

# Curriculum Vitae

## Gillian Stresman, MHS, PhD

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### **PROFESSIONAL PROFILE:**

Assistant professor with 5+ years of post-PhD experience teaching and studying infectious disease epidemiology. Working to improve the current understanding of malaria transmission dynamics to inform evidence-based strategies to accelerate reductions and sustaining elimination. Experienced teacher in epidemiological methods and translating current research into the classroom in innovative ways. Supportive leader ensuring a diverse and inclusive multicultural team environments with the ability to manage and execute complex research projects.

**KEY WORDS:** Epidemiological Methods; Data Analysis (R and STATA); Malaria; Vector-Borne Diseases; Public Health Programs; Surveillance; Elimination Science

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### **SELECTED GRANTS AWARDED:**

- Aug 2021 – Aug 2022 **The Carter Center: Freedom From Infection in the Dominican Republic**  
PI of \$101,500 grant to validate the Freedom From Infection methods developed as part of the parent BMGF funded project in The Dominican Republic. The Dominican Republic has recently been named as a priority country to achieve malaria elimination certification by 2025. This provides us with an opportunity to prospectively compare the novel methods with the WHO certification process and work with the National Elimination Program to develop guidelines and user interface that will be of most use to the programs to support their agenda.
- Jun 2021 – Jun 2022 **Academy of Medical Sciences Global Challenges Research Fund Networking Grant: West African Regional Collaborative Network for Evidence-Based Decision-Making in Malaria Elimination**  
Co-I of £24,982 grant to build an interdisciplinary network between countries targeting malaria elimination in West Africa in order to build entomological and epidemiological capacity via information and skills exchange. This grant will support a series of workshops where partners will benefit from improved knowledge and skills to implement entomological surveillance, increased analytical capacity, and a strengthened research culture to support their malaria elimination agendas.
- Jul 2020 – Jan 2023 **Wellcome Trust/LSHTM ISSF3 Pump-Priming Grant: Estimating global malaria burden: Why don't the numbers add up? (GAIN)**  
PI of £6,000 small grant to investigate whether the different approaches used by the WHO and Malaria Atlas project (MAP) to generate global estimates of malaria burden are different because of methods employed to adjust and account for asymptomatic and/or non-care seeking infections. This grant will support travel to Perth Australia to work directly with the MAP team once international travel is resumed.
- Nov 2018 – Mar 2022 **Bill and Melinda Gates Foundation: Freedom from infection – Confirming the interruption of malaria transmission (FREEDOM)**  
Co-PI of \$1,500,000 grant to investigate whether the tools developed for confirming the absence of infection in veterinary epidemiology can be applied to malaria, including quantifying the sensitivity of a surveillance system and its components to detect infections if they exist. Includes salary support from 1 research fellow, 2 research assistants and research expenses.
- June 2017 – Dec 2021 **Wellcome Trust: Henry Wellcome Postdoctoral Fellowship**

PI of early career fellowship of £250,000 grant awarded for personal salary support and research expenses to assess the bias in routine health data due to asymptomatic infections

- Dec 2015 – Jun 2021 **Bill and Melinda Gates Foundation: Malaria Zero: The alliance for a malaria free Haiti**  
 Col of \$30 million grant, of which £870,000 was allocated to LSHTM, to determine optimal methods of achieving malaria elimination and measuring impact on transmission in Haiti. Working with a large consortium of partners including the CDC, PAHO, Tulane University, CHAI, Carter Center and the Haiti NMCP, we implemented a broad program of work including strengthening malaria surveillance, operational studies to assess transmission intensity, and population-based interventions to reduce transmission. LSHTM contributed epidemiological expertise, seroepidemiological assay development and implementation and data analysis.

