

### Sean Park | Class of 2024 | Molecular Biology

Geospatial Health and Development (GHD) Team | Malaria Atlas Project (MAP) | Telethon Kids Institute (TKI) | Perth, Australia  
 Funded by the Center for Health and Wellbeing (CHW) under the Global Health Internship Program

#### Introduction

- The MAP team was tasked by the Gates Foundation + the Burkina Faso Ministry of Health.
- The ultimate goal of this project is to understand the impact of Community Health Worker (CHW) **scale-up** on malaria prevalence in Burkina Faso (BF).

#### Objective of Internship

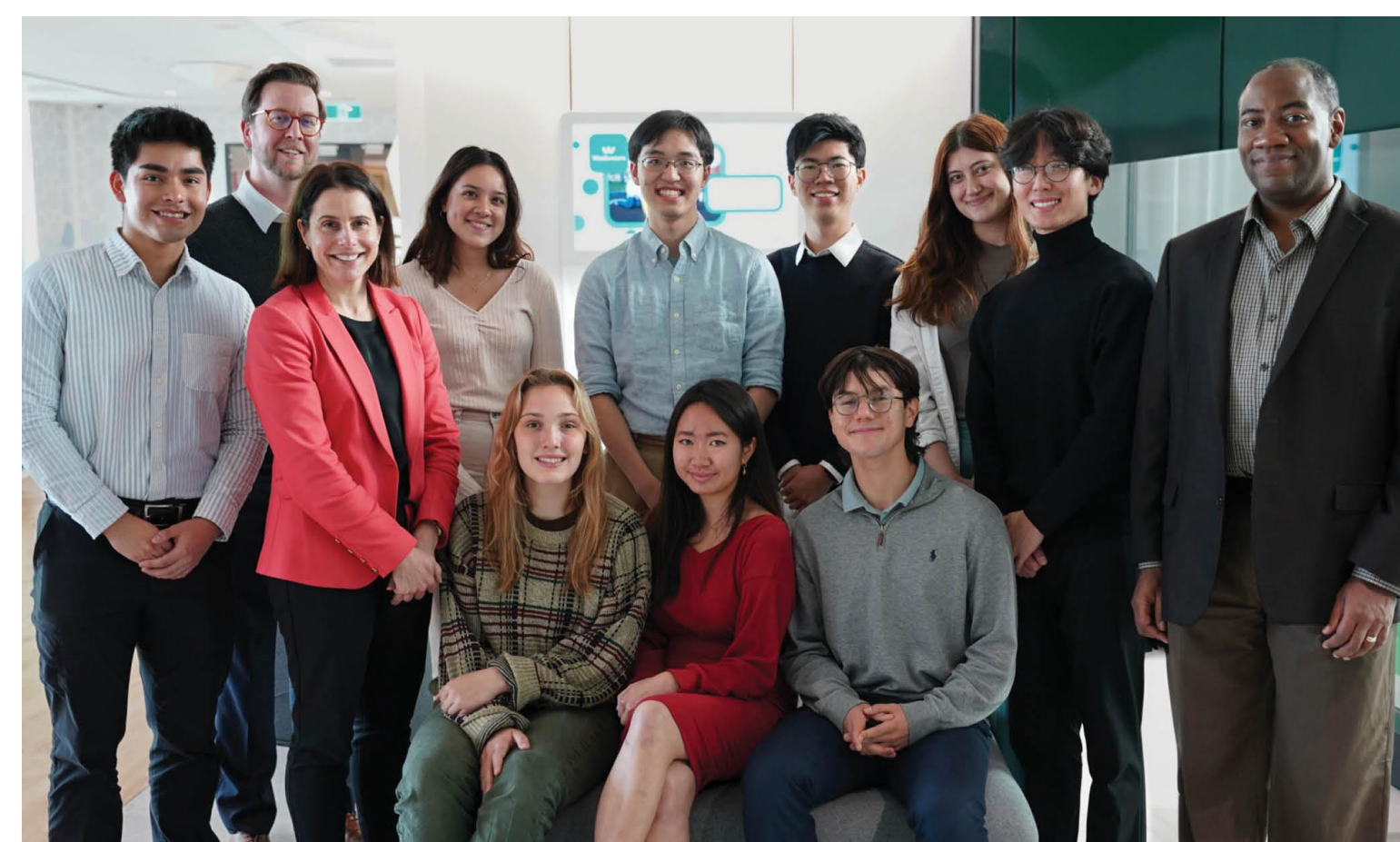
- The objective of this internship was to perform an Exploratory Data Analysis (EDA) of malaria routine case data from BF and clean/ impute missing data.

