Dr Arran Hamlet

EPIDEMIC INTELLIGENCE SERVICE OFFICER

Centers for Disease Control and Prevention, Atlanta, United States of America

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Infectious disease epidemiologist and mathematical modeller with extensive experience in data analysis and statistical/mechanistic modelling to inform outbreak response and public health policy. Strong interest in work within LMIC settings and the programming of interactive tools for data analysis and decision making.

Qualifications

PhD titled 'Yellow fever in South America: The role of environment and host on transmission dynamics'

Jan 2017-Jan 2020

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Project focused on understanding the epidemiology of yellow fever across South America, with a focus on Brazil, examining the roles of climate, environment and host, using a variety of statistical and mechanistic modelling techniques.
- Awarded 3 Medical Research Council (MRC) Exceptional Training Opportunity awards (total £4,589) and a MRC pump priming award (£23,000) to present results as well as teach, design and run workshops in Brazil and Colombia for Ministries of Health and Universities.
- Supervised by Dr Tini Garske and Professor Neil Ferguson, fully funded by the UK Medical Research Council.

MSc in Epidemiology

Oct 2014-Oct 2015

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Studied a broad collection of topics before specialising in infectious disease epidemiology.
- Awarded a distinction for my dissertation project titled 'The Seasonality of Yellow Fever in Africa.'

BSc in Biology with Psychology

Sep 2011-May 2014

QUEEN MARY UNIVERSITY OF LONDON

London, United Kingdom

- Graduated with Upper Second-class Honours (2.1).

Employment

Epidemic Intelligence Service Officer

July 2022-

CENTERS FOR DISEASE CONTROL AND PREVENTION

Seattle, United States of America

- Primarily working on disease outbreak response, surveillance and policy.
- Projects include: Estimating the burden of long COVID in Washington state, Evaluating Tuberculosis and Rabies surveillance systems, Tuberculosis in the correctional system in Washington state, and communicable disease outbreak investigations.

Visiting Researcher

Jun 2022-

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Visiting researcher for mathematical and statistical modelling of malaria.

Postdoctoral Researcher (Malaria)

Jan 2020-Jun 2022

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Involved in a variety of projects assessing the public health impact of various control measures on the burden of malaria across Africa using mechanistic transmission models.
- Assessed the impact of disruption caused by the SARS-CoV-2 pandemic on malaria control across Africa. Results published Nature Medicine as joint first author.
- Lead researcher on a piece of work assessing the potential impact of Anopheles stephensi establishment on malaria transmission in Ethiopia.

Postdoctoral Researcher (Nigeria COVID-19 response)

Apr 2020-Dec 2020

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Lead researcher for Imperial College London's data analytics and modelling support for Nigeria.
- Conducted analysis to answer specific questions in order to provide evidence for decisions to be made by the Nigerian Presidential Task Force.
- Produced a multitide of reports as well as regular state-specicic analysis that fed into NCDC, US CDC and UK Department for International Development decision making.
- A number of position papers can be found at https://statehouse.gov.ng/covid19/2020/09/18/evidence-based-guidance-on-measures-to-curb-the-spread-of-covid-19/

Postdoctoral Researcher (COVID-19 response)

Feb 2020-Dec 2020

IMPERIAL COLLEGE LONDON

London, United Kingdom

- Provided technical support and input for numerous reports and projects, with a focus on work in Low-to-Middle-Income Countries (LMIC) and on quantifying the underascertainment of mortality.
- Seconded through the Global Outbreak Alert and Response Network to provide technical support for the WHO in Geneva Feb - Apr 2020.

PhD in Infectious Disease Modelling

Jun 2017 - Jan 2020

IMPERIAL COLLEGE LONDON

London, United Kingdom

- PhD thesis titled 'Yellow fever in South America: The role of environment and host on transmission dynamics'.

Research Assistant
IMPERIAL COLLEGE LONDON

Oct 2015 - Dec 2016

London, United Kingdom

- Outbreak analysis and response for the 2015-2016 outbreak in Angola and the Democratic Republic of the Congo working with the World Health Organization (WHO).
- Responsible for estimating population-level vaccination coverage across Africa and the development of an open-source tool to explore this information. Currently utilised by researchers and the WHO.

