Facilitating the systematic genomic surveillance of malaria via a global network of travel clinics

GeoSentinel 🌣 SUMM SUrveillance of Molecular

epidemiology of Malaria In Travelers

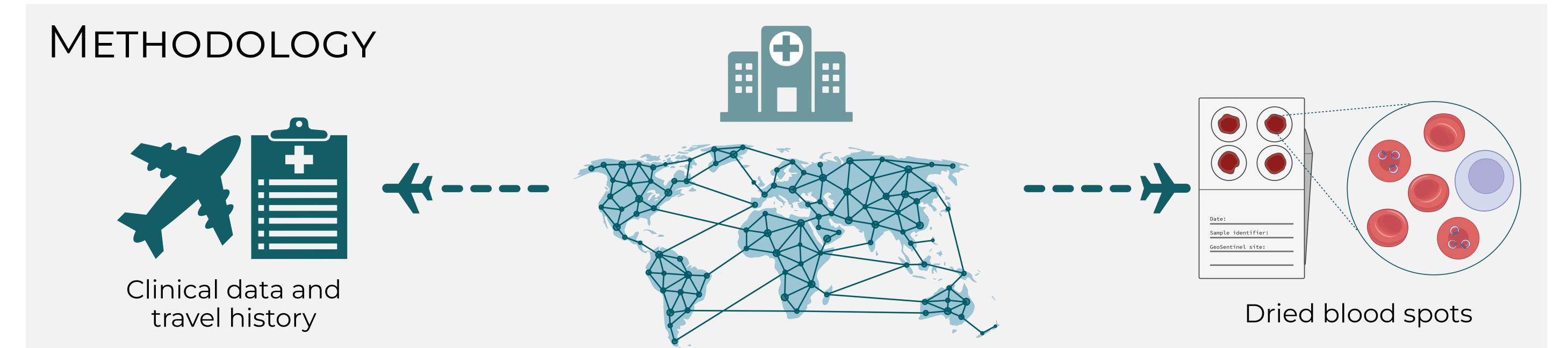
GOALS AND OBJECTIVES

We aim to provide actionable data that Build a FAIR and frequently updated data platform for the genomic epidemiology of travel-related cases.

TRAVELERS HARBOUR AN UNTAPPED SOURCE OF GENOMIC PARASITE DATA



is complementary to existing efforts and that can serve further research, inform case management, prioritise efficacy studies, and aid in surveillance and control efforts.	Identify known and novel markers of drug and diagnostic resistance.	Malaria GEN IP17 samples (1984-2018)
	Investigate potential drivers of treatment failure among travelers.	GeoSentinel cases (2015-2024) 500 400 300 200
	Build machine learning tools to predict parasite geographic origin .	Overview of distribution of <i>P. falciparum</i> samples in MalariaGEN's Pf7 genomic database (>16,000 samples between 1984-2018) and travel-related malaria cases reported by the network of GeoSentinel sites (>5,000 cases between 2015-2024).



Network of travel clinics enrolment of travelers with malaria (all *Plasmodium* species)



Protected database of surveillance info (and treatment outcome follow-up for selected

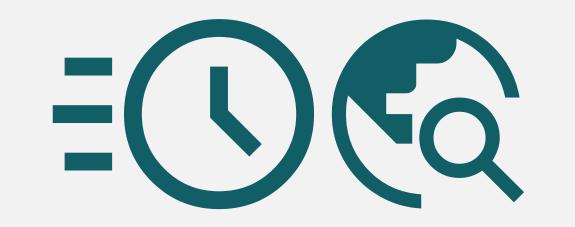
FAIR data platform with "close-to-real-time" genomic and clinical data on travel-related malaria

WHY DOES IT MATTER?

nf-core 👚 **X** nextflow Whole-genome sequencing and short variant discovery via open and reproducible

bioinformatics pipelines and

standardized lab protocols









Identify drivers of treatment failure

Increased **temporal** and geographical resolution

Prioritise **therapeutic** efficacy studies and inform **clinical practice**

Trace cases of **airport** malaria and contribute to outbreak preparedness



poster

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(Some) figures created with BioRender.com.