#### Work Profile

- I began by putting together a country profile of BF.
- Then, I used the R programming language to perform an EDA on the incomplete malaria routine case data provided by the BF Ministry of Health.
- By using a model provided by the team, I imputed the missing data.

#### Challenges

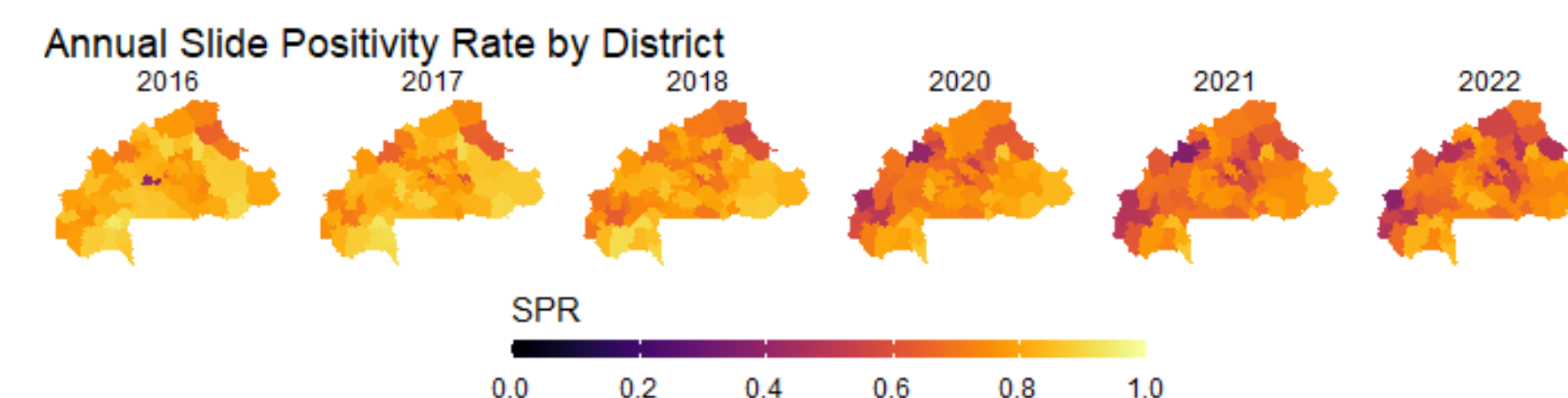
- This project is faced with a variety of challenges that are difficult to control for:
  - **(1)** Malaria is not the only disease highly prevalent in BF; meningitis, measles, cholera, and malnutrition are all **alarmingly high**.
  - **(2)** There is a **humanitarian crisis & security issues**, displacing +560,000 citizens, closing +8% of health facilities, and depriving +1 million people of access to healthcare.
  - **(3) No case data** was reported in **2019** due to a major healthcare strike.



Summer 2023 - Princeton team at Telethon Kids Institute (Perth, Australia)



Logo of the Malaria Atlas Project. Learn more about the project at [www.malariaatlas.org](http://www.malariaatlas.org)



Map created by myself using R showing the **annual positivity rate of malaria** in each district that make up Burkina Faso (2016 through 2022; excludes 2019)

#### Reflection

- This project introduced me to a field of research I never knew existed before.
- This internship further solidified my passion in global health.
- Improved my coding, communication, and presentation skills.
- I am grateful for the welcoming and collaborative environment that the team provided.
- Greatly appreciative of TKI's dedication and mission towards happy, healthy kids.

#### Next Steps

- Up next is an impact analysis of CHWs in BF to be published in a paper, which will be presented to the BF Ministry of Health.

#### Questions

- Does introducing more CHWs decrease malaria cases in BF?
- If not, what are some alternative methods to continue to decrease malaria prevalence in BF?

#### Conclusion

- While no conclusions can be drawn just yet, the data is cleaned up and ready for an impact analysis.

#### Acknowledgements

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