

Calum Davey, PhD

CONTACT	Public Health, Environments, and Society London School of Hygiene and Tropical Medicine London, WC1H 9SH	<i>Tel:</i> +44 (0)20 7927 2292 <i>E-mail:</i> calum.davey@lshtm.ac.uk <i>Website:</i> calumdavey.github.io
EDUCATION	London School of Hygiene & Tropical Medicine , London, UK PhD, <i>Mobility of female sex workers in India and Zimbabwe & HIV-related healthcare access</i> , supervised by James Hargreaves & Frances Cowan, awarded 2020 M.Sc., Epidemiology, awarded 2011 University of Pennsylvania , Philadelphia, PA, USA M.U.S.A., Urban Spatial Analytics, awarded 2009 University of Cambridge , Cambridge, UK B.A., Natural Sciences (Neuroscience), awarded 2008	
SCHOLARSHIPS	<i>Medical Research Council Scholarship</i> Fees and maintenance award for full-time study for a M.Sc. in Epidemiology at the London School of Hygiene and Tropical Medicine. <i>Thouron Award Fellowship</i> Fees and maintenance award from the prestigious Thouron Fellowship Programme for full-time study for a M.U.S.A. University of Pennsylvania.	Sep 2010 - Sep 2011 Sep 2008 - Sep 2009
GRANTS	<i>Department for International Development, UK</i> Methods innovation award for evaluation for international development; £300,000. Role: PI. <i>Medical Research Council, UK</i> Strategic Skills Award, Pre-doctoral Fellowship. Awarded total of £211,000 for 100% FEC salary for three years, project costs, travel, and administration. Role: PI. <i>3ie</i> Replication Study. Awarded £7,162 to replicate and re-analyse an influential paper on the effects of deworming. Role: co-PI.	August 2020 - Sep 2022 Sep 2015 - Sep 2018 Jan 2011 - Dec 2012
ACADEMIC EXPERIENCE	London School of Hygiene and Tropical Medicine , London, UK <i>Assistant Professor</i> Evaluation and public-health research, with a focus on HIV and female sex work in low-income settings. <ul style="list-style-type: none">• Evaluation lead on £7m PENDA programme, funded by DFID• Leading conceptual & methodological research for DFID's Centre for Excellence in Development Impact and Learning (CEDIL)• Leading MRC-funded research on the role of mobility in sex-worker access to care• Leading analysis of cluster-randomised trial in Zimbabwe• Founded and leading Masters-level course in evaluation	Aug 2016 - Present

Research Assistant / Fellow Nov, 2011 - Aug 2012 - Aug 2016
Focus on the design and analysis of evaluations of complex public health interventions. Includes current Ph.D. research (started September 2015). Research projects include:

- Design and analysis-planning of cluster randomized trials in Zimbabwe and India
- Led re-analysis of influential stepped-wedge trial of school-level de-worming
- Designed impact evaluation for c.\$400m HIV prevention intervention in Nigeria in collaboration with the World Bank, USAID, and the Nigerian Government
- Funded by DFID, Bill and Melinda Gates Foundation, The World Bank, UNFPA

TEACHING

Module Founder and Organiser **Jun 2014 - Present**
Co-founded and co-organise graduate-level module for Master of Science students titled *Evaluation of Public Health Interventions*. Responsible for organising and delivering lectures, developing materials, managing seminars, and setting and marking the assessment.

Lecturer **Jun 2015 - Present**
Delivered lecture on conceptual hierarchies and introduction to causal analysis on the *Social Epidemiology* module.

Tutor **Sep 2013 - Present**
Tutored two MSc students each year, including co-supervising summer projects.

Teaching Assistant **Nov 2012 - Present**
Co-taught seminars in *Statistical Methods in Epidemiology*, and *Social Epidemiology*. Marked summer projects, module assignments, and end of year exam scripts.

