



TOURIST: Tracking of Urgent Risks in Swiss Travelers

An exploratory study using mHealth to describe health risks to travelers

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Background

Travel medicine focuses on infectious disease

We seek to broaden understanding of risks:

- Accidents (e.g. motor vehicle or leisure)
- Chronic conditions (e.g. poor compliance with medication or change in routine during travel)

Preliminary Focus: Travelers in Thailand



mHealth Technology

Partner: ETH Wearable Computing Lab

Multiple Data Sources:

Smartphone data collection:

- Streaming Data (GPS-tracking, weather, location data)
- Electronic questionnaires from travelers on risky behaviors (i.e. drinking local tap water) and symptoms (i.e. fever).

Traditional pre-travel paper questionnaires

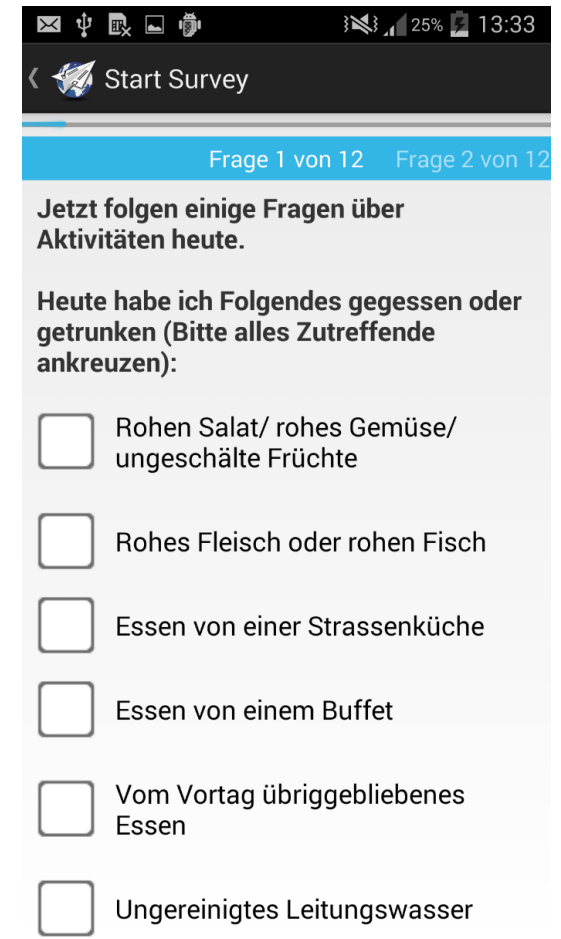
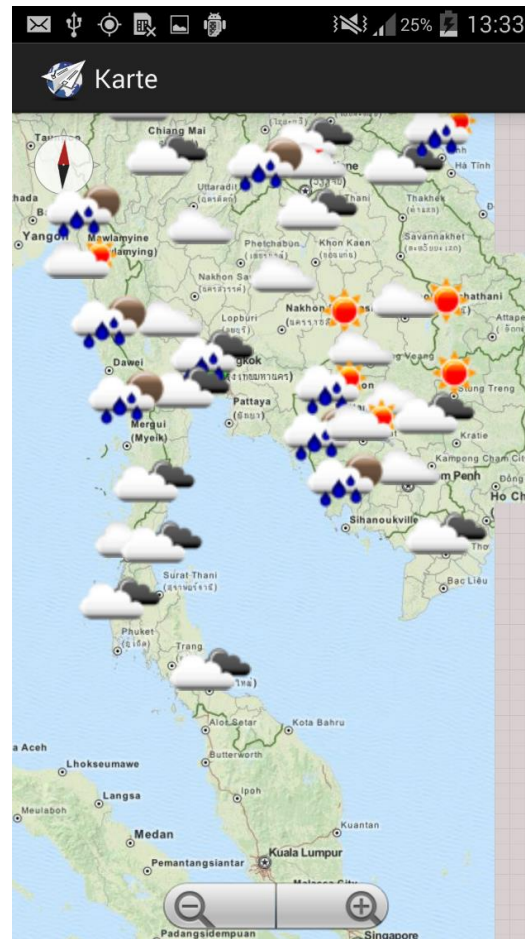
Publically available data collected:

- Examples: disease epidemiology, traffic patterns





Data Collection via Smartphone App





Study Objectives

Primary:

To characterize risk behaviors of travelers, including the subpopulation of travelers with chronic diseases, and their consequences on health.



