



ORIGINAL ARTICLE

General Practitioners' Perception of Risk for Travelers Visiting Friends and Relatives

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Background. General practitioners (GPs) are an important source of pre-travel health advice for travelers; however, only a few studies have investigated primary healthcare provider–related barriers to the provision of pre-travel health advice, particularly to travelers visiting friends and relatives (VFR). We aimed to investigate Australian GPs' knowledge, attitudes, and practices with regard to VFR travelers.

Methods. A postal survey was sent to randomly sampled GPs in Sydney, Australia, in 2012. The questionnaire investigated GPs' perception of risk and barriers to the provision of advice to VFR travelers.

Results. Of 563 GPs, 431 (76.6%) spoke a language other than English (LOTE) with 361 (64.1%) consulting in a LOTE. Overall, 222 (39.4%) GPs considered VFR travelers to be at higher risk than holiday travelers, with GPs consulting in English only [adjusted odds ratio (aOR) 1.65, 95% confidence interval (CI) 1.11–2.44, $p = 0.01$] and GPs considering long-term migrants as VFR travelers (aOR 1.86 95% CI 1.07–3.23, $p = 0.03$) remaining significant on multivariate analysis.

Conclusions. Multilingual GPs are a valuable resource to reducing language and cultural barriers to healthcare. Targeted education of this subgroup of GPs may assist in promoting pre-travel health assessments for VFR travelers. Awareness of the need for opportunistic targeting of migrants for pre-travel consultation through routine identification of future travel is needed.

Travel patterns and practices place travelers returning to their country of birth to visit friends and relatives (VFR) at an increased risk of a number of infectious diseases compared with holiday travelers. A number of factors have been identified as contributing to the increased risk of infectious diseases. VFR travelers are more likely to travel to resource-poor settings, have close contact with the local population, consume local food and water, and have a longer duration of travel

than those traveling for holiday or business.¹ VFR travelers are also less likely to plan diet restrictions, adhere to malaria chemoprophylaxis, or be vaccinated prior to travel.¹ They show a lower likelihood of seeking pre-travel health advice, particularly from healthcare providers compared with holiday travelers.^{1,2} Poor pre-travel health preparation has been linked to lack of awareness of the need for advice; perceptions of low risk, low severity, and effective treatments of disease; previous healthy travel to their home country; and a perception of prior immunity to diseases.^{3–6} A lack of travel health information or services targeting culturally diverse backgrounds may also contribute to the low uptake of professional, targeted advice by VFR travelers.⁷

Primary care providers are an important source of pre-travel health advice. Internationally, studies have shown that of those travelers who do seek pre-travel advice, up to three quarters see their primary care provider for this purpose.^{2,3,8,9} Despite the importance of the provision of travel advice through primary

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care, few studies have investigated the practice of travel medicine in primary care in Australia^{10–13} or internationally,^{14–16} particularly the provision of travel medicine advice to VFR travelers. In this study, we aimed to examine the knowledge, attitudes, and practices of general practitioners (GPs) in the provision of pre-travel preventative health advice to VFR travelers and the challenges of providing this advice.

Methods

Sample Selection and Recruitment

We targeted GPs practicing in areas of Sydney, New South Wales (NSW), with the highest proportion of migrants. A total of 15 local government areas (LGAs) in NSW with the highest proportion of residents speaking a language other than English (LOTE) were selected,¹⁷ ranging from 42% to 71% of the LGAs' resident population. A random sample of 2,000 GPs from the population of 2,211 practicing GPs in the included LGAs was selected from a comprehensive database of all medical practitioners in Australia provided by AMPCoDirect, a subsidiary of the Australian Medical Association (AMA). Selected GPs were mailed a questionnaire with an accompanying cover letter and information sheet and a reply paid envelope in October 2012. A second cover letter and questionnaire were sent to non-responders 4 weeks following the initial mail-out. GPs who returned the completed questionnaires were invited into a cash prize draw.