PUBLICATIONS

Analyses

C Davey, J Dirawo, JR Hargreaves, FM Cowan. 2019. Exploring the Association Between Mobility and Access to HIV Services Among Female Sex Workers in Zimbabwe. *AIDS and Behavior*.

C Davey, J Dirawo, P Mushati, S Magutshwa, JR Hargreaves, FM Cowan. 2019. Mobility and sex work: why, where, when? A typology of female-sex-worker mobility in Zimbabwe. *Social Science & Medicine*.

P Javalkar, L Platt², R Prakash, T Beattie, M Collumbien, M Gafos, S Ramanaik, **C Davey**, R Jewkes, C Watts, P Bhattacharjee, R Thalinja, DL Kavitha, S Isac, L Heise. 2019. Effectiveness of a multilevel intervention to reduce violence and increase condom use in intimate partnerships among female sex workers: cluster randomised controlled trial in Karnataka, India. *BMJ Global Health*.

P Prakash, T Beattie, P Javalkar, P Bhattacharjee, S Ramanaik, R Thalinja, S Murthy, **C Davey**, M Gafos, J Blanchard, C Watts, M Collumbien, S Moses, L Heise, S Isac. 2019. The Samata intervention to increase secondary school completion and reduce child marriage among adolescent girls: results from a cluster-randomised control trial in India. *Journal of Global Health*.

J Busza, T Chiyaka, S Musemburi, E Fearon, **C Davey**, S Chabata, P Mushati, J Dirawo, S Napierala, A Phillips, FM Cowan, JR Hargreaves. 2019. Enhancing national prevention and treatment services for sex workers in Zimbabwe: a process evaluation of the SAPPH-IRe trial. *Health Policy and Planning*.

FM Cowan, S Chabata, S Musemburi, E Fearon, **C Davey**, T Ndori-Mharadze, L Bansi-Matharu, V Cambiano, R Steen, J Busza, R Yekeye, O Mugurungi, JR Hargreaves, A Phillips. 2019. Strengthening the scale-up and uptake of effective interventions for sex workers for population impact in Zimbabwe. *Journal of the International AIDS Society*.

P Javalkar, L Platt, R Prakash, T Beattie, P Bhattacharjee, R Thalinja, D Kavitha, Chaitanya AIDS Tadegattuva Mahila Sangha, S Ramanaik, M Collumbien, **C Davey**, S Moses, R Jewkes, S Isac & L Heise. 2019. What determines violence among female sex workers in an intimate partner relationship? Findings from North Karnataka, south India. *BMC Public Health*.

C Davey, F Cowan, and J Hargreaves. The effect of mobility on HIV-related healthcare access and use for female sex workers: A systematic review. 2018. *Social Science & Medicine*.

FM Cowan, **C Davey**, E Fearon, P Mushati, J Dirawo, S Chabata, V Cambiano, S Napierala, D Hanisch, R Wong-Gruenwald, et al. 2018. Targeted combination prevention to support female sex workers in Zimbabwe accessing and adhering to antiretrovirals for treatment and prevention of HIV (SAPPH-IRE): a cluster-randomised trial. *The Lancet HIV*.

L Bansi-Matharu, V Cambiano, T Apollo, R Yekeye, J Dirawo, S Musemburi, **C Davey**, S Napierala, E Fearon, A Mpofu, O Mugurungi, JR Hargreaves, FM Cowan, A Phillips. 2018. 90-90-90 by 2020? Estimation and projection of the adult HIV epidemic and ART programme in Zimbabwe – 2017 to 2020. *Journal of the International Aids Society*.

S Napierala, S Chabata, E Fearon, **C Davey**, JR Hargreaves, J Busza, P Mushati, S Mtetwa, T Chiyaka, O Mugurungi, D Hanisch, K Hatzold, A Phillips, FM Cowan. 2018. Engagement in HIV Care Among Young Female Sex Workers in Zimbabwe. *Journal of Acquired Immune Deficiency Syndrome*.