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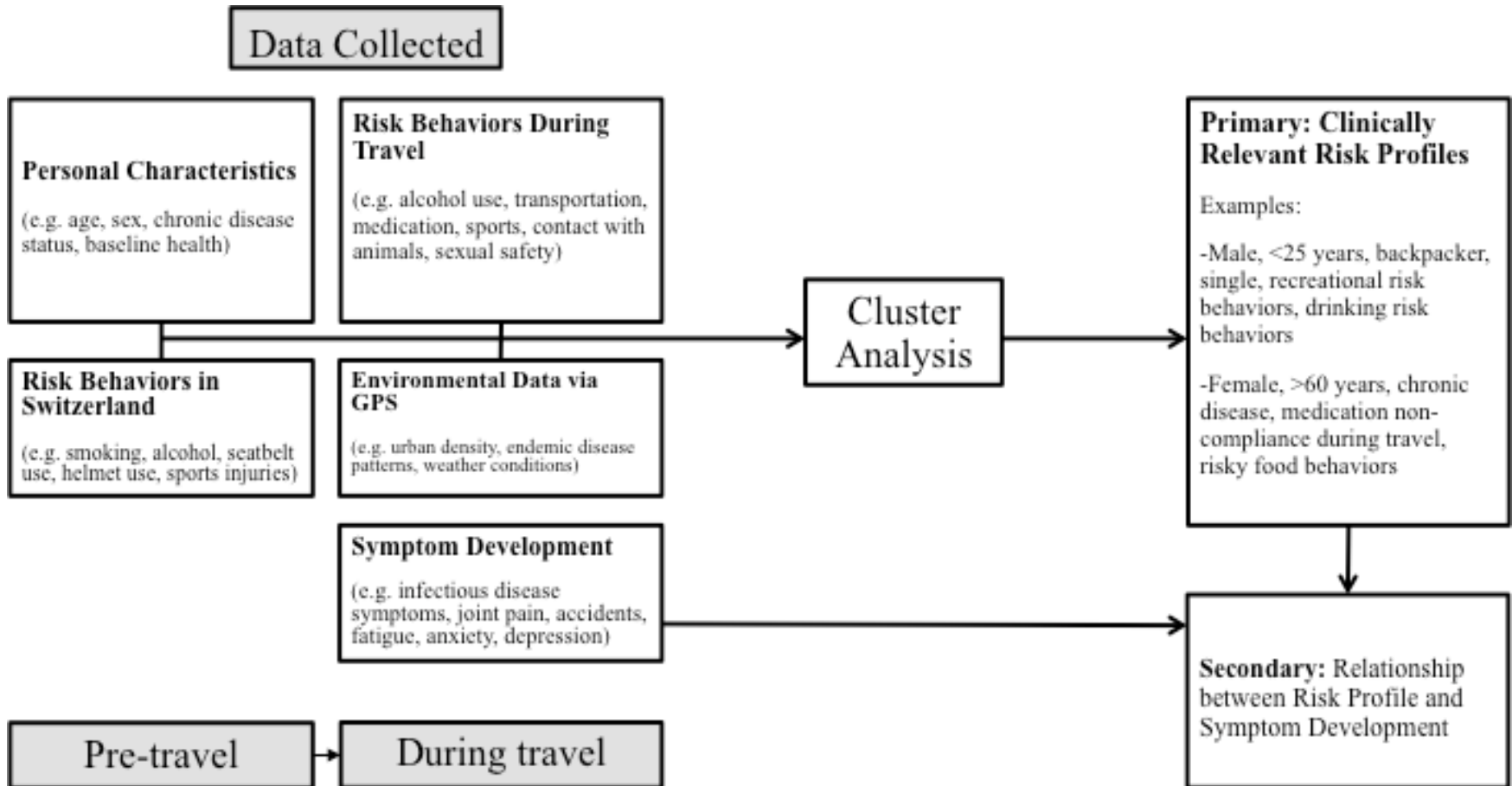
Secondary:

To assess the feasibility of a smartphone app (TRAVEL app) for real-time travel health data collection for risk assessment.

To investigate the relations between travelers' specific risk profile and symptom development.