Questionnaire

A structured 28-item questionnaire assessed GP training, attitudes, and practices of travel medicine, and the provision of travel medicine services to VFR travelers. To determine the perceived definition of a VFR traveler, participants were asked to classify five traveler descriptions as being either "VFR" or "non-VFR" including: (1) migrants of <10 years (VFR), (2) migrants of >10 years (VFR), (3) Australian-born with migrant parents (VFR), (4) Australian-born with Australian-born parents (non-VFR) traveling to a less developed country to visit friends and relatives, and (5) Australian-born with migrant parents traveling to a developed country (non-VFR). Migrant Australians were defined as those born overseas and now living in Australia. GPs were then asked to rate the overall risk for VFR travelers as either higher, lower, or no difference in risk compared with holiday travelers. For the remainder of the survey, we provided a definition of a "VFR traveler" to the participants as a migrant or their children traveling to their (or parents') country of origin in a less developed country to visit friends and relatives, comparable to previous definitions.^{18,19} Key barriers to the provision of advice experienced by participants in the past month and past 12 months were assessed using 14 key barriers identified from a review of the travel literature. The questionnaire also collected

demographic and practice characteristics including data on participant's patient base and the characteristics of their most recent patient who attended for pre-travel advice. Demographic information included languages spoken and languages used during consultations, length in practice, travel medicine training of the participant, and practice accredited for yellow fever vaccination. Languages were classified according to the Australian Standard Classification of Languages²⁰ with the first reported language considered the main language of multilingual respondents. The questionnaire was piloted with a small group of GPs (excluded from the final sample) to assess content, comprehension, and flow of the survey. No required changes were identified.

Data Analysis

The main outcome variable was GPs' perception of overall risk for VFR travelers compared with holiday travelers. The questionnaire collected perceptions of risk using a set scale of "higher," "lower," or "no difference in risk." An ordinal logistic regression was considered; however, the model was not significant and a binary logistic regression model was used in which the responses of lower or no difference in risk were combined. Statistical association of demographic and practice characteristics with the main outcome variable was analyzed using Chi-square test (for categorical data) and Student's *t*-test (for normally distributed) or Mann-Whitney test (for non-normally distributed) for continuous variables. A *p*-value of ≤ 0.05 was considered significant. All factors significant on univariate analysis that could plausibly predict GPs' perception of risk in VFR travelers were considered for inclusion in the logistic regression model. During model fitting, a significant interaction between the factors of GPs speaking a LOTE and GPs consulting in a LOTE was identified, with consulting in LOTE a stronger predictor and included in the final model. SPSS Version 22.0 (IBM Corp., New York, NY, USA, 2012) was used for all statistical analyses. This study was approved by the UNSW Australia Human Research Ethics Advisory Panel (Approval number 2012-7-32).

Results

Of the 1975 surveys sent to valid postal addresses, 563 completed questionnaires were returned and included in the analysis (response rate 29%).

Respondent and Practice Characteristics

Demographic and practice characteristics of respondents are shown in Table 1. A LOTE were spoken by 413 (76.6%) participants, with Chinese (124, 22.0%), Indo-Aryan (comprising mainly Indian languages) or Tamil (110, 19.5%), Arabic (65, 11.5%), and Vietnamese (38, 6.7%) being the most common language groups spoken. Of those speaking a LOTE, 361 (83.8%) also

Table 1 Characteristics of respondents, NSW, Australia ($N = 563$)

Characteristic	Number	Percentage
Demographics		
Gender (male)	321	57.0
Mean age (years)	52.4 ± 11.3	
Speak language other than English (yes)	431	76.6
Practice characteristics		
Median number of doctors in practice	4 (1–22)	
Yellow fever vaccine accreditation (yes)	107	19.0
Written travel medicine policy (yes)	102	19.0
Travel health promotion material (yes)	246	43.7
VFR-specific travel health promotion material (yes)	59	10.5
Respondents' practice characteristics		
Mean time in general practice (years)	21.1 ± 11.9	
Median number of patients seen per week	140 (4–640)	
Median number of travel patients seen per week	3 (0–70)	
Consult in language other than English (yes)	361	64.1
Used trained interpreter (yes)	160	28.4
Training in travel medicine*		
None reported	265	47.1
Undergraduate medical degree only	189	33.6
RACGP training	24	4.3
CME activities/conferences	71	12.6
Travel medicine short course	53	9.4
Certificate/diploma in travel medicine	3	0.5
Postgraduate training in travel medicine (MPH/DPH/PhD)	15	2.7

VFR = visiting friends and relatives; RACGP = Royal Australian College of General Practitioners; CME = Continuing medical education.