T Ndori-Mharadze, E Fearon, J Busza, J Dirawo, S Musemburi, **C Davey**, X Acharya, S Mtetwa, JR Hargreaves, FM Cowan. 2018. Changes in engagement in HIV prevention and care services among female sex workers during intensified community mobilization in 3 sites in Zimbabwe, 2011 to 2015. *Journal of the International Aids Society*.

R Prakash, T Beattie, P Javalkar, P Bhattacharjee, S Ramanaik, R Thalinja, S Murthy, **C Davey**, J Blanchard, C Watts, M Collumbien, S Moses, L Hesie, S Isac 2017. Correlates of school dropout and absenteeism among adolescent girls from marginalized community in north Karnataka, south India. *Journal of adolescence*.

FM Cowan, **C Davey**, E Fearon, P Mushati, J Dirawo, V Cambiano, S Napierala Mavedzenge, D Hanisch, R Wong-Gruenwald, M Chemhuru, N Masuka, K Hatzold, O Mugurungi, J Busza, AN Philips, JR Hargreaves. 2017. The HIV Care Cascade Among Female Sex Workers in Zimbabwe: Results of a Population-Based Survey From the Sisters Antiretroviral Therapy Programme for Prevention of HIV, an Integrated Response (SAPPH-IRE) Trial. *J Acquir Immune Defic Syndr*.

A Bourne, **C Davey**, F Hickson, D Reid, P Weatherburn. 2016. Physical health inequalities among gay and bisexual men in England: a large community-based cross-sectional survey. *Journal of Public Health*.

F Hickson, **C Davey**, D Reid, P Weatherburn, A Bourne. 2016. Mental health inequalities among gay and bisexual men in England, Scotland and Wales: a large community-based cross-sectional survey. *Journal of Public Health*.

JR Hargreaves, S Mtetwa, **C Davey**, J Dirawo, S Chidiya, C Benedik, MS Naperiela, R Wong-Gruenwald, D Hanisch, T Magure, O Mugurungi, FM Cowan. 2015. Cohort analysis of programme data to estimate HIV incidence and uptake of HIV-related services among female sex workers in Zimbabwe, 2009-14. *Journal of Acquired Immune Deficiency Syndromes*.

S Mtetwa, J Busza, **C Davey**, R Wong-Gruenwald, and F Cowan. 2015. Competition is not necessarily a barrier to community mobilisation among sex workers: an intervention planning assessment

from Zimbabwe. *BMC Public Health*.

S Naperiela Mavedzenge, **C Davey**, T Chirenje, P Mushati, S Mtetwa, J Dirawo, B Mudenge, A Phillips, and F M Cowan. 2015. Finger Prick Dried Blood Spots for HIV Viral Load Measurement in Field Conditions in Zimbabwe. *PLoS One*.

J R Hargreaves, **C Davey**, E Fearon, B Hensen, and S Krishnaratne. 2015. Trends in Socioeconomic Inequalities in HIV Prevalence among Young People in Seven Countries in Eastern and Southern Africa. *PLoS One*.

FM Cowan, S Mtetwa, **C Davey**, E Fearon, J Dirawo, R Wong-Gruenwald, T Ndikudze, S Chidiya, C Benedikt, J Busza, and JR Hargreaves. 2013. Engagement with HIV Prevention Treatment and Care among Female Sex Workers in Zimbabwe: a Respondent Driven Sampling Survey. *PLoS ONE*.

JR Hargreaves, **C Davey**, E Fearon, and S Krishnaratne. 2013. Changes in HIV prevalence among socioeconomic groups in eight African countries: analysis of sequential cross-sectional surveys (abstract). *The Lancet*.

JR Hargreaves, **C Davey**, and RG White. 2012. Does the ‘inverse equity hypothesis’ explain how both poverty and wealth can be associated with HIV prevalence in sub-Saharan Africa? *J Epidemiol Community Health*.