### **SELECT ACADEMIC EXPERIENCE:**

- Mar 2020 – June 2022 **Intervention Ethics Committee**  
 Review research proposals submitted to the LSHTM ethics committee that involve studies where participants or groups of participants are given treatments or diagnostics that they would not otherwise be receiving in the ordinary course of events and which are allocated to investigators.
- June 2017 – Aug 2022 **Henry Wellcome Research Fellow (Assistant Professor from Aug 2019)**  
 London School of Hygiene & Tropical Medicine  
 Managed research project focusing on assessing the bias in health systems data due to asymptomatic infections and understanding the profile of population-level protective immunity that may obscure residual transmission. Through this work, I am collaborating with colleagues across 13 different institutions and involves both data and laboratory analysis. Other tasks include supervising and supporting MSc and PhD students, teaching, and writing scientific papers.  
*Supervisor: Prof Chris Drakeley*
- June 2015 – May 2017 **Research Fellow**  
 London School of Hygiene & Tropical Medicine  
 Engaged in numerous malaria research projects with a primary focus on developing and testing operational strategies for targeting malaria elimination strategies in Haiti, measuring the absence of malaria infection to provide confidence in achieving malaria elimination, conducting spatio-temporal analysis on malaria transmission in the Gambia, as well as using serological tools to obtain more precise estimates of transmission intensity at all spatial scales. Other tasks include supervising and supporting MSc and PhD students, teaching, and writing scientific papers.  
*Supervisor: Prof Chris Drakeley*
- Mar 2013 – Present **PhD, DrPH, MSc Project Supervisor**  
 London School of Hygiene & Tropical Medicine  
 Primary supervisor for more than 10 MSc students, co-supervisor of 1 PhD student (viva scheduled Nov 2021) and primary supervisor for 1 DrPH student (completed Sept 2021). Role is to ensure that the thesis requirement was successfully completed including study design, laboratory and data analysis, and thesis preparation.

### **SELECT CONTINUED PROFESSIONAL DEVELOPMENT**

- Jun 2021 **Pathways to Academic Leadership**
- Jan 2021 **Good Research Practice**
- Jan 2021 **Research Ethics Training**

Jun 2019 **Fellow of the Higher Education Academy** (registration number PR190540)

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### **EDUCATION:**

- June 2011- June 2015 **MPhil/PhD – in Malaria Epidemiology**  
 Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London UK  
 “Operational strategies for the identification and targeting of hotspots for malaria transmission”  
*Advisors: Prof. Teun Bousema, Prof. Chris Drakeley*
- May 2009 **Masters of Health Science in Environmental Health Science,**  
 Bloomberg School of Public Health, Johns Hopkins University, Baltimore USA  
 “Climate Change and Ecological Risk Factors for Malaria Transmission: Potential Implications for Public Health and Malaria Control”  
*Advisors: Prof. William Moss, Dr. Paul Locke*
- Apr 2007 **Bachelor of Environmental Studies, Honors, Co-op, in Environment and Resource Studies, Minor in International Studies,**  
 University of Waterloo, Waterloo Canada  
 “Geospatial Analysis of Perceived Malaria Prevalence and Solid Waste Management Practices in Accra Ghana”  
*Advisor: Prof. Len Tsuji*
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### **SELECT PUBLICATIONS (N=40 published):**

Ahmad RA\*, Nelli L\*, Surendra H, Arisanti RR, Lesmanawati DAS, Byrne I, Dumont E, Drakeley C, Wu L<sup>§</sup>, **Stresman G**<sup>§</sup> (2022). “A framework for evaluating the sensitivity of the surveillance system to support public health decision-making applied to the context of malaria elimination: an example from Indonesia”. *BMC Inf Dis* \*<sup>§</sup>Authors contributed equally

Chan Y, Fornace K, Wu L, Arnold BF, Priest JW, Martin DL, Chang MA, Cook J, **Stresman G**, Drakeley C. (2021) “Determining seropositivity - A review of approaches to define population seroprevalence when using Multiplex Bead Assays to assess burden of tropical diseases”. *PLoS NTD*. PMID: 34181665

Druetz T, **Stresman G**, Ashton RA, Joseph V, van den Hoogen L, Worges M, Hamre, KES, Fayette C, Monestime F, Impoinvil D, Rogier E, Chang MA, Lemoine JF, Drakeley C, Eisele TP (2021) “The immediate effects of a combined mass drug administration and indoor residual spraying campaign to accelerate progress towards malaria elimination in Grand-Anse, Haiti” *J Infect Dis*. PMID: 33993294

**Stresman G**, Whittaker C, Slater HC, Bousema T, Cook J. (2020) “Quantifying the clustering of *Plasmodium falciparum* infections within households to inform household-based intervention strategies for malaria control programs: A statistical and meta-analysis from 41 malaria endemic countries” *PLoS Med* PMID: 33119589

**Stresman G**\*, Druetz T\*, Ashton RA, van den Hoogen LL, Joseph V, Hamre KE, Chang MA, Lemoine JF, Drakeley C, Eisele TP. (2020) “Programmatic options for monitoring malaria in elimination settings: Easy access group surveys to investigate *Plasmodium falciparum* epidemiology in two regions with differing endemicity in Haiti” *BMC Med*. \*Authors contributed equally PMID: 32277908

