

# ISABEL FULCHER

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## EDUCATION

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<b>Harvard University</b> Doctor of Philosophy, Biostatistics	<b>Cambridge, MA</b> Expected: May 2019
<b>Harvard University</b> Masters of Arts, Biostatistics	<b>Cambridge, MA</b> May 2016
<b>McGill University</b> Bachelor of Arts and Science, Mathematics and Anthropology	<b>Montreal, QC</b> May 2012

## RESEARCH EXPERIENCE

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<b>Department of Biostatistics, Harvard T.H. Chan School of Public Health</b> <i>Graduate Researcher</i> Dissertation Advisor: <a href="#">Eric Tchetgen Tchetgen, PhD</a> My dissertation research aims to develop statistical methods to enable scientists to infer causation about an intervention of interest in the presence of (1) unmeasured confounding of the relationship of interest and (2) spillover effects of the intervention given to one person on another person's outcomes. <i>Graduate Researcher</i> Supervised by: <a href="#">Paige Williams, PhD</a> Estimated the direct and indirect effects of perinatal HIV infection on timing of sexual maturity mediated by height in the Pediatric HIV/AIDS Cohort Study.	<b>Boston, MA</b> January 2016 – Present          June 2016 – March 2017
<b>Department of Global Health and Social Medicine, Harvard Medical School</b> <i>Graduate Researcher</i> Supervised by: <a href="#">Bethany Hedt-Gauthier, PhD</a> Assessed the effectiveness of D-tree International's Mobilizing Maternal Health program in rural Tanzania.	<b>Boston, MA</b> June 2016 – March 2017

## CONSULTING EXPERIENCE

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<b>Research Center, Planned Parenthood League of Massachusetts</b> <i>Statistical Consultant</i> Leading statistical analyses on two studies that aim to evaluate: (1) the impact of the Massachusetts parental consent law on contraceptive choice among minors and (2) pain management and quality of care received for opioid users.	<b>Boston, MA</b> August 2017 – Present
<b>Department of OB/GYN/RS, University of Pittsburgh School of Medicine</b> <i>Statistical Consultant</i> Leading statistical analyses to assess long-term impact of laparoscopic excision of endometriosis on pain reduction and quality of life improvement.	<b>Pittsburgh, PA</b> April 2018

**Safer Deliveries Program, D-tree International****Zanzibar, Tanzania***Researcher*

May 2017 – August 2017

Conducted 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.

**INDUSTRY EXPERIENCE**

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**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 online surveys and in-person interviews. Led statistical analysis, project planning, and deliverable creation.

**TEACHING EXPERIENCE**

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**Harvard T.H. Chan School of Public Health****Boston, MA***Graduate Student Mentor, Pipelines into Biostatistics Summer Program*

Summer 2018

*Head Teaching Assistant, ID 201: Core Principles of Biostatistics and Epidemiology*

Fall 2016, 2017

*Session Instructor, Stata Orientation for Incoming Graduate Students*

Summer 2016, 2017

*Teaching Assistant, HPM 543: Quantitative Methods in Program Evaluation*

Spring 2017

*Teaching Assistant, BIO 507: Methods for Monitoring and Evaluation*

Spring 2016

*Teaching Assistant, ID 201: Core Principles of Biostatistics and Epidemiology*

Fall 2015

**University of Global Health Equity****Kigali, Rwanda***Teaching Assistant, Mentored Practicum*

Spring 2018

*Teaching Assistant, Program Monitoring, Evaluation, and Research Methods*

Spring 2017

**D-tree International****Zanzibar, Tanzania***Course Organizer and Lead 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**

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**National Science Foundation Travel Award** (1 of 5 student posters selected at Atlantic Causal Inference Conference) 2018**Barry R. and Irene Tilenius Bloom Fellowship** (1 of 1 student to receive financial support for the academic year) 2018**Global Initiative for Neuropsychiatric Genetics Education in Research Teaching Fellow** 2018**Harvard University Distinction in Teaching** (outstanding teaching assistant during 2016-2017 school year) 2017**Harvard T.H. Chan School of Public Health Rose Traveling Fellowship** 2017**Maternal Health Task Force at the Women and Health Initiative Travel Award** 2017**Statistics in Epidemiology Young Investigator Award** (1 of 4 graduate students to win best paper in Epidemiology) 2017**McGill University Dean's Honour List** (awarded to top 10% of graduating class) 2012**McGill University Golden Key Society** (awarded to top 15% of class) 2010, 2011, 2012

## SELECTED INVOLVEMENT

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Harvard T.H. Chan School of Public Health Student Tutor	2017, 2018
Department of Biostatistics Chair of the Student Committee	2017, 2018
Department of Biostatistics HIV Working Group Coordinator	2016, 2017
Boston Cares X-Cel Adult Education Math HiSeT Tutor	2014, 2015, 2016
Appalachia Service Project, Adult Group Leader	2012, 2013

## PUBLICATIONS

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**Fulcher, Isabel R.**, Hedt, K., Marealle, S., Abdalla O., Tibaijuka, J., Hoffman, R., Layer, E., and Hedt-Gauthier, B. (2018). Errors in estimated gestational ages reduce the likelihood of health facility deliveries: results from an observational cohort study in Zanzibar. BMC Pregnancy and Childbirth (Under review).

**Fulcher, Isabel R.**, Shpitser, I., & Tchetgen Tchetgen, E. J. (2018). Robust inference on indirect causal effects. Journal of the Royal Statistical Society Series B (Under review). arXiv:1711.03611.

Tchetgen Tchetgen, Eric J., **Fulcher, I.**, and Shpitser, I. (2017). Auto-G-Computation of Causal Effects on a Network. Journal of the American Statistical Association (Under review). arXiv:1709.01577.

**Fulcher, Isabel 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.

## PRESENTATIONS & POSTERS

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**Fulcher, Isabel R.**, Tchetgen Tchetgen, E., and Shpitser, I. Nonparametric identification and robust estimation of indirect causal effects in the presence of exposure-outcome confounding. Atlantic Causal Inference Conference, Pittsburgh, PA (2018).

**Fulcher, Isabel R.**, Tchetgen Tchetgen, E., and Shpitser, I. The Generalized Front-Door Formula for Estimation of Indirect Causal Effects of a Confounded Treatment. ENAR Spring Meeting, Atlanta, GA (2018).

**Fulcher, Isabel R.**, 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).

**Fulcher, Isabel R.**, Tchetgen Tchetgen, E., and Williams, P.L. Mediation Analysis for Censored Survival Data under an Accelerated Failure Time Model. Joint Statistical Meetings, Baltimore, MD (2017).

**Fulcher, Isabel R.**, Tchetgen Tchetgen, E., and Shpitser, I. The Generalized Front-door Formula for Identification of Partial Causal Effects. ENAR Spring Meeting, Washington, DC (2017).

**Fulcher, Isabel R.**, Tchetgen Tchetgen, E., and Williams, P.L. Mediation Analysis for Censored Survival Data under an Accelerated Failure Time Model. ENAR Spring Meeting, Austin, TX (2016).

## SOFTWARE & RESOURCES

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**frontdoorpie** R package for estimation and inference of the Population Intervention Indirect Effect