Methods

C Davey, JR Hargreaves, S Hassan, N Cartwright, M Humphreys, E Masset, A Prost, D Gough, S Oliver, C Bonell. 2018. Designing Evaluations to Provide Evidence to Inform Action in New Settings. URL: <https://cedilprogramme.org/designing-evaluations-to-provide-evidence-to-inform-action-in-new-settings/> [Peer-reviewed report for DFID].

C Davey, S Hassan, C Bonell, N Cartwright, M Humphreys, A Prost, JR Hargreaves. 2017. Gaps in Evaluation Methods for Addressing Challenging Contexts in Development. CEDIL. URL: <https://cedilprogramme.org/gaps-evaluation-methods-addressing-challenging-contexts-development/> [Peer-reviewed report for DFID].

J Thompson, **C Davey**, RJ Hayes, JR Hargreaves, KL Fielding. 2019. Permutation tests for stepped-wedge cluster-randomized trials. *The Stata Journal*.

C Davey & J Thompson, KL Fielding, JR Hargreaves, RJ Hayes. Robust analysis of stepped wedge trials using cluster-level summaries within periods. 2018 March. *Statistics in Medicine*.

JA Thompson, KL Fielding, **C Davey**, AM Aiken, JR Hargreaves, RJ Hayes. 2017 May. Bias and inference from misspecified mixed-effect models in stepped wedge trial analysis. *Statistics in medicine*.

C Davey, AM Aiken, RJ Hayes, and JR Hargreaves. 2015. Re-analysis of health and educational impacts of a school-based deworming programme in western Kenya: a statistical replication of a cluster quasi-randomized stepped-wedge trial. *International Journal of Epidemiology*.

AM Aiken, **C Davey**, JR Hargreaves, and RJ Hayes. 2015. Re-analysis of health and educational impacts of a school-based deworming programme in western Kenya: a pure replication. *International Journal of Epidemiology*.

C Davey, JR Hargreaves, JA Thompson, AJ Copas, E Beard, JJ Lewis, and KL Fielding. 2015. Analysis and reporting of stepped wedge randomised controlled trials: synthesis and critical appraisal

of published studies, 2010 to 2014. *Trials*.

J R Hargreaves, A J Copas, E Beard, D Osrin, J J Lewis, **C Davey**, J A Thompson, G Baio, K L Fielding, A Prost. 2015. Five questions to consider before conducting a stepped wedge trial. *Trials*.

A J Copas, J. J Lewis, J A Thompson, **C Davey**, G Baio, and J R Hargreaves. 2015 Designing a stepped wedge trial: three main designs, carry-over effects and randomisation approaches. *Trials*.

E Beard, J J Lewis, A J Copas, **C Davey**, D Osrin, G Baio, J A Thompson, K L Fielding, R Z Omar, S Ononge, J R Hargreaves, and A Prost. 2015. Stepped wedge randomised controlled trials: systematic review of studies published between 2010 and 2014. *Trials*.

C Davey, M Boulay, and JR Hargreaves. 2014. Strengthening Nonrandomized Studies of Health Communication Strategies for HIV Prevention. *Journal of Acquired Immune Deficiency Syndromes*.

Commentary

T Powell-Jackson, **C Davey**, E Masset, S Krishnaratne, RJ Hayes, K Hanson, JR Hargreaves. 2018. Trials and tribulations: cross-learning from the practices of epidemiologists and economists in the evaluation of public health interventions. *Health Policy and Planning*.

JR Hargreaves, C Goodman, **C Davey**, BA Willey, BI Avan, and JRA Schellenberg. 2016. Measuring implementation strength: lessons from the evaluation of public health strategies in low-and middle-income settings. *Health policy and planning*.

