



Abstract

Background: Pre-travel medical consultations attempt to reduce travel-associated risks by behavioral modification, vaccination and medications. Provider understanding of quantitative risk of commonly discussed travel topics is poorly characterized. We investigated travel medicine provider understanding of quantitative risk of common travel-associated diseases, and explored how providers relay risk estimates to travelers.

Methods: After institutional review board (IRB) approval, an online anonymous survey was sent to the International Society for Travel Medicine Listserv. Travel medicine experience, practice patterns and demographics were recorded. Respondents estimated quantitative risk of various destination-specific diseases. Descriptive statistics were completed.

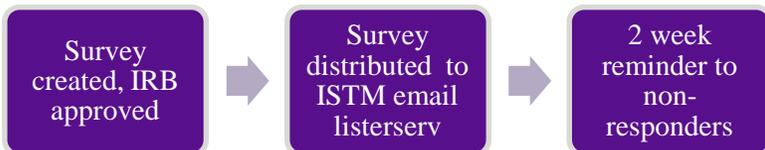
Results: Of 114 respondents, most were experienced travel medicine providers (79% saw > 6 travel visits monthly). Overall risk estimates are in **Table 1**. Compared with published literature, providers gave accurate risk estimates for some diseases (yellow fever, traveler's diarrhea), but overestimated quantitative risk for others (Japanese encephalitis, hepatitis A, cholera). Interquartile range was greatest for Japanese encephalitis and cholera, reflecting a wider range of risk estimates. Most (81%) providers used general risk descriptions (high, low, none) and a minority (14%) discussed quantitative risk with travelers.

Conclusions: Experienced travel medicine providers overestimated risk of several vaccine preventable illnesses, though risk estimates for others were close to published estimates. Most providers do not use quantitative risk in pre-travel consultations. Improved quantitative risk understanding may improve the quality of pre-travel consultations.

Background

- Travel medicine consultations are increasing in demand, with an estimated ~2 billion annual international arrivals by 2030.
- During consultation, education of the travel-associated illness risk is paramount toward informed decision making.
- **Perception of risk is subjective and varies between patients.**
 - Risk is best communicated unbiased, using natural frequencies, common denominators and absolute risk.¹
- Data exists on cohorts of travelers, provider data remains scarce.

Methods



Results

DEMOGRAPHICS

- N = 114
- 33% male, 67% female
- 70% N. America, 18% Europe
- 95% travel medicine CME
- 67% travel medicine certified

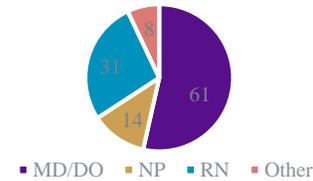


Figure 1. Provider's Professional Degree

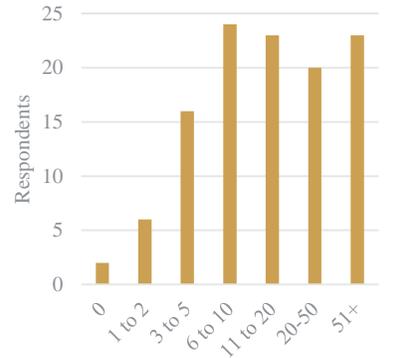


Figure 2. Monthly number of travel medicine visits

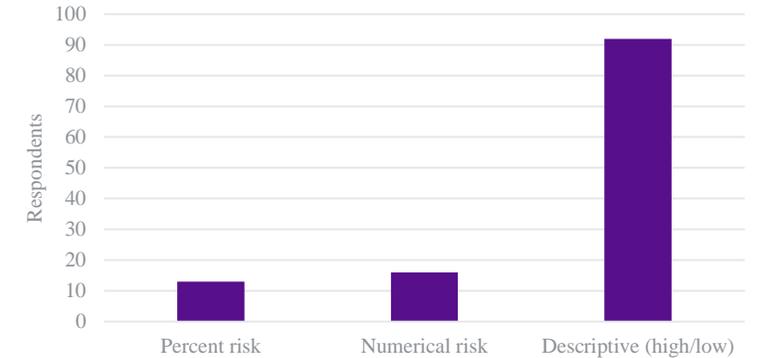


Figure 3. Characterizing provider's risk counseling practices. Providers were asked "how do you discuss risk with your patients?"

Travel-associated illness	Median	IQR	Reference
Traveler's diarrhea (<i>India</i>)	1:3	1:2 – 1:5	1:3 ²
Malaria (<i>W. Africa</i>)	1:10	1:5 – 1:85	1:50 ³
Influenza (<i>Indonesia</i>)	1:100	1:25 – 1:500	1:100 ⁴
Dog bite (<i>SE Asia</i>)	1:100	1:50 – 1:1000	1:100 ⁵
Yellow Fever (<i>W. Africa</i>) ^Δ	1:2000	1:100 – 1:10,000	1:2000 ⁶
TBE (<i>Austria</i>)	1:1,000	1:100 – 1:10,000	1:10,000 ⁷
Hepatitis A (<i>Kenya</i>) ^Δ	1:100	1:25 – 1:1000	1:3000-1:8000 ⁸
Yellow Fever (<i>Brazil</i>) ^Δ	1:5000	1:200 – 1:25,000	1:20,000 ⁶
Cholera (<i>Uganda</i>)	1:10,000	1:500 – 1:100,000	1:500,000 ⁹
Japanese Encephalitis (<i>Vietnam</i>)	1:10,000	1:500 – 1:200,000	1:1,250,000 ¹⁰

Table 1. Provider's risk estimates for selected travel related illnesses. An unvaccinated individual not taking chemoprophylaxis (if applicable) for one month except ^Δ2 week exposure. IQR = interquartile range; TBE = Tick borne encephalitis.

Conclusions

- Travel medicine providers accurately predict quantitative risk of common travel associated illnesses.
- With a few exceptions, travel medicine providers **overestimate** the risk of vaccine preventable illnesses.
 - Especially hepatitis A, cholera and Japanese encephalitis
- Only 14% of providers counseled using quantitative risk.
- Improved risk understanding of providers or alternative formats to convey risk may improve pre-travel consultation.

Limitations

- Inherent sampling bias with any survey data collection.
- Risk estimates are for the "average traveler," often itinerary is key.
- Quality of reference data, especially rare illnesses, is often poor.

References

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