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Profile:

I am a postdoctoral scholar at Pennsylvania State University investigating the risk of Lassa fever infection in humans following spillover from rodent hosts. I am a fellow-in-residence at the Verena Consortium where I study the ecological and evolutionary aspects of rodent-associated zoonoses more broadly. I am also a qualified medical doctor with experience predominantly in infectious diseases and emergency medicine.

Qualifications

2019-2023 - The Royal Veterinary College, University College London and the London School of Hygiene and Tropical Medicine: **PhD in Emerging Zoonotic Disease Epidemiology**

2018-2019 - The London School of Hygiene and Tropical Medicine:

MSc Tropical Medicine and International Health (distinction)

2018 - The London School of Hygiene and Tropical Medicine:

Professional Diploma in Tropical Medicine and Hygiene (DTM&H)

2017 - Royal College of Physicians, London:

Membership of the Royal College of Physicians exam part 1

2012-2016 - King's College London:

Bachelor of Medicine and Bachelor of Surgery (merit)

Equivalent to US MD

2010-2011 - University of Leeds:

MSc Natural Sciences (Biodiversity and Conservation) (merit)

2006-2010 - University of Leeds:

BSc Natural Sciences (with Industrial Placement) (2:1)

Academic

2023-ongoing: Postdoctoral Scholar in the Department of Anthropology, Pennsylvania State University. Working in the RISK lab investigating Lassa mammarenavirus spillover from rodents to humans across spatial scales in Nigeria.

2023-ongoing: Fellow-in-residence with the Verena Consortium, Georgetown University. Studying the ecology and evolution of rodent-associated zoonoses.

Clinical

2021-2022: Senior analyst with the Outbreak Surveillance Team at the UK Health Security Agency, working on the COVID-19 and mpox response as an epidemiologist.

2016-2022: Qualified medical doctor, primarily working in infectious diseases at the Hospital for Tropical Diseases, UCLH, London.

Current research grants

2023-2024 - Verena Consortium Fellowship-in-residence grant. 4 month funding of \$5,000 based at Washington State University.

2019-2023 - PhD studentship awarded through the London Interdisciplinary Doctoral Programme funded by the Biotechnology and Biological Sciences Research Council. 48 month funding of £300,000 based at the Royal Veterinary College, London, London School of Hygiene and Tropical Medicine and University College London.

First Author Publications

Simons, D., Attfield, L. A., Jones, K. E., Watson-Jones, D., Kock, R. (2023). Rodent trapping studies as an overlooked information source for understanding endemic and novel zoonotic spillover. *PLOS NTD*.

Simons, D. (2022) Lassa fever cases suffer from severe under-reporting based on reported fatalities. *International Health*.

Simons, D., Perski, O., Shahab, L., Brown, J., & Bailey, R. (2021). The association of smoking status with hospitalisation for COVID-19 compared with other respiratory viruses a year previous: A case-control study at a single UK National Health Service trust. *F1000Research*.

Simons, D., Shahab, L., Brown, J., & Perski, O. (2020). The association of smoking status with SARS-CoV-2 infection, hospitalization and mortality from COVID-19: a living rapid evidence review with Bayesian meta-analyses (version 7). *Addiction*.

Simons, D., Brown, J., Shahab, L., & Perski, O. (2020). Smoking and COVID-19: Rapid evidence review for the Royal College of Physicians, London (UK). *Qeios*.

Selected Other Publications

Andrews, N., Stowe, J., ... **Simons, D.**, ... Lopez Bernal, J., (2022) Covid-19 vaccine effectiveness against the Omicron (B. 1.1. 529) variant, *New England Journal of Medicine* - responsible for the development and maintenance of the Omicron variant linelist for UKHSA.

Vivancos, R., Anderson, C., ... **Simons, D.**, ... Susan Hopkins, (2022) Community transmission of monkeypox in the United Kingdom, April to May 2022. *Eurosurveillance* - responsible for the development and maintenance of the Monkeypox outbreak linelist for UKHSA including additional analyses.

Arruda, L. B., Haider, N., ... **Simons, D.**, ... Kock, R. (2021) The niche of One Health approaches in Lassa fever surveillance and control. *Annals of Clinical Microbiology and Antimicrobials*. - responsible section on Lassa mammarenavirus reservoirs and analysis of geographic location of cases.

Haider, N., Yavlinsky, A., **Simons, D.**, Osman, A. Y., Ntoumi, F., Zumla, A., Kock R., (2020) Passengers' destinations from China: low risk of novel coronavirus (2019-nCoV) transmission into Africa and South America. *Epidemiology and Infection* - responsible for model development, interpretation and additional analyses.

Additional publications are available via my [Google Scholar profile](#) or above ORCID.

Selected presentations at workshops and conferences

2023

- Center for Infectious Disease Dynamics, Pennsylvania State University - Rodent borne zoonoses workshop: Insights from rodent community ecology to understand the risk of Lassa fever spillover
- Laboratory for ecological, epidemiological and evolutionary forecasting, University of Idaho - Development of self-disseminating vaccines workshop: Reconstructing rodent contact networks from trapping data to understand viral transmission networks

2022

- Ecology and Evolution of Infectious Diseases Conference - Understanding the structure of rodent species assemblages and land use change on the occurrence of the rodent host of Lassa Fever: An interim analysis
- Center for Epidemic Preparedness and Response, LSHTM - Integrating rodent ecology into our understanding of rodent borne zoonotic disease outbreaks.

2021

- Hospital for Tropical Diseases Grand Round, UCLH, UK - Lassa fever in Sierra Leone: Understanding the rodents.
- EcoHealth Alliance, USA - African Swine Fever: Spatial spread of an introduced epidemic

2020

- Society for Research on Nicotine and Tobacco - The association of former and current smoking with hospitalisation for COVID-19: A case-control study
- Festival of Code, UCL - Producing a reproducible living review of the association of former and current smoking on SARS-CoV-2 infection risk and COVID-19 hospitalisation and mortality

COVID-19 research

I have been a member of the Centre for Mathematical Modelling of Infectious Diseases COVID-19 working group and made substantial contributions to a number of projects that are recognised with group authorship. The list is available here: <https://cmmid.github.io/topics/covid19/>

I worked with the UK Health Security Agency in the Outbreak Surveillance Team where I was responsible for developing a reporting pipeline to identify and record cases of the newly emergent Omicron variant. I have been involved in several studies investigating vaccine effectiveness, secondary attack rates and spatial analysis of variant emergence and establishment.

Programming

I am competent using the R statistical programming language, releasing reproducible code and associated data in accordance with open science practices on my GitHub account. I have produced an RShiny app to explore a dataset I collated for a project on rodent trapping (available here https://diddrog11.shinyapps.io/scoping_review_app/).

Awards and Prizes

Travel award, American Society for Tropical Medicine and Hygiene	2023
In Year Award, United Kingdom Health Security Agency	2022
1956 Jubilee Prize, King's College London	2015
The Sir John McNee Prize, The Medical Society of London	2015
Mary Clark Travel Award, King's College London	2013

Bronze Achievement Award, GlaxoSmithKline

2009

References

Available on request