JR Hargreaves, AM Aiken, **C Davey**, and RJ Hayes. 2015. Authors' Response to: Deworming externalities and school impacts in Kenya. *International Journal of Epidemiology*

Protocols

TS Beattie, S Isac, P Bhattacharjee, P Javalkar, **C Davey**, T Raghavendra, S Nair, S Satyanarayana, DL Kavitha, J F Blanchard, C Watts, M Collumbien, S Moses, L Heise. 2016. Reducing violence and increasing condom use in the intimate partnerships of female sex workers: Study protocol for *Samvedana Plus*, a cluster randomised control trial in Karnataka state, south India *BMC Public Health*.

JR Hargreaves, E Fearon, **C Davey**, A Phillips, V Cambiano, FM Cowan. 2016. Statistical design and analysis plan for an impact evaluation of an HIV treatment and prevention intervention for female sex workers in Zimbabwe: a study protocol for a cluster randomised controlled trial. 2016. *Trials*.

TS Beattie, P Bhattacharjee, S Isac, **C Davey**, P Javalkar, S Nair, R Thalinja, G Sudhakar, M Collumbien, JF Blanchard, C Watts, S Moses, L Heise. 2015. Supporting adolescent girls to stay in school, reduce child marriage and reduce entry into sex work as HIV risk prevention in north Karnataka, India: protocol for a cluster randomised controlled trial. *BMC Public Health*.

PRESENTATIONS

Education Endowment Foundation: global launch 28 Oct 2019: presented on how best to learn from evaluations of complex interventions (URL: <https://calumdavey.github.io/Talk-EEF/>)

Centre of Excellence for Development Impact and Learning Launch Event 25 Jan 2018: presented inception report on 'learning more' from evaluations for decision in new contexts.

Centre of Excellence for Development Impact and Learning Pre-inception workshop 25 Apr 2017: presented on Gaps in Evaluation Methods for Addressing Challenging Contexts in

Development.

Stepped Wedge Trials Symposium 22 Sep 2015: presented on the Analysis and reporting of Stepped Wedge Trials.

Evaluators Conference 16 Jun 2015: organised and hosted one-day conference of evaluators from over 20 organisations.

Towards comprehensive evaluation for health and development: promoting the integration of evaluation methods Apr 2015: presentation titled: *Epidemiology and Econometric approaches to RCTs*.

BLOGS

The Conversation: How re-analysing the data of scientific research can change the findings 2015. <http://theconversation.com/how-re-analysing-the-data-of-scientific-research-can-change-the-findings-44926>

INTERNAL CITIZENSHIP

Centre for Evaluation: Deputy Director **Sep 2017 - Present**
Contributed to the organisation of Centre activities, including retreats and symposia. Regularly attend steering committee meetings, and engage with the student's evaluation group.

EXTERNAL CITIZENSHIP

Education Endowment Foundation, London, UK **Sep 2014 - Sep 2015**
Evaluation Manager (Secondment)
Successfully negotiated a secondment to improve links between the School, the Centre for Evaluation, and funders and academics working with the Education Endowment Foundation: the *What Works Centre* for education in the UK.

I promoted the work of the School through contacts with 25 top UK and international Universities and research organisations. In my role I organised an evaluators' conference with over 100 delegates from around the world to discuss evaluation methods. I managed 75 evaluations of interventions to improve the academic attainment of children from deprived backgrounds in the UK. Working with the evaluation officer and grants managers I set-up 25 projects - 20 of which were randomised controlled trials - and oversaw the publication of 34 reports.

Advisory Board member **Sep 2015 - Present**
The Education Endowment Foundation Advisory Board advises executive staff on evaluation methods and best practices. I represent the perspectives of the public health field. The Education Endowment Foundation continues to improve the rigour and up-take of evaluation in the education sector, which is widely regarded as having been imported from the field of public health.

COMPUTER SKILLS

- Statistical Packages: extensive experience of R & Stata
- Applications: Geographical Information Systems such as ArcMap and QGIS, L^AT_EX, Markdown, common Windows databases, Excel, and presentation software
- Operating Systems: MacOS, Unix/Linux, Windows.