CPSP
CANADIAN PAEDIATRIC SURVEILLANCE PROGRAM

PROTOCOLS

Travel-related illnesses in paediatric travellers who visit friends and relatives abroad

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Background

Over 7.4 million Canadians travelled internationally in 2007.[1] An estimated 4% of these are children; consequently, almost 300,000 Canadian children travel internationally each year.[2] People who visit friends and relatives abroad (VFRs) accounted for 40% of international travellers from the USA in 2002.[3] Although similar data is not available for Canada, extrapolating from the American data would suggest that almost three million Canadian VFRs may have travelled internationally last year. Further extrapolation suggests that approximately 100,000 of these are children; however, the exact number is unknown.

Travel-related illnesses in children are an important public health issue, since paediatric travellers account for a disproportionate number of travel-related hospitalizations.[2] In particular, VFRs are known to be at significantly increased risk of travel-related illnesses.[3-10] In one study, children less than 15 years who visited family in India were found to be eight times more likely to develop hepatitis A, a vaccine-preventable illness, than other travellers to India.[6] In Italy, VFRs accounted for 71% of imported malaria, a potentially fatal travel-related illness for which a traveller's risk can be significantly decreased by taking appropriate antimalarial medications and using precautions to prevent mosquito bites.[3] Furthermore, a review of international travel surveillance data demonstrated that VFRs travelling to sub-Saharan Africa were eight times more likely to develop malaria than other travellers to this area.[9] In the same review, VFRs were also more likely to experience systemic febrile illnesses, non-diarrheal intestinal parasitic infections, respiratory diseases, tuberculosis, and sexually transmitted infections.[9] In addition, they were more likely to develop severe illnesses requiring inpatient treatment.

Paediatric VFRs represent a significant number of international travelers from Canada, and they are at greater risk of travel-related illnesses; however, little data regarding the incidence and epidemiology of these illnesses is available for paediatric VFRs. Most travel-related illnesses are preventable with appropriate travel precautions, including

recommended travel vaccines. Therefore, the acquisition of national data regarding the incidence, epidemiology, and specific risk factors for these illnesses among paediatric VFRs is very important to identify unmet needs in the system and the burden of illness among Canadian children. This data can then be used to develop public health strategies, such as family and physician education and advocacy for improved access to pre-travel advice, to decrease the occurrence, morbidity, and potential mortality of travel-related illnesses in this vulnerable group.

Methods

Monthly, over 2,500 clinically active paediatricians and paediatric subspecialists will be questioned through the CPSP regarding travel-related illnesses in paediatric VFRs. Respondents who identify cases will be asked to complete a detailed questionnaire for each case.

Because most of the travel-related illnesses included in the case definition are very uncommon, national surveillance data is the best method of data collection. Although some of the diseases are also reportable, much of the important epidemiological and clinical data to be obtained in this protocol is not collected by the national reporting system.

Objectives

1. To determine the number of significant travel-related illnesses among paediatric VFR travellers living in Canada.
2. To determine the epidemiology of significant travel-related illnesses among paediatric VFR travellers, including the countries of travel, duration and type of travel, time of year travel occurred, timing and types of illnesses.
3. To describe clinical manifestations and severity of illnesses at presentation among paediatric VFR travellers.
4. To identify risk factors for significant travel-related illnesses among paediatric VFR travellers (e.g., pre-travel health advice and compliance, countries of travel, ingestion of high-risk food and water, malaria prevention measures used).

Case definition

A travel-related illness is acquired while travelling abroad and symptoms may develop during travel or following the child's return to Canada. A VFR traveller may be a foreign-born child or the Canadian-born child of foreign-born parents who is travelling to a country of origin to visit friends and relatives. The diagnosis is made on clinical and/or laboratory criteria.

Report all children living in Canada less than 18 years of age who acquire significant travel-related illnesses (see Appendix) while travelling abroad as VFR travellers.

Exclusion criteria

1. Children who develop travel-related illnesses but did not travel to visit friends and relatives.
2. Children who acquire non-specific mild travellers' diarrhea and respiratory infections, not requiring hospitalisation.

Travel-related illnesses in paediatric travellers who visit friends and relatives abroad (continued)

Duration

March 2009 to February 2011

Expected number of cases

Because there is no available data, it is difficult to determine an accurate estimate of the anticipated number of cases. In 2004, the total number of cases of reportable diseases included in the case definition among all Canadians (including non-travelers) from 0-19 years of age was 317.[11] The majority of illnesses included in the case definition are very uncommon, so it is unlikely that the numbers will be such as to cause an excessive burden to responding paediatricians.

Ethical approval

University of Manitoba Research Ethics Board

Analysis and publication

Delineation of the demographics and clinical features of confirmed cases will be done with descriptive statistics. Investigators will analyze data, interpret results and provide regular feedback to participants. Data analysis will be completed at the end of the study and manuscripts will be prepared for publication in a peer-reviewed journal within one year of the conclusion of the study.

References

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APPENDIX

In the case definition, travel-related illnesses would include but not be limited to:

1. Amoebiasis (within 1 month of travel)
2. Cholera (within 1 week of travel)
3. Dengue
4. Enteric fever (typhoid and paratyphoid fever within 2 months of travel)
5. Hepatitis A (within 2 months of travel)
6. Hepatitis B (within 4 months of travel)
7. Japanese encephalitis (JEV)
8. Malaria
9. Measles (within 2 weeks of travel)
10. Poliomyelitis
11. TB symptomatic disease (not infection)
12. Fish-related toxins and infections
13. Sexually transmitted infections (within 1 month of travel, unless HIV)
14. Parasitic infections (e.g., schistosomiasis, helminths [worms], Chagas disease)
15. Zoonotic diseases (transmitted from animals, e.g., leptospirosis, anthrax)
16. Other (i.e., not dengue, JEV or malaria) insect-borne diseases (e.g., rickettsia, viral fevers including yellow fever, other viral hemorrhagic fevers and chikungunya, leishmaniasis)
17. Envenomizations (e.g., snakes, spiders, scorpions)
18. Animal bites necessitating rabies vaccine
19. Other (an emerging travel-related infection such as SARS)