**Stresman G**, Sepulveda N, Fornace K, ... Gething P, D’Alessandro U, Drakeley C (2020) “Association between the proportion of *Plasmodium falciparum* and *Plasmodium vivax* infections detected by passive surveillance and the magnitude of the asymptomatic reservoir in the community: A pooled analysis of paired health facility and community data”. *Lancet ID*. PMID: 32277908

**Stresman GH**, Mwesigwa J, Achan J, Giorgi E, Worwui A, Jawara M, di Tanna GL, Bousema T, Van Geertruyden JP, Drakeley C, D’Alessandro U. (2018) “Do hotspots fuel malaria transmission: a village-scale spatio-temporal analysis of a two-year cohort study in The Gambia. *BMJ Med*. PMID:

30213275.

**Stresman G**, Cameron A, Drakeley C. (2017) "Freedom from Infection: Confirming Interruption of Malaria Transmission" *Trends Parasitol*. PMID: 28108199

**Stresman GH\***, Bousema T\*, Baidjoe AY\*, Bradley J, Knight P, Stone W, Osoti V, Makori E, Owaga C, Odongo W, China P, Shagari S, Koumbo OK, Sauerwein RW, Kariuki S, Drakeley C, Stevenson J<sup>‡</sup>, Cox J<sup>‡</sup>. (April 2016) "The impact of hotspot targeted interventions on malaria transmission in Rachuonyo South District in the western Kenyan highlands: a cluster-randomized controlled trial." *PLoS Med*. PMID: 27071072 \*<sup>‡</sup>Authors contributed equally

**Stresman GH\***, Baidjoe AY\*, Stevenson J, Grignard L, Odongo W, Owaga C, Osoti V, Makori E, Shagari S, Marube E, Cox J, Drakeley C, Bousema T. (2015) "Focal screening to identify the subpatent parasite reservoir in an area of low and heterogeneous transmission in the Kenyan highlands." *J Infect Dis*. PMID: 26019285. \*Authors contributed equally

### **SELECT PRESENTATIONS:**

**Stresman G** "Understanding the variability in malaria clustering within households: Implications for recommendations on reactive strategies for malaria elimination/surveillance activities". WHO Elimination Guideline Development Group, Aug 2021 (Invited speaker)

**Stresman G** "Freedom From Infection – Confirming the interruption of malaria transmission and broader implications for public health." CReSP Winter Session, University of Montreal, Feb 2021 (invited speaker).

**Stresman G**, dePina A, Moreira A, Furtado U, Coraldine J, Neatherlin J, Gomes C, Tfeil AK, Lindblade K."Spatio-temporal transmission dynamics of a contained *Plasmodium falciparum* outbreak in Praia, Cabo Verde" Women in Malaria Conference, 2021 (Oral Presentation).

**Stresman G**, Drakeley C. "Malaria hotspot challenges and statistical (implications) solutions" NTD Task Force – Strategies to identify persistent hotspots of infection workshop. April 2019. (Invited speaker)

**Stresman G**, Sepulveda N, Fornace K, ... Gething P, Drakeley C. "Bias in routinely collected malaria surveillance data due to asymptomatic infections: A pooled analysis of paired health system and community cross-sectional survey data" American Society of Tropical Medicine and Hygiene Annual Meeting November 2018; LSHTM Malaria Centre Retreat April 2019. (Oral Presentation)

**Stresman G** "Freedom from Infection (FFI) tools applied to malaria elimination" MIM Pan African Malaria Conference. April 2018. (Symposium)

### **SELECT PROFESSIONAL EXPERIENCE:**

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| Apr 2008 – Aug 2008 | <p><b>Policy and Research Analyst</b><br/>Climate Change and Health Office, Health Canada, Ottawa, ON<br/>Conducted research project on adaptation strategies being undertaken internationally to reduce the risk of climate change to human health</p>             |
| Jul 2007 – Apr 2008 | <p><b>Commonwealth Games Canada International Intern</b><br/>National Paralympic Committee of Zambia, Lusaka, Zambia<br/>Built institutional capacity through the creation of policies, a monitoring and evaluation framework, and conducted a needs assessment</p> |
| Apr 2006 – Aug 2006 | <p><b>Ecohealth and Urban Poverty and Environment Program Initiatives</b><br/>International Development Research Centre (IDRC), Ottawa ON<br/>Conducted research and prepared various documents for publication and for web dissemination</p>                       |