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# Accepted Manuscript

Seasonal variation in travel health information seeking

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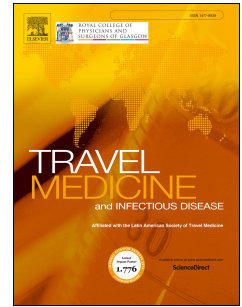
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**Title** Seasonal variation in travel health information seeking<sup>1</sup>**Authors** (\* corresponding)

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TRAVEL MEDICINE, INFORMATION SEEKING BEHAVIOR, SEASONAL VARIATION

We recently evaluated access to yellow fever centres in England, Wales, and Northern Ireland (1) and have now completed an analysis of information seeking behaviours among users of a national travel health website.

The protection of travellers' health represents a dynamic and complex task for public health bodies. National Travel Health Network and Centre (NaTHNaC), a dedicated information service and telephone advice line for health professionals in the UK, was set up in 2002 to this end. NaTHNaC provides information on travel vaccination, antimalarials, and other pre-travel advice for more than 220 countries across the globe on an open access website (<https://travelhealthpro.org.uk>). A study of seasonality in information seeking on the website was undertaken for the Top10 most queried destination countries to provide an informed basis for planning of public health messages and the revision of country-specific content. To our knowledge, this is the first study of its kind.

Monthly unique page views (or 'views') by country pages in 2017 were extracted from Google Analytics. UK traffic accounted for 89% of all sessions. The pages were coded at country level and mapped. The number of views were aggregated at country level where there was more than one page for a country, e.g. Malaysian Borneo and Malaysia. Peaks and

troughs of views by month for the Top10 countries were identified if more than one standard deviation above or below the country mean, respectively.

The annual views varied from 50 (Northern Mariana Islands) to 179,007 (Thailand) (Figure). Unimodal and bimodal peaks in traffic were observed in January, Summer (July-August), and Autumn (October-November). There were five different patterns: 1. January peak (Cape Verde); 2. January/Summer (Malaysia); 3. January/Autumn (Sri Lanka, Thailand, Vietnam, South Africa), 4. Summer (Dominican Republic, Indonesia, Mexico); 5. Autumn (India).

Information seeking behaviours for pre-travel health advice varied by month and destination country. The variation is likely to reflect traveller flows, information seeking/consultation lead time, purpose of travel, actual and perceived risk, and recommendations for vaccination and other protective measures. This information is useful for planning the revision of country pages and to ensure that they align with traveller needs. Future work could look at Big Data sources such as travel booking transactions to gain insight into e.g. destinations with a mismatch between the time available before travel and the recommended vaccine schedule or pre-travel health information seeking.

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1. Presented as a poster at the 7<sup>th</sup> Northern European Conference of Travel Medicine (NECTM7), Stockholm, Sweden, 2-4 May 2018

### **Reference**

(1) Petersen J, Simons H, Patel D. Access to yellow fever travel vaccination centres in England, Wales, and Northern Ireland: A geographical study. *Travel Med Infect Dis*. 2017 Jul - Aug;18:24-29. doi: 10.1016/j.tmaid.2017.07.002

**Figure** Number of unique page views in 2017 by country and seasonal variation for the Top10 most queried countries.