Consultancy

Course Instructor and Curriculum Designer
APPLIEDEPI

Jan 2022 -

Online

- Responsible for creating learning materials for self directed and taught courses designed to teach Epidemiologists how to code in R..
- Lead and assisted on taught courses teaching applied epidemiology to various Health Departments (Wales, Kazakhstan, Cambodia, Canada).
- Designed and created the Advanced Statistics in R course.

Epidemiologist: COVID-19
WORLD HEALTH ORGANIZATION

Feb 2020 - Apr 2020

Geneva, Switzerland

- Provided technical support for the WHO in the Health Emergency Information and Risk Assessment (HIM) pillar through GOARN deployment
- Work involved exploring and quantifying mortality, transmission and country specific impacts through data analysis and visualisation in real time as the COVID-19 pandemic unfolded. Aspects of data visualisation acknowledged in https://worldhealthorg.shinyapps.io/covid/. Continued to provide adhoc support till Dec 2020.

Epidemiologist: Yellow fever
WORLD HEALTH ORGANIZATION

Jul 2016 - Sep 2016

Geneva, Switzerland

- Commissioned to produce a report evaluating the risk of outbreaks of yellow fever across Africa as a result of ongoing transmission in Angola and the Democratic Republic of the Congo and the potential for introduction into Asia.

Epidemiologist
OZYGEN SYSTEMS

Feb 2016 - Mar 2016

London, United Kingdom

- Hired to produce a report on numerous pathogens involved in nosocomial infection and to evaluate the applicability of ozone decontamination technology in UK healthcare settings to limit their spread.

Teaching

Shortcourse co-organiser
IMPERIAL COLLEGE LONDON

Jan 2021 - Sep 2021

London, United Kingdom

- Co-organiser on the departments 'Mathematical modelling for the control of infectious diseases' short course, run since 1990 and designed to teach pubic health professionals about infectious disease modelling.
- Responsible for helping redesign, and restructure, the course in order to deliver it fully online in light of the ongoing COVID-19 pandemic.

PhD Assessor
UNIVERSITY OF SÃO PAULO

Oct 2020-

São Paulo, Brazil

- Examining progress and assisting with the research of a PhD student's project titled 'Spatio-temporal dynamics of yellow fever in Brazil'.

MSc Dissertation Supervisor
IMPERIAL COLLEGE LONDON

May 2020 - Oct 2020

London, United Kingdom

- Designed and supervised MSc Epidemiology projects looking at the effect of forest fragmentation on yellow fever in Southern Brazil, and exploring the differences in transmission dynamics between yellow fever, dengue and zika.

Graduate Teaching Assistant
IMPERIAL COLLEGE LONDON

Jan 2017 - Jun 2022

London, United Kingdom

- Teaching assistant and demonstrator for numerous modules on infectious disease modelling, statistical analysis and epidemiology.

Shortcourse Demonstrator
IMPERIAL COLLEGE LONDON

Jun 2019

Bogota, Colombia

- Demonstrator and lecturer on a course coordinated between Imperial College London, Instituto Nacional De Salud and Pontificia Universidad Javeriana Bogota which aimed to give an introduction to infectious disease modelling.

Shortcourse Demonstrator
IMPERIAL COLLEGE LONDON

Sep 2017/Sep 2018/Sep 2019

London, United Kingdom

- Demonstrator on numerous practical exercises and lectures on data analysis and infectious disease modelling on the aforementioned departments 'Mathematical modelling for the control of infectious diseases' short course.

Design and implementation of an online platform for teaching infectious disease modelling
IMPERIAL COLLEGE LONDON

Jan 2019 - Sept 2019

London, United Kingdom

- Responsible for liasing between programming team and course organisers to design and translate existing practicals from Berkely Madonna to an online web interface running the Odin language.
- Highly successful implementation with the platform now being used for both future shortcourses and the MSc Epidemiology at Imperial College London.

Funding awards

MRC Pump Priming (£23,000)

Nov 2019

Imperial College London

London, United Kingdom

- Jointly awarded £23,000 with co-PI Natsuko Imai to run a week long training workshop in Rio de Janeiro focusing on the use of mathematical models in outbreak response and policy in July 2020.
- Course was to be run collaboratively with the Brazilian Ministry of Health and Fundação Oswaldo Cruz (Fiocruz).
- Postponed due to the COVID-19 pandemic and rescheduled for August 2022.