*Multiple responses allowed.

consulted in one or more languages. GPs who consulted in a LOTE were older (LOTE 332, 91.5% aged ≥ 40 years vs English only 155, 79.9%, $p < 0.001$), more likely to be male (222, 61.7% vs 99, 50.0%, $p = 0.008$), more likely to have practiced for ≥ 10 years (299, 84.0% vs 151, 76.6%, $p = 0.034$), and saw more patients (median 150 vs 110, $p < 0.001$) and more travel patients (median 5 vs 2, $p < 0.001$) per week than GPs consulting in English only. GPs consulting in a LOTE also worked with fewer doctors in their practice (mean 3 vs 5, $p < 0.001$) and were less likely to have yellow fever accreditation (51, 14.1% vs 56, 28.3%, $p < 0.001$) than those consulting in English only.

Characteristics of Patient Base

The majority of respondents (364/551, 65.7%) saw a high proportion of migrant Australians in their practice, most commonly from China (229, 53.1%), India (295, 52.4%), Lebanon (220, 29.1%), and the Philippines (206, 36.6%). Migrant patients comprised 50% or more of all travel consultations for 311 (55.2%) respondents. Visiting friends and relatives was the most commonly stated reason for travel for the most recent patient presenting for travel advice (262, 46.5%), more commonly reported by GPs consulting in a LOTE (200, 57.0% vs 66, 34.9%, $p < 0.001$). Only 36 (6.7%) GPs did not ask about reason for travel during their most recent consultation with a travel patient. Asking migrant Australian patients about planned future trips to their country of origin was undertaken “mostly” by 80 (14.3%) and “always” by 23 (3.9%) of the GPs, more

likely by LOTE consulting GPs (78, 21.6%, vs 24, 12.1%, $p < 0.0005$).

Practice of Travel Medicine

Overall, 265 respondents (47.1%) reported they had not undertaken any travel medicine training (Table 1). Of those reporting training, the majority reported undergraduate medical degree training only (189/293, 64.5%), followed by continuing medical education seminars (71, 24.2%). There were no differences in training in travel medicine by age, sex, or consulting in a LOTE. However, GPs whose practices were accredited for yellow fever vaccine administration were more likely to have undertaken a travel medicine short course (OR 2.65, 95% CI 1.44–4.86, $p = 0.001$) or a travel medicine unit as part of a postgraduate degree (OR 5.01, 95% CI 1.82–14.47, $p = 0.001$). Previous referral of travel patients to another doctor was reported by 354 (62.9%) GPs, the majority (299, 84.5%) for the administration of yellow fever vaccine. Other reasons for referral included complex itineraries, special needs populations (for example, children or pregnant women), and for travel vaccines, including tuberculosis (BCG), rabies, quadrivalent meningococcal (ACWY), or Japanese encephalitis vaccines.

Perception of Risk for VFR Travelers

From the list of traveler descriptions, most respondents correctly classified “migrant Australians who had lived in Australia for less than 10 years traveling to a less

Table 2 Factors significantly associated with perceived higher risk perception for VFR travelers compared with holiday travelers

Factor	Considers VFR travelers at higher risk*		Odds ratio	95% CI	p-Value
	n	%			
Age (years)	Less than 40	38	2.02	1.21–3.36	0.006
	40 or more	179			
Years in general practice	Less than 10	51	1.71	1.11–2.63	0.015
	10 or more	168			
Number of patients seen per week	Less than 145	122	1.58	1.11–2.23	0.010
	145 or more	93			
Speak LOTE*	No	66	1.97	1.34–2.94	0.001
	Yes	154			
Consult in LOTE*	No	97	1.86	1.31–2.65	0.001
	Yes	123			
Consider long-term migrants (>10 years) as VFR travelers	Yes	199	1.84	1.10–3.07	0.02
	No	23			

VFR = visiting friends and relatives; CI = confidence interval; LOTE = language other than English.

