Christopher B. Boyer

Contact Information

Department of Epidemiology
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Research Interests

Causal inference, randomized-controlled trials, machine learning, epidemiology, global health, econometrics, epidemiology of violence, mediation and misclassification

Education

Harvard University, Cambridge, Massachusetts USA

Ph.D. Student, Epidemiology, May 2022 (expected)

M.S., Biostatistics, May 2020 (expected)

Columbia University, New York, New York USA

M.P.H., Epidemiology, May, 2015

Wright State University, Dayton, Ohio USA

B.S., Mechanical Engineering, June, 2010

Working Papers

Christopher Boyer, Jeannie Annan, Jasper Cooper, Lori Heise, and Betsy Levy Paluck. Religious counsel can motivate men to cede power and reduce intimate partner violence: experimental evidence from a randomized trial in Uganda. Under Review at *PNAS*, 2020.

Christopher Boyer and Jasper Cooper. Learning from pragmatic trials: a comparison of estimators of the effects of treatment when there is non-compliance. 2020.

Christopher Boyer, Eva Rumpfer, and Marc Lipsitch. A model of social gathering restrictions during the covid-19 pandemic.

Conference Presentations

Boyer, C. 2015. Estimating indices of health system readiness: an example from rural northern Ghana. Consortium of Universities for Global Health.

Bawah, A., Awoonor-Williams J., Asuming, P., **Boyer, C.**, Achana, S., Akazili, J., Phillips, J.F. 2017. The child survival impact of the Ghana essential health interventions program: a health systems strengthening initiative in a rural region of northern Ghana. Annual Meeting of the Population Association of America.

Honors and Awards

2015	Summa Cum Laude, Columbia University
2010	Magna Cum Laude, Wright State University
2010	Tau Beta Pi, Wright State University
2006	National Merit Scholarship Finalist
2006	Salutatorian, Miamisburg High School

Extramural Grants

2019	NIH T32 Training Grant (T32 HL 098048). PI: Eric Rimm
2017	Wellspring. $450,000 PI: Jeannie Annan

Research Projects

Jeannie Annan, Christopher Boyer, Jasper Cooper, Lori Heise and Betsy Levy Paluck. 2019. "A Pair-Matched Randomized Evaluation of Faith-Based Couples Counseling in Uganda." AEA RCT Registry. March 11. https://www.socialscienceregistry.org