MRC Exceptional Training Opportunity

Oct 2017/Aug 2018/Jun 2019

Imperial College London

London, United Kingdom

- Oct 2017: Awarded £650 to travel to the WHO in Geneva, Switzerland to present my work on yellow fever and discuss with the yellow fever team how my PhD can provide support for their activities.
- Aug 2018: Awarded £2220 to travel to Rio de Janiro and Brasilia, Brazil, and present my results on modelling yellow fever in South America at a meeting co-hosted by the Brazilian Ministry of Health and the Pan American Health Organization, as well as to set up a research collaboration with Fiocruz.
- Jun 2019: Awarded £1719 to travel to Bogota, Colombia to lecture and demonstrate on a course coordinated between Imperial College London, Instituto Nacional De Salud and Pontificia Universidad Javeriana Bogota which aimed to give an introduction to infectious disease modelling.

Presentations

Gastrointestinal illness among hikers on the Washington State Pacific Crest Trail, August–October 2022.

Apr 2023

EIS Conference 2023 and CSTE 2023

Atlanta, United States of America

The potential public health consequences of COVID-19 on malaria in Africa

Oct 2020

London Malaria Network

London, United Kingdom

Seasonality of agricultural exposure more important than seasonality of climate for predicting yellow fever transmission in Brazil

Nov 2019

American Society of Tropical Medicine and Hygiene

National Harbor, United States of America

Statistical and mathematical modelling of yellow fever in South America

Jun 2019

Outbreak Analysis and Modelling for Public Health

Bogota, Colombia

Land-use, vegetation and habitat fragmentation as drivers of yellow fever transmission in South America

Feb 2019

International Conference on One Medicine One Science

Chiang Mai, Thailand

Yellow fever in Brazil - Modelling as a tool to inform outbreak response and public health policy

Nov 2018

Yellow fever forecasting: Embedding modelling in lessons learnt exercises

Brasilia, Brazil

Publications

First author publications

A Hamlet, D Hoffman, S Saydah, I Painter

Preventing Chronic Disease

Estimating the Burden and Distribution of Post–COVID-19 Condition in Washington State, March 2020–October 2023

2024

A Hamlet, K Begley, S Miko, L Stewart, W Tellier, JG-D Leon, H Booth, S Lippman, A Kahler, A Roundtree, A Hatada, S Lindquist, B Melius, M Goldoft, M Mattioli, M Holshue

MMWR. Morbidity and Mortality Weekly Report

Notes from the Field: Gastrointestinal Illness Among Hikers on the Pacific Crest Trail—Washington, August–October 2022

2023

A Hamlet, D Dengela, JE Tongren, FG Tadesse, T Bousema, M Sinka, A Seyoum, SR Irish, JS Armistead, T Churcher

BMC medicine

The potential impact of Anopheles stephensi establishment on the transmission of Plasmodium falciparum in Ethiopia and prospective control measures

2022

A Hamlet, DG Ramos, KAM Gaythorpe, APM Romano, T Garske, NM Ferguson

Nature communications

Seasonality of agricultural exposure as an important predictor of seasonal yellow fever spillover in Brazil

2021

A Hamlet, KAM Gaythorpe, T Garske, NM Ferguson

PLoS neglected tropical diseases

Seasonal and inter-annual drivers of yellow fever transmission in South America

2021

A Hamlet

Imperial College London

Yellow fever in South America: The role of environment and host on transmission dynamics

2020

A Hamlet, K Jean, S Yactayo, J Benzler, L Cibrelus, N Ferguson, T Garske

POLICI: A WEB APPLICATION FOR VISUALISING AND EXTRACTING YELLOW FEVER VACCINATION COVERAGE IN AFRICA

A Hamlet, Kév Jean, W Perea, S Yactayo, J Biey, MV Kerkhove, N Ferguson, T Garske

THE SEASONAL INFLUENCE OF CLIMATE AND ENVIRONMENT ON YELLOW FEVER TRANSMISSION ACROSS AFRICA

36 ADDITIONAL NON-FIRST AUTHOR PUBLICATIONS

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