

## **An Exploratory Study using mHealth Technology to Describe Health Risks to Travelers**

### **Introduction**

Emerging mHealth technology shows great potential in more accurately and completely documenting travel itineraries and mapping health and disease risk patterns of travelers, in particular the growing numbers of vulnerable travelers such as pregnant women, the elderly, and those with underlying conditions.

### **Methods and Materials**

In partnership with the ETH Wearable Computing Lab, the Epidemiology, Biostatistics, and Prevention Institute at the University of Zürich have developed a novel data collection instrument: a smartphone application that collects data on travelers' exact itinerary using passive GPS localization, and daily information via a daily smartphone-administered questionnaire on health risk behavior, accidents, and symptoms while traveling. This ongoing study consists of 100 adult travelers to Thailand recruited from the Travel Clinic network of Zürich and Basel between January-July 2015.

### **Results**

More than half (n=61) of the planned study participants were enrolled by March 31, 2015. The incidence of identified health risk behaviors, symptoms, and accidents will be described and mapped by region and destination type (e.g. city, beach resort, national park). The itinerary and traveler demographic characteristics will be analyzed as predictors for health risk behavior and the development of symptoms. In addition, questionnaire completion rates will be compared to traditional travel questionnaire methodology to determine the feasibility of the app as a data collection tool in travel medicine. During an interim analysis, completion rates of the study were high (83.8%, 31/37).

### **Conclusions**

Use of a smartphone app to collect health information is technically feasible and acceptable among the traveler population, minimizes recall bias, and greatly increases the quality and quantity of data collected during travel. MHealth technology shows great potential for innovation in the field of travel medicine.

Track: 4.5 Population growth, migration, 2d dynamics