*Compared to lower or equal risk with holiday travelers as a combined category.

developed country to visit friends and relatives” (459, 81.5%) and “migrant Australians who had lived in Australia for more than 10 years” (480, 85.3%) as VFR travelers. However, fewer respondents correctly classified “Australian-born travelers with migrant parents traveling to a less developed country to visit friends and relatives” as VFR travelers (401, 71.2%). Classification of Australian-born travelers with Australian-born parents visiting family (224, 39.8%) and second-generation Australians visiting family in developed countries (310, 55.1%) as VFR travelers was common, with only 55 (9.8%) respondents providing correct responses. Subsequently, 222 (39.4%) respondents considered VFR travelers to be at higher risk compared with holiday travelers. Of the remainder, 223 (39.6%) reported equal risk and 114 (20.2%) reported lower risk for VFR travelers.

The proportion of respondents who considered VFR travelers to be at higher risk increased with cumulative number of correct definitions identified ($p=0.018$, linear trend). Correct classification of VFR travelers as long-term migrants (>10 years) predicted greater likelihood of reporting VFR travelers at higher risk (199, 41.7% vs 23, 28.0%, $p=0.02$). GPs aged less than 40 years, who spoke or consulted in English only, in practice for <10 years, and with low patient loads (<145 patients per week) were also more likely to consider VFR travelers at higher risk than holiday travelers (Table 2). However, only GPs consulting exclusively in English [adjusted odds ratio (aOR) 1.65, 95% confidence interval (CI) 1.11–2.44, $p=0.01$] and those classifying long-term migrants (>10 years) in their definition of VFR travelers (aOR 1.86 95% CI 1.07–3.23, $p=0.03$) remained independently associated with a higher risk perception of VFR travelers, after adjusting for all other variables in the model.

Barriers to Providing Pre-Travel Medical Care to VFR Travelers

The most commonly selected barriers to the provision of pre-travel medical care to VFR travelers were perceived late presentation by VFR travelers (482, 85.6%), low perception of risk by VFR travelers (453, 80.5%), and cost of vaccines and medications (442, 78.5%) (Table 3). LOTE consulting GPs were less likely to state lack of destination knowledge (135, 38.7% vs 112, 59.3%, $p<0.001$) and difficulty in assessing immunity to vaccine-preventable diseases (198, 56.9% vs 151, 79.9%, $p<0.001$) as barriers to the provision of pre-travel health advice to VFR travelers. Conversely, LOTE consulting GPs were more likely than non-LOTE consulting GPs to include the following barriers: the cost of vaccines (294, 84.5% vs 147, 77.8%, $p=0.05$); the cost of consultation (136, 39.0% vs 55, 29.1% $p=0.02$); the lack of culturally appropriate resources (197, 56.4% vs 82, 43.3%, $p=0.004$); and patients' fear of side effects (210, 60.2% vs 94, 49.7%, $p=0.02$).

Discussion

We found a generally high awareness of VFR travelers as a special risk group in a population of GPs who see a high proportion of migrant patients. However, those who consult in a LOTE were less likely to consider VFR travelers at higher risk compared with holiday travelers. These GPs may be VFR travelers themselves and therefore subject to the same cultural perceptions of risk as other VFR travelers. They also, however, have the greatest potential to identify and prevent VFR travel-related risks. It is now well established that VFR travelers perceive a low risk of infectious diseases when traveling to their country of birth,¹ and our results suggest a similar perception in our sample of GPs who

Table 3 Barriers to the provision of pre-travel medical care to VFR travelers experienced by respondents in the previous 12 months

Barrier	n	%
Patient-centered		
Late presentation by VFR travelers	482	85.6
Patients' low perception of risk in home country	453	80.5
Patients believe previous immunity will be protective	356	63.2
Patients' fear of side effects	304	54.0
Provider-centered		
Difficulty in assessing prior vaccination or disease exposure	350	62.2
Lack of knowledge about the travel destination	249	44.2
Difficulty in locating up-to-date disease information	224	39.8
Difficulty in locating up-to-date country information	224	39.8
Lack of training in travel medicine	188	33.4
Lack of consultation time	182	32.3
Language difficulties	164	29.1
System-centered		
Cost of vaccines/medications to patient	442	78.5
Lack of culturally appropriate resources for patients	279	49.6
Cost of medical consultation to patient	191	33.9

VFR = visiting friends and relatives.

consult in a LOTE. GPs able to consult in their patients' first language are an important component of the health system, as they can potentially improve communication and trust. As such, they are an important target group in improving the provision of pre-travel advice to VFR travelers. However, these GPs, who likely have a good understanding of migrant health needs, may not be cognizant of the concept of VFR travelers and the evidence of their increased travel risk.