An Innovative Data-Driven Analysis



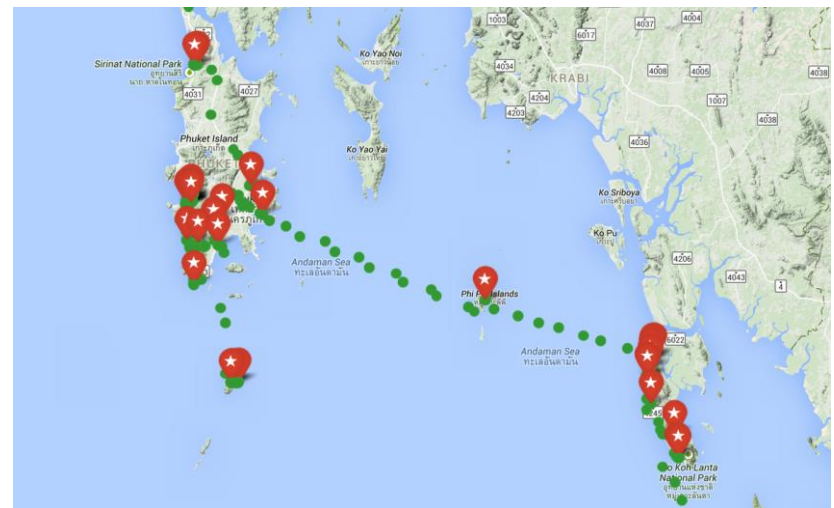
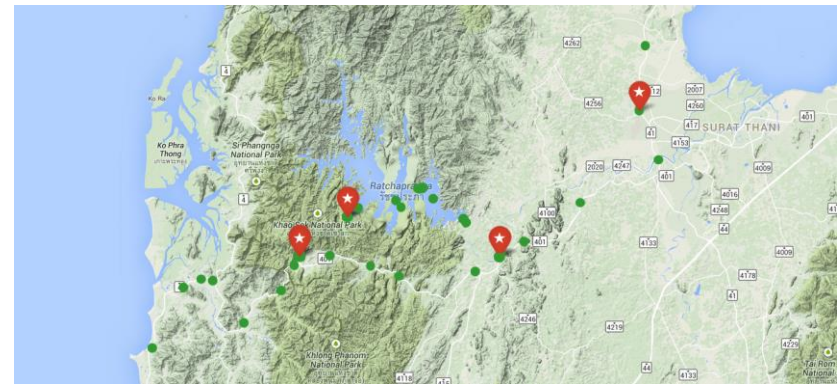
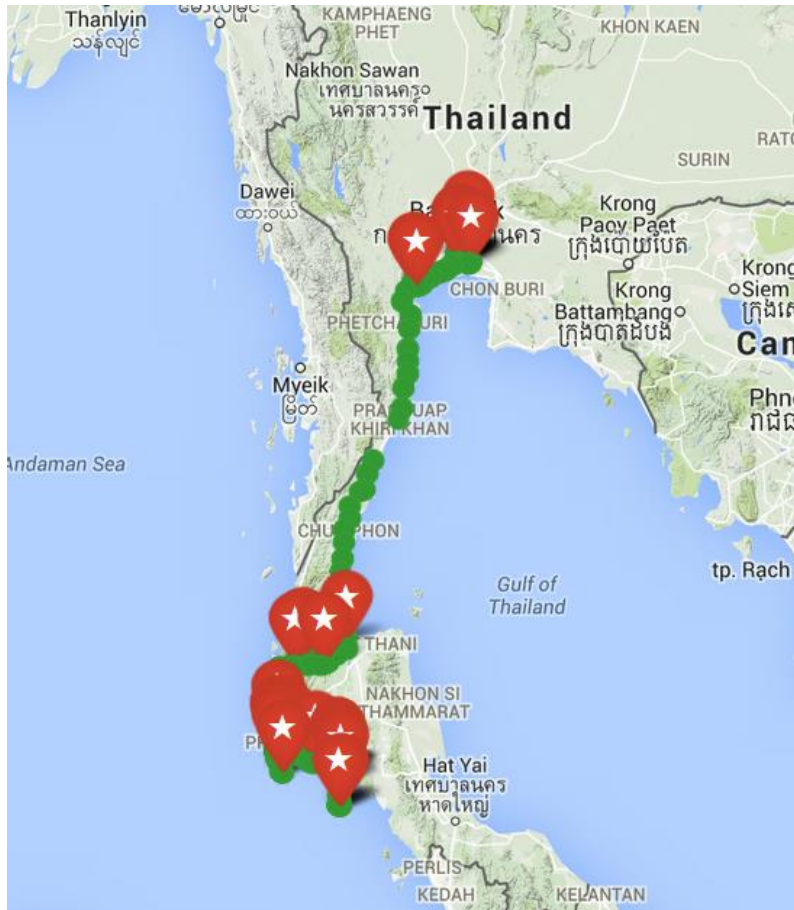


