for VFR travellers need to address the unique and common barriers to seeking pre-travel health advice, including risk perceptions, and be culturally sensitive to the language, cultural and religious values that may inhibit or promote uptake of health promotion messages.[32,79] Evaluations of immigrant health promotion campaigns indicate the importance of focusing on family and the community for both delivering and reinforcing messages,[80] thereby, the direct translation of travel health messages aimed at holiday travellers are not likely to be effective. Community consultation at the development stage not only aims to develop culturally sensitive messages, but also build a community commitment.[80] In immigrant health, the use of peer educators[81] and community group information sessions[82] have been positively associated with attitude and behaviour change and has been piloted for delivery of travel health messages by the US CDC (Table 1).[72] There is also the potential for 'word of mouth' dissemination of travel-health messages by ill returned travellers returning to their communities to reinforce risk messages.

Engaging stakeholders

In addition to better partnerships between travel medicine and primary practice, the development of inter-organizational partnerships

Table 1. Published examples of VFR travel health promotion and education strategies

Paper	Target population	Message dissemination	Evaluation
LaRocque 2017[70]	VFR travellers, online resource, USA	Heading Home Healthy online resources (http://www.headinghomehealthy.org) supported by Global TravEpiNet, Massachusetts General Hospital and the Centers for Disease Control and Prevention (CDC), including a video message and links to Travellers' Rapid Health Information Portal for VFRs to self-assess before visiting a healthcare provider.	Not formally evaluated
O'Sullivan 2017[72]	Indian migrants, New Jersey, New York, and Connecticut, USA	A pilot word-of-mouth marketing programme 'HealthTalker' using peer educators to promote travel health to Indian migrants in the USA. http://destinationindia.myhealthtalker.com	Increased pre-travel health seeking intentions in the Indian immigrant communities tested. Full evaluation not yet publicly available.
Navarro *et al.* 2012[68]	Sub-Saharan African and Latin American migrants in Madrid, Spain	Distribution of multilingual, culturally tailored pamphlets at a tropical medicine clinic, NGOs, migrant cultural events, embassies and businesses in high migrant areas, and available online and delivery of advice by trained intercultural mediators at a tropical medicine clinic and a NGO. Materials designed in consultation with ethnic communities. Messages included protection of VFR children, information on specialized pre- and post-travel healthcare resources.	Not formally evaluated. Over 1500 pamphlets distributed and 184 discussions by mediators over 3 years. Good acceptance of messages informally reported.
Leder *et al.* 2011[69]	Chinese, Vietnamese and Indian migrants in Melbourne, Australia	Distribution of multilingual, culturally tailored information including a media release, newspaper article, radio interviews and community service announcements and included web-based, and television media. Printed resources (posters, tear sheets and z-cards) distributed at four community festivals. Messages focused on importance of seeking pre-travel consultations.	Not formally evaluated. Over 5000 z-cards distributed at four festivals (2500 Chinese, 2000 and 700 Vietnamese). Successful media mentions and festival stall visits reported.
Gibney *et al.* 2014[71]	International students in Melbourne, Australia	Distribution of information to international students through student support advisors, medical practitioners, health insurers, and government and professional organizations. Materials focused on tuberculosis and travel-related infections for international students.	Not formally evaluated. Informal feedback from agencies sought with on-campus agencies more engaged and online resources preferred.

Table 2. Future research needs in travel medicine and primary practice care of VFR travellers

Strategies	Future research needs
VFR travellers risk perceptions and barriers to advice	– Further exploration of the psychosocial behavioural factors associated with improved uptake and adherence to preventative travel health practices through quantitative and qualitative methods – VFR-specific evidence on recall, retention and compliance with travel health advice given during consultations, including the impact of strategies that aim to reduce language and cultural barriers
Tailored risk communication	– Development and evaluation of tailored communication approaches – Exploration of the impact of tailored risk communication and patient-centred or shared decision-making approaches on VFR traveller behavioural change
Enhancing patient–provider communication	– Impact of cultural competence training, professional interpreters and provision of written information on improved retention and adherence to travel health messages
Delivery of pre-travel healthcare through primary practice	– Further exploration of the delivery of pre-travel healthcare through primary practice for immigrants and their families, including provider awareness, the impact of a whole-of-life approach to travel health risks/opportunistic travel consultations and the development and evaluation of tailored communication training for primary care providers

and effective links between multiple agencies, including ethnic medical associations, migrant healthcare providers and community resource centres, migrant community groups and organizations are useful strategies for engaging VFRs and improving channels of communication to immigrant communities. A key partnership is the relationship between travel medicine providers and travel agents.[83] Booking travel through travel agents is commonly reported by VFR travellers[28] and referral by a travel agent is a key predictor for pre-travel clinic attendance.[84] Trained travel agents could play an important role in the provision of basic travel health advice to VFR travellers and increasing referrals to their primary care provider.[84,85]

Future research needs

Table 2 summarizes future research needs for the delivery of travel healthcare to VFR travellers. There is a need to identify evidence-based strategies that address barriers and improve access and provision of pre-travel healthcare to VFR travellers. Research focused on risk perceptions and the underlying psychosocial factors that influence behaviour including the influence of personal control and social pressures[45] is lacking in travel medicine, particularly for VFR travellers. Future research is needed on the use of well-established behavioural models to explain VFR traveller behaviour, better understand barriers such as cost,[32] improve communication and to demonstrate links between effective education and behavioural change. Future research should also focus on engagement of professional interpreters and the effectiveness of supplementary written materials on recall, retention and compliance with travel health advice given. As the main source of professional advice for VFR travellers, a better understanding of the barriers to providing effective advice to VFR travellers is needed to inform the development of training for primary care providers with the aim of improving the provision of travel advice in primary practice. Current VFR literature focuses on VFR travel to low income countries of origin of the traveller predominantly from Western countries. Current data is lacking on VFR risk perceptions and training needs of practitioners in other regions.[86]

In addition to methods to effectively and innovatively communicate risk opportunities for community-consulted approaches to health promotion and policy development need to be further explored. Measuring the population reach, improved health knowledge, and ultimately, risk reduction of population-based health promotion campaigns is challenging,[87] including those targeting travel health. Evaluation of health promotion activities targeting VFR travellers focus on the feasibility of the intervention[68,69,71] and formal evaluation of community reach and the effectiveness of travel health messages on behaviour change is needed.[80] Future research should include an evaluation of the community impact of health promotion campaigns such as community surveys to measure self-reported recall and recognition of health messages, and before and after studies to evaluate trends in health clinic attendance and website traffic.

Conclusions

Despite growing evidence of the risks associated with VFR travel, many gaps exist in our understanding of how to best reduce these risks. With the multifactorial barriers related to a range of health beliefs and issues with access to and use of health services, a range of strategies and interventions are required that reduce barriers for VFR travellers at the patient, provider and system level. Of those who do not self-refer for pre-travel advice, strategies that identify future travel and promote travel health, including engagement with immigrant communities, are central to increasing awareness of the risks of VFR travel and improving attendance for pre-travel advice. Of those who do attend, tailored approaches are required to engage and inform VFR travellers and to overcome barriers including cultural and communication barriers and pre-conceived risk perceptions during the consultation. Culturally appropriate health promotion messages that target VFR travellers to attend for pre-travel health advice are needed. Continuing education opportunities for primary care providers, provision of resources and partnerships are required to better serve VFR travellers. Travel medicine must move towards improving the evidence base and dissemination of successful strategies that improve attendance to pre-travel health services and uptake of advice.

Authors' contributions

A.E.H. drafted the manuscript; N.Z. reviewed, edited and provided critical input.

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