There was considerable misconception regarding the definition of a VFR traveler, with many GPs taking the broadest sense of the term without consideration of risk gradients.²¹ This is perhaps expected given the inconsistencies of the definition of VFR in the literature.^{19,21,22} Leder and colleagues proposed the use of "immigrant" VFR and "traveler" VFR to distinguish between first- and second-generation migrant travelers who were identified as having different risk profiles.¹⁹ Behrens and colleagues, on the other hand, advocate for the removal of ethnicity and migration status and instead focus should be placed on travelers staying with friends and relatives and the gradient in disease risk.²¹ Regardless of the intricacies of the definition of VFR, our study indicates a need to improve awareness of primary healthcare providers of VFR travelers as high-risk travelers, particularly GPs who are migrants themselves. Accessible resources may need to further emphasize this at-risk group.

With a low perception of risk and inadequate pre-travel health-seeking behavior, an opportunistic approach to provision of pre-travel health advice to VFR travelers through primary practice is required. GPs consulting only in English, although more likely to report a higher perception of risk for VFR travelers, were less likely to opportunistically ask about upcoming travel than GPs who consulted in other languages.

Considering few VFR travelers attend for pre-travel health advice, opportunistic travel consultations should be considered for migrants from developing countries as part of routine practice to identify future travel and provide more timely advice for VFR travelers. In our study, 86% of the respondents reported late presentation of VFR travelers as a barrier to provision of care, as supported by other studies.^{23,24}

Continuity of care, knowledge of past medical history, trust, and ease of access have been proffered as major advantages of providing travel health advice in primary practice.^{13,18} However, few GPs in our study had undertaken additional training in travel medicine. The need for improved training of GPs in travel medicine and provision of advice to travelers is a global issue raised in various studies more than 10 years ago,^{11,12,16} with evidence of poor compliance in themselves.²⁵ Regular continuing medical education, travel medicine certification, and practice-based protocols result in the provision of higher quality advice^{26,27} as does participation in yellow fever accreditation for GPs.²⁸

Reported barriers, including patients' low-risk perception and belief in prior immunity, highlight that further GP training in travel risk assessment and risk communication may assist in the provision of advice.^{17,29} Trained interpreters were reportedly used by only a quarter of respondents, despite a free service available to all medical practitioners in Australia.¹⁰ The use of this service has been estimated to occur in <1% of consultations in Australia¹¹ and its increased use may be a valuable component of improved travel medicine services for migrant Australians. It is notable that cost was perceived as less of a barrier for patients than low-risk perception or late presentation and there is a need for more studies on the ability and willingness to pay for travel vaccines among VFR travelers. It is clear from our study that GPs need further support in the provision of pre-travel advice, including the availability of culturally appropriate resources, promotion of resources providing up-to-date country-specific travel information for GPs, and awareness campaigns at the community level for migrant groups. Ensuring the highest quality of care for all travelers attending for pre-travel health advice requires removal of barriers both at the patient and provider level.¹ Very little research has been conducted evaluating the appropriateness of travel information targeted to VFR travelers^{30,31} with the effectiveness of communication strategies in improving uptake unknown.

As with other cross-sectional studies, our results should be taken with limitations in mind. In limiting the questionnaire length to promote compliance, we were unable to include questions assessing specific knowledge of respondents and the quality of travel advice, and it is conceivable that risk perceptions may vary if more specific VFR traveler scenarios were provided. However, we focused our study on the identification of barriers to provision of advice specifically to VFR travelers of GPs

in high migrant areas, and our sample reflects this, identifying important areas for future research in this field, including generalizability to GPs in non-migrant-rich areas of Australia. The patient barriers were those perceived by our GP sample and need to be directly ascertained from VFR travelers themselves to better understand and address these barriers. Further, we assume that GPs' level of risk perception translates to quantity and quality of VFR travel advice and intervention, but this needs to be confirmed by more research, including barriers and hesitations in the provision of comprehensive advice to migrants returning to their country of birth. While the response rate was low (29%), it is similar to other GP studies.^{32,33} An important strength of this study was the use of the AMA register. Sampling bias of those with an interest in travel medicine cannot be ruled out. However, the range of demographics, travel medicine interests, and formal training indicates that we have captured a broad cross section of GPs in our target areas. Furthermore, 19% of our GPs practiced at yellow fever-accredited practices, which is very similar to the estimated 17% of GP practices in NSW overall.^{34,35} While it is likely that consulting in a LOTE is a proxy for being a migrant, this was not validated in our study.

