

## Defining the geographical area of interest

Define geographical origin and destination location boundaries in country A and country B

## Estimating malaria prevalence per location

Calculate mean population-weighted PfPR for each location in country A using PfPR endemicity (Gething et al 2011) and population distribution ([www.afripop.org](http://www.afripop.org)) maps

Calculate mean population-weighted PfPR for each age group in each location in country A using mathematical models (Smith et al (2007))

## Categorizing and estimating relevant HPM flows between locations

Estimate origin-destination HPM between locations in A and B using survey data\*

Residents of country A travelling to country B

Residents of country B travelling to country A and back to country B

## Mathematical models to estimate infection acquisition

Convert PfPR to EIR using mathematical models (Smith et al (2010))

Convert EIR to Probability of infection (with time spent in location in country A using mathematical models (Le Menach et al 2011))

## Estimating imported infections

Estimate HPM flow per age group per location in country A \* population-weighted PfPR for location in country A

Estimate HPM flow per age group per location in country A \* Probability of infection per person\*

Estimate number of imported infections per receiving location in country B

