ISABEL ROSE FULCHER

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EDUCATION

Harvard University **Cambridge, MA**
Doctor of Philosophy, Biostatistics March 2019

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

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

RESEARCH EXPERIENCE

Department of Global Health and Social Medicine, Harvard Medical School **Boston, MA**
Postdoctoral Fellow January 2019 – Present
Supervised by: Bethany Hedt-Gauthier, PhD and Eric Tchetgen Tchetgen, PhD
 Development and application of causal inference methods to evaluate a mHealth-based community health worker intervention in Zanzibar, Tanzania on facility delivery, maternal outcomes, and early childhood development.

Department of Biostatistics, Harvard T.H. Chan School of Public Health **Boston, MA**
Doctoral Candidate January 2016 – November 2018
Dissertation Advisor: Eric Tchetgen Tchetgen, PhD
Dissertation Title: "Statistical Inference for Causal Mechanisms: Mediation and Interference"

CONSULTING & INDUSTRY EXPERIENCE

Research Center, Planned Parenthood League of Massachusetts **Boston, MA**
Statistician August 2017 – Present
 Leading statistical analyses on two major studies that aim to evaluate: (1) the impact of the Massachusetts's parental consent law on contraceptive choice among minors; (2) quality of care received by opioid users; (3) inequities in contraceptive autonomy by ability status, gender identity, race, and educational level

Safer Deliveries Program, D-tree International **Zanzibar, Tanzania**
Researcher May 2017 – Present
 Conduct research and evaluation question development, analysis planning, and application of statistical methods to assess the program's effectiveness at reducing high rates of maternal and neonatal mortality in Zanzibar

ZS Associates **Evanston, IL**
Business Associate September 2012 – July 2014
 Engaged with global pharmaceutical and biotech companies on a variety of market research projects for drugs and their indications. Created and fielded surveys, conducted in-person interviews, and led statistical analyses.

TEACHING EXPERIENCE

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
Graduate Student Mentor, Pipelines into Biostatistics Summer Program   Summer 2018
Teaching Fellow, Global Initiative for Neuropsychiatric Genetics Education in Research   Spring 2018
Head Teaching Assistant, ID 201: Core Principles of Biostatistics and Epidemiology   Fall 2015, 2016, 2017
Teaching Assistant, HPM 543: Quantitative Methods in Program Evaluation   Spring 2017
Teaching Assistant, BIO 507: 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, MATH 323: Probability   Fall 2010, 2011
Teaching Assistant, MATH 324: Statistics   Spring 2012

HONORS & AWARDS

University of Florida Statistics Workshop Travel Award   2019
National Science Foundation Travel Award (1 of 5 best posters at Atlantic Causal Inference Conference)   2018
Barry R. and Irene Tilenius Bloom Fellowship (full funding for the 2017-2018 academic year)   2018
Harvard University Distinction in Teaching (outstanding teaching assistant award for the 2016-2017 academic year)   2017
Rose Traveling Fellowship (funding for international research)   2017
Maternal Health Task Force Travel Award (funding for international maternal health research)   2017
Statistics in Epidemiology Young Investigator Award (1 of 3 best papers in Epidemiology)   2017
McGill University Dean's Honour List (awarded to top 10% of graduating class; highest graduating honor)   2012
McGill University Golden Key Society (awarded to top 15% of class)   2010, 2011, 2012

PUBLICATIONS

PEER REVIEWED

4. **Fulcher, I. R.**, Shi, X., & Tchetgen Tchetgen, E. J. (2019). Estimation of natural indirect effects robust to unmeasured confounding and mediator measurement error. *In press* at Epidemiology. arXiv preprint arXiv:1808.03692.

3. Janiak, E., **Fulcher, I. R.**, ..., & Goldberg, A. (2019). Impact of Massachusetts' parental involvement law on procedural timing among adolescents seeking abortion. *In press* at Obstetrics & Gynecology.

2. Bao, E.L., Lareau, C. A., Brugnara, C., **Fulcher, I. R.** et al. (2019). Heritability of fetal hemoglobin, white cell count, and other clinical traits from a sickle cell disease family cohort. American Journal of Hematology. DOI: 10.1002/ajh.25421.

1. **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.

PRE-PRINTS

1. Tchetgen Tchetgen, E. J., **Fulcher, I. R.**, and Shpitser, I. (2018). Auto-g-computation of causal effects on a network. *In revision* at Journal of American Statistical Association. arXiv preprint arXiv:1709.01577.

2. **Fulcher, I. R.**, Shpitser, I., & Tchetgen Tchetgen, E. J. (2018). Robust inference on indirect causal effects. *In revision* at Journal of the Royal Statistical Society Series B. arXiv preprint arXiv:1711.03611.

PRESENTATIONS

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

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

"Auto-g-computation of causal effects on a sexual and injection-drug use network." Center for Causal Inference Working Group, University of Pennsylvania, Philadelphia, PA (2018).

"Working Towards Safer Deliveries in Zanzibar, Tanzania." Poster session at: Future Health Campaign Celebration, Harvard T.H. Chan School of Public Health, Boston, MA (2018).

"Auto-g-computation of causal effects on a sexual and injection-drug use network." Department of Biostatistics HIV Working Group, Harvard University, Cambridge, MA (2018).

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

"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).

SOFTWARE

frontdoorpiie (R package) Estimation and inference for the Population Intervention Indirect Effect

autognet (R package) Auto-g-computation for estimation of network causal effects