Conclusions

Multilingual GPs are a valuable resource to reducing the language and cultural barriers to healthcare access often described by migrants. Our study demonstrates a reasonable understanding of VFR travel among GPs, but some misconceptions regarding VFR travel exist. GPs consulting in LOTEs may benefit from targeted education in promoting pre-travel health assessments for VFR travelers. Greater awareness by GPs of VFR travelers and their increased risk is required to opportunistically target migrants for pre-travel consultation through routine identification of future travel.

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Declaration of Interests

B. L. F. received a postgraduate scholarship from the National Health & Medical Research Council during the conduct of this study. In addition to this study, A. E. H. has received consultation fees and grant funding for investigator-driven research from GSK, and H. S. has

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The other authors have no conflicts of interest to declare.

References

1. Angell SY, Cetron MS. Health disparities among travelers visiting friends and relatives abroad. *Ann Intern Med* 2005; 142:67–72.
2. Heywood AE, Watkins RE, Iamsirithaworn S, Nilvarangkul K, MacIntyre CR. A cross-sectional study of pre-travel health-seeking practices among travelers departing Sydney and Bangkok airports. *BMC Public Health* 2010; 12:321.
3. Zwar N, Streeton CL. Pretravel advice and hepatitis A immunization among Australian travelers. *J Travel Med* 2007; 14:31–36.
4. Heywood AE, Zhang M, MacIntyre CR, Seale H. Travel risk behaviours and uptake of pre-travel health preventions by university students in Australia. *BMC Infect Dis* 2012; 12:43.
5. Baggett HC, Graham S, Kozarsky PE, et al. Pretravel health preparation among US residents traveling to India to VFRs: importance of ethnicity in defining VFRs. *J Travel Med* 2009; 16:112–118.
6. Morgan M, Figueroa-Munoz JI. Barriers to uptake and adherence with malaria prophylaxis by the African community in London, England: focus group study. *Ethn Health* 2005; 10:355–372.
7. Angell SY, Behrens RH. Risk assessment and disease prevention in travelers visiting friends and relatives. *Infect Dis Clin North Am* 2005; 19:49–65.
8. Wilder-Smith A, Khairullah NS, Song JH, Chen CY, Torresi J. Travel health knowledge, attitudes and practices among Australasian travelers. *J Travel Med* 2004; 11:9–15.
9. Van Herck K, Van Damme P, Castelli F, et al. Knowledge, attitudes and practices in travel-related infectious diseases: the European airport survey. *J Travel Med* 2004; 11:3–8.
10. Australian Government Department of Social Services. Free interpreting service. Available at: <https://www.dss.gov.au/our-responsibilities/settlement-and-multi-cultural-affairs/programs-policy/settle-in-australia/help-with-english/free-interpreting-service>. (Accessed 2015 June 24).
11. Phillips CB, Travaglia J. Low levels of uptake of free interpreters by Australian doctors in private practice: secondary analysis of national data. *Aust Health Rev* 2011; 35:475–479.
12. Thava SS, Leggat PA. Health advice given by general practitioners for travelers from Australia. *Travel Med Infect Dis* 2003; 1:47–52.
13. Thava SS, Leggat PA. Referral of travelers from Australia by general practitioners for travel health advice. *Travel Med Infect Dis* 2003; 1:185–188.
14. Hughes NJ, Carlisle R. How important a priority is travel medicine for a typical British family practice? *J Travel Med* 2000; 7:138–141.
15. Leggat PA, Heydon JL, Menon A. Health advice given by general practitioners for travelers from New Zealand. *N Z Med J* 1999; 112:158–161.