Interim Analysis: a Look at the Data Halfway Through the Study

- 43/61 (70.5%) of participants participated in the study by completing at least 1 survey (range: 1-25 surveys) during travel
- These 43 travelers on average filled out 11.7 (median: 11.0) surveys during travel, which is an average of .85 surveys per day spent in Thailand
- Mean age: 32.5, median: 31.5, range: 18-53
- Sex: 65.1% female, 34.9% male

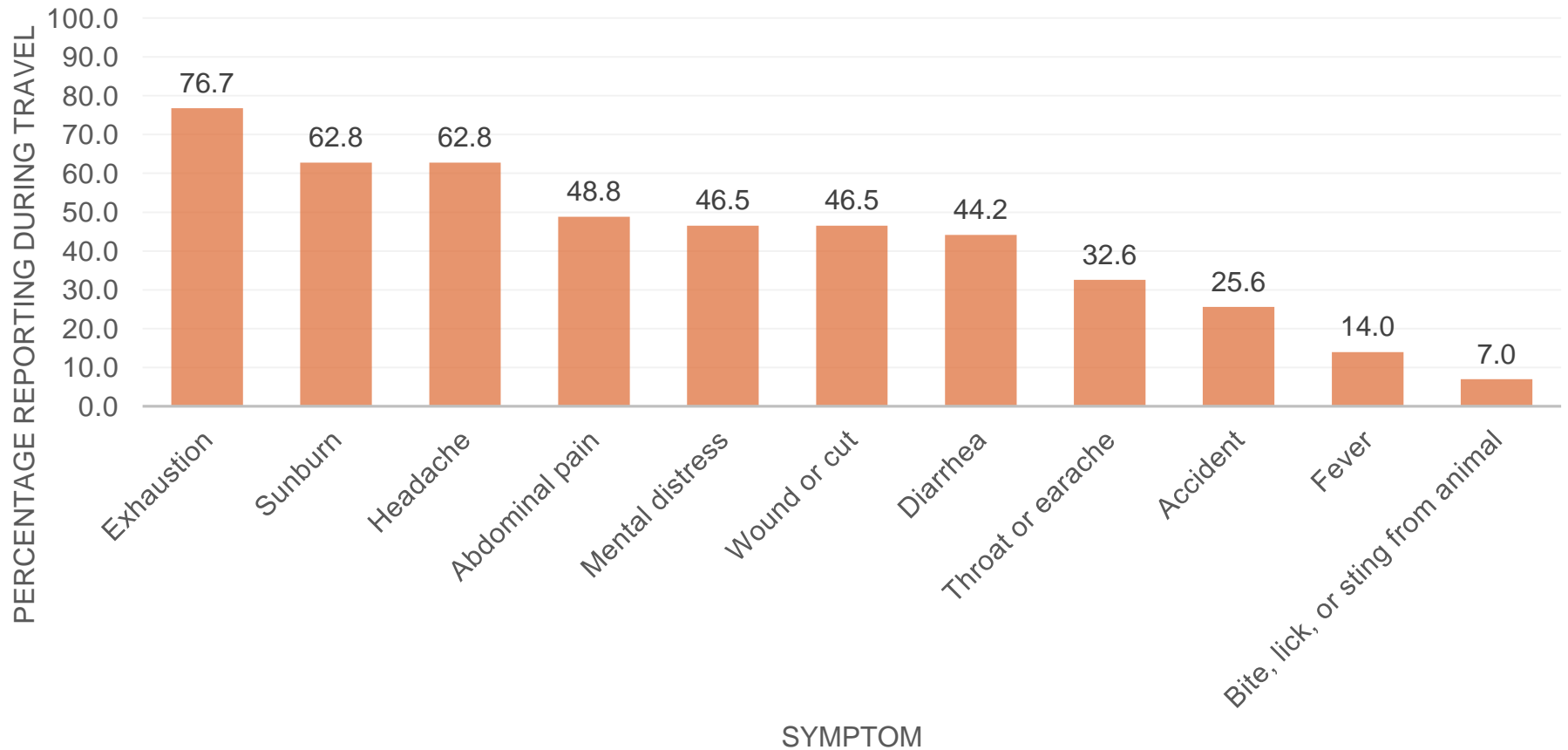


Case Study: The Do It All Traveler



