ISABEL ROSE FULCHER

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EDUCATION

Harvard University — **Cambridge, MA**
Doctor of Philosophy, Biostatistics — March 2019
Dissertation Advisor: Eric Tchetgen Tchetgen
Dissertation Title: "Statistical Inference for Causal Mechanisms: Mediation and Interference"

Harvard University — **Cambridge, MA**
Masters of Arts, Biostatistics — May 2016

McGill University — **Montreal, QC**
Bachelor of Arts and Science, Mathematics and Anthropology — May 2012

ACADEMIC APPOINTMENTS

Harvard Data Science Initiative — **Cambridge, MA**
Postdoctoral Fellow — September 2019 – Current

Department of Global Health and Social Medicine, Harvard Medical School — **Boston, MA**
Postdoctoral Fellow — January 2019 – Current
Advisers: Bethany Hedt-Gauthier and Eric Tchetgen Tchetgen

PUBLICATIONS

PEER-REVIEWED

1. **Fulcher, I. R.**, Nelson, A., Tibaijuka, J., Seif, S., Lilienfeld, S., Abdalla O., Beckmann, N., Layer, E., Hedt-Gauthier, B., & Hoffman, R. (2020). Improving health facility delivery rates in Zanzibar, Tanzania through a large-scale digital community health volunteer program: A process evaluation. Health Policy & Planning.

2. Tchetgen Tchetgen, E. J., **Fulcher, I. R.**, & Shpitser, I. (2020). Auto-g-computation of causal effects on a network. Journal of the American Statistical Association, pp.1-12.

3. **Fulcher, I. R.***, Neill, S.*, Bhardwa, S., Goldberg, A.B., Janiak, E. (2020). State and federal abortion restrictions increase risk of COVID-19 exposure by mandating unnecessary clinic visits. Contraception.

4. Cottrill, A.A., **Fulcher, I.R.**, Goldberg, A.B., Sabino, J., Fortin, J., & Janiak, E. (2020) Time trends in Massachusetss adolescents' post-abortion contraceptive uptake. Journal of Adolescent Health.

5. Rindos, N.B., **Fulcher, I. R.**, & Donellan, N.M. (2020). Pain and quality of life following laparoscopic excision of endometriosis. The Journal of Minimally Invasive Gynecology.

6. **Fulcher, I. R.**, Shpitser, I., & Tchetgen Tchetgen, E. J. (2020). Robust inference on population indirect causal effects: the generalized front-door criterion. Journal of the Royal Statistical Society Series B.

7. **Fulcher, I. R.**, Hedt, K., Marealle, S., Abdalla O., Tibaijuka, J., Hoffman, R., Layer, E., Mitchell, M., & Hedt-Gauthier, B. (2020). Errors in estimated gestational ages reduce the likelihood of health facility deliveries: results from an observational cohort study in Zanzibar. BMC Health Services Research, 20(1).

8. Janiak, E., **Fulcher, I. R.**, ..., & Goldberg, A. (2019). Impact of Massachusetts' parental involvement law on procedural timing among adolescents seeking abortion. Obstetrics & Gynecology, 133(5): 978-986.

9. **Fulcher, I. R.**, Shi, X., & Tchetgen Tchetgen, E. J. (2019). Estimation of natural indirect effects robust to unmeasured confounding and mediator measurement error. Epidemiology, 30(6), 825-834.

10. **Fulcher, I. R.**, Tchetgen Tchetgen E. J., & Williams, P. L. (2017). Mediation analysis for censored survival data under an accelerated failure time model. Epidemiology, 28(5), 660-666.

UNDER PEER REVIEW

11. **Fulcher, I. R.**, Boley, E.J., Gopaluni, A., Varney, P., Barnhart, D., Kulikowski, N., Mugunga, J.C., Murray, M., Law, M.R., & Hedt-Gauthier, B. (2021). COVID-19 syndromic surveillance using monthly aggregate health information system data: methods with application in Liberia. *Under Review* at International Journal of Epidemiology.

12. **Fulcher, I. R.**, Clisbee, M., Lambert, W., Leandre, F., & Hedt-Gauthier, B. (2020). Adapting Lot Quality Assurance Sampling to accommodate imperfect tests: application to COVID-19 serosurveillance in Haiti. *Under Review* at Emerging Themes in Epidemiology.

13. **Fulcher, I. R.**, Shpister, I., Didelez, V., Zhou, K., & Scharfstein, D. (2020). Discussion on "Causal mediation of semicompeting risks" by Yen-Tsung Huang. *In revision* at Biometrics.

14. **Fulcher, I. R.**, Lareau, C., Shpitser, I., & Tchetgen Tchetgen, E. J. (2020). Bayesian auto-g-computation of network causal effects. Journal of the American Statistical Association. *In revision* at Annals of Applied Statistics.

HONORS & AWARDS

University of Florida Statistics Workshop Travel Award	2019
National Science Foundation Travel Award for Atlantic Causal Inference Conference	2018
Barry R. and Irene Tilenius Bloom Fellowship	2018
Harvard University Distinction in Teaching	2017
Harvard T.H. Chan School of Public Health Rose Traveling Fellowship	2017
Maternal Health Task Force Travel Award	2017
Statistics in Epidemiology Young Investigator Award	2017
McGill University Dean's Honour List	2012
Golden Key International Honour Society	2010, 2011, 2012

INVITED TALKS

"Identification and estimation of indirect effects robust to unmeasured confounding" Society for Epidemiological Research, Boston, MA (December 2020).