16. Ropers G, Krause G, Tiemann F, Du Ry van Beest Holle M, Stark K. Nationwide survey of the role of travel medicine in primary care in Germany. *J Travel Med* 2004; 11:287–294.
17. Leder K, Steffen R, Cramer JP, Greenaway C. Risk assessment in travel medicine: how to obtain, interpret, and use risk data for informing pre-travel advice. *J Travel Med* 2014; 22:13–20.
18. Bui YG, Trepanier S, Milord F, et al. Cases of malaria, hepatitis A, and typhoid fever among VFRs, Quebec (Canada). *J Travel Med* 2011; 18:373–378.
19. Leder K, Tong S, Weld L, et al. Illness in travelers visiting friends and relatives: a review of the GeoSentinel Surveillance Network. *Clin Infect Dis* 2006; 43:1185–1193.
20. Australian Bureau of Statistics. 1267.0—Australian Standard Classification of Languages (ASCL). 2011. Available at: <http://www.abs.gov.au> (Accessed 2013 May 1).
21. Behrens RH, Stauffer WM, Barnett ED, et al. Travel case scenarios as a demonstration of risk assessment of VFR travelers: introduction to criteria and evidence-based definition and framework. *J Travel Med* 2010; 17: 153–162.
22. Barnett ED, MacPherson DW, Stauffer WM, et al. The visiting friends or relatives traveler in the 21st century: time for a new definition. *J Travel Med* 2010; 17: 163–170.
23. LaRocque RC, Deshpande BR, Rao SR, et al. Pre-travel health care of immigrants returning home to visit friends and relatives. *Am J Trop Med Hyg* 2013; 88:376–380.
24. Haggmann S, Benavides V, Neugebauer R, Purswani M. Travel health care for immigrant children visiting friends and relatives abroad: retrospective analysis of a hospital-based travel health service in a US urban underserved area. *J Travel Med* 2009; 16:407–412.
25. Banerjee D, Stanley PJ. Malaria chemoprophylaxis in UK general practitioners traveling to South Asia. *J Travel Med* 2001; 8:173–175.
26. Sofarelli TA, Ricks JH, Anand R, Hale DC. Standardized training in nurse model travel clinics. *J Travel Med* 2011; 18:39–43.
27. Durham MJ, Goad JA, Neinstein LS, Lou M. A comparison of pharmacist travel-health specialists' versus primary care providers' recommendations for travel-related medications, vaccinations, and patient compliance in a college health setting. *J Travel Med* 2011; 18:20–25.
28. Boddington NL, Simons H, Launders N, Hill DR. Quality improvement in travel medicine: a programme for yellow fever vaccination centers in England, Wales and Northern Ireland. *Qual Prim Care* 2011; 19:391–398.
29. Hoveyda N, McDonald P, Behrens RH. A description of travel medicine in general practice: a postal questionnaire survey. *J Travel Med* 2004; 11:295–299.
30. Leder K, Lau S, Leggat P. Innovative community-based initiatives to engage VFR travelers. *Travel Med Infect Dis* 2011; 9:258–261.
31. Navarro M, Navaza B, Guionnet A, Lopez-Velez R. A multidisciplinary approach to engage VFR migrants in Madrid, Spain. *Travel Med Infect Dis* 2012; 10:152–156.
32. Britt H, Miller GC, Henderson J, et al. General practice activity in Australia 2012–13. General practice series no. 33. BEACH: Bettering the Evaluation and Care of Health. Sydney: Sydney University Press, 2013.
33. Bonevski B, Magin P, Horton G, Foster M, Girgis A. Response rates in GP surveys: trialling two recruitment strategies. *Aust Fam Physician* 2011; 40:427.
34. NSW Health. Authorised Yellow Fever vaccination providers in NSW at 29/10/2014. 2014. Available at: <http://www.health.nsw.gov.au/immunization/Documents/yellow-fever-clinics.pdf>. (Accessed 2014 Dec 1).
35. Primary Health Care Research & Information Service. PHCRIS Fast Fact. GP numbers in New South Wales, 1999–2000 to 2010–11. 2014. Available at: <http://www.phcris.org.au/fastfacts/fact.php?id=6776>. (Accessed 2014 Dec 1).