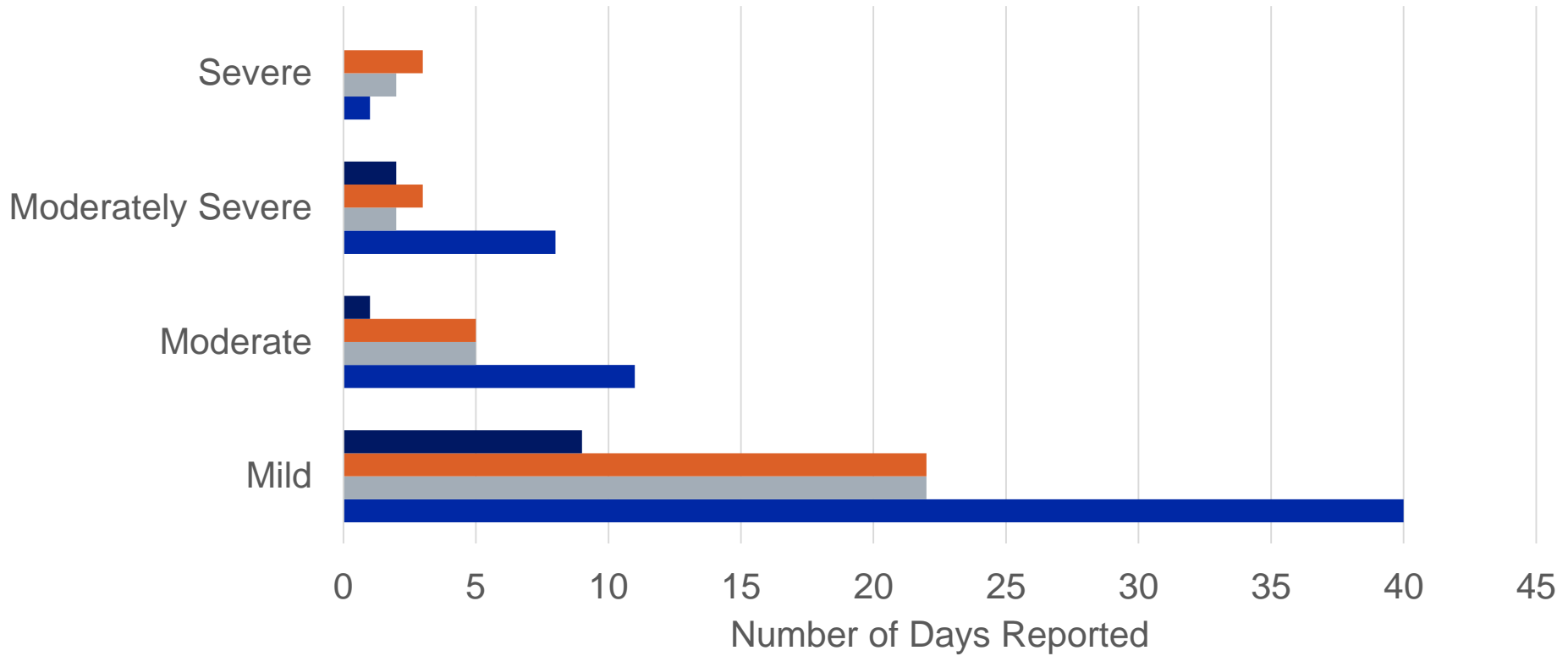


Health outcomes with non-infectious disease causes are common





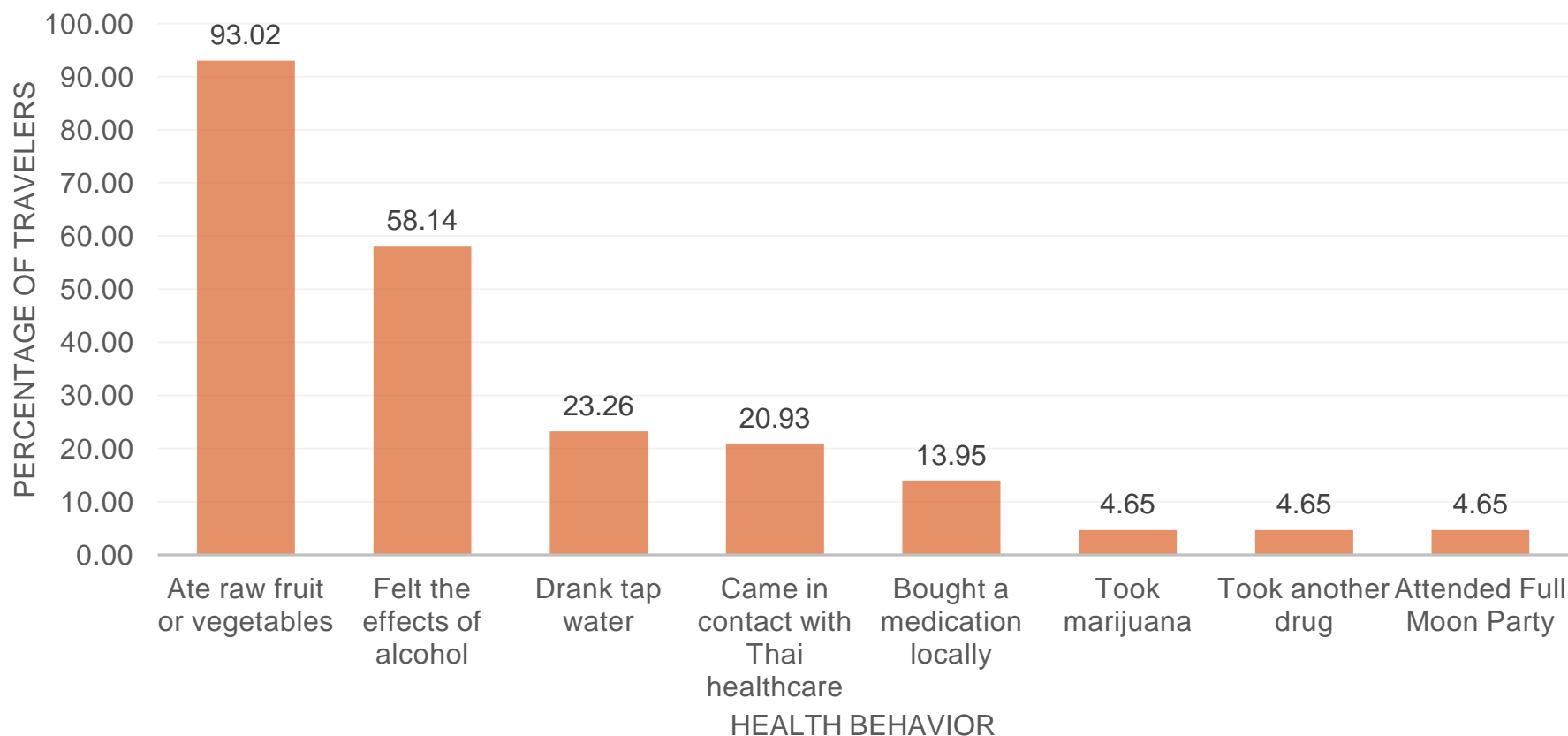
Even in a small sample, self-rated severe non-infectious disease outcomes occur



■ Bite, lick, or sting from animal ■ Accident ■ Wound or cut ■ Mental distress



«Risky» health behaviors are common during travel





Summary: an E-Doctor in Your Pocket

- Revolutionary new data collection tool utilizing mHealth technology
- Potential for almost real-time data collection during travel, limiting recall bias
- Initial findings support importance of research beyond infectious disease in travel medicine

Future Steps

- Expansion to new regions and research questions
- Eventually, an interactive device that will help individuals and their at-home physicians to monitor health while traveling



Thank you!

Contact information

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