"Using routine health systems data for data-driven COVID-19 response." Elsevier Seminar Series (November 2020).

"Improving the delivery of healthcare to pregnant women in sub-Saharan Africa with statistics and data science." Mathematics Colloquium, Gettysburg College, Gettysburg, PA (October 2020).

"Using routine health systems data for data-driven COVID-19 response." Department of Global Health and Social Medicine, Harvard Medical School (September 2020).

"Supporting data-driven COVID-19 responses in low and middle income countries." Coronavirus Visualization Team (August 2020).

"Estimation of natural indirect effects robust to unmeasured confounding and mediator measurement error." Joint Statistical Meetings, Online (August 2020).

"Bayesian auto-g-computation of network causal effects: incarceration and infection in a high risk network." ENAR, Online (March 2020).

"Auto-g-computation of network causal effects: incarceration and infection in a high risk network." Statistics Seminar, University of Rhode Island, Kingston, RI (March 2020).

"Bayesian auto-g-computation of network causal effects: incarceration and infection in a high risk network." Statistics & Probability Seminar, University of Massachusetts Amherst, Amherst, MA (December 2019).

"Improving the delivery of healthcare to pregnant women in sub-Saharan Africa with statistics and data science." Mathematics and Statistics Colloquium, Colby College, Waterville, ME (December 2019).

"Bayesian auto-g-computation of network causal effects: incarceration and infection in a high risk network." Joint Statistical Meetings, Denver, CO (July 2019).

"Bayesian auto-g-computation of network causal effects: incarceration and infection in a high risk network." New England Statistical Society, Hartford, CT (May 2019).

CONFERENCE PARTICIPATION

CONTRIBUTED TALKS

"The generalized front-door formula for estimation of indirect causal effects of a confounded treatment." ENAR Spring Meeting, Atlanta, GA (2018).

"Data for decision-making in digital health programs: how analysis of routine data from the Safer Deliveries program in Zanzibar improved program implementation and mothers' outcomes." Global Digital Health Forum, Washington, DC (2017).

"Mediation analysis for censored survival data under an accelerated failure time model." Joint Statistical Meetings, Baltimore, MD (2017).

"The generalized front-door formula for identification of partial causal effects." ENAR Spring Meeting, Washington, DC (2017).

"Mediation analysis for censored survival data under an accelerated failure time model." ENAR Spring Meeting, Austin, TX (2016).

POSTERS

"Bayesian auto-g-computation of network causal effects: incarceration and infection in a high risk network." 21st Meeting of New Researchers in Statistics and Probability. Fort Collins, CO (2019).

"Estimation of natural indirect effects robust to unmeasured confounding and mediator measurement error." University of Florida Winter Workshop, Gainesville, FL (2019).

"Nonparametric identification and robust estimation of indirect causal effects in the presence of exposure-outcome confounding." Atlantic Causal Inference Conference, Pittsburgh, PA (2018).

"Auto-g-computation of causal effects on a sexual and injection-drug use network." Harvard Data Science Conference, Cambridge, MA (2018).

"Working towards safer deliveries in Zanzibar, Tanzania." Future Health Campaign Celebration, Harvard T.H. Chan School of Public Health, Boston, MA (2018).

"Nonparametric identification and robust estimation of indirect causal effects in the presence of exposure-outcome confounding." Atlantic Causal Inference Conference, Pittsburgh, PA (2018).

TEACHING EXPERIENCE

Global Initiative for Neuropsychiatric Genetics Education in Research — **Addis Ababa, Ethiopia**
Teaching Fellow, Interactive Biostatistics Workshop — November 2019

Harvard T.H. Chan School of Public Health — **Boston, MA**
Instructor, Biostatistics Preparatory Course: Methods and Computing in R — Summer 2018
Instructor, Stata Orientation for Incoming Graduate Students — Summer 2016, 2017, 2018
Head Teaching Assistant, Core Principles of Biostatistics and Epidemiology — Fall 2016, 2017
Teaching Assistant, Core Principles of Biostatistics and Epidemiology — Fall 2015
Teaching Assistant, Quantitative Methods in Program Evaluation — Spring 2017
Teaching Assistant, Methods for Monitoring and Evaluation — Spring 2016

University of Global Health Equity — **Kigali, Rwanda**
Teaching Assistant, Program Monitoring, Evaluation, and Research Methods — Spring 2017, 2018

D-tree International — **Zanzibar, Tanzania**
Instructor, Data Analysis and Stata Software Training Course — Summer 2017

McGill University — **Montreal, QC**
Teaching Assistant, Probability — Fall 2010, 2011
Teaching Assistant, Statistics — Spring 2012

PROFESSIONAL SERVICE

PEER REVIEW

Pre-Publication Support Service (PREPSS) Peer Reviewer November 2020 - Present

Ad-Hoc Peer Reviewer
Annals of Global Health, BMJ Open, Biometrics, Epidemiology, Journal of American Statistical Association, Journal of Causal Inference, Statistical Methods in Medical Research

UNIVERSITY ACTIVITY

Coordinator, DGHE/DGHSM Joint Working Group, Harvard Medical School 2020
Mentor, Pipelines into Biostatistics Summer Program, Harvard T.H. Chan School of Public Health 2018
Student Committee Chair, Department of Biostatistics, Harvard T.H. Chan School of Public Health 2018
Organizer, HIV Working Group, Department of Biostatistics, Harvard T.H. Chan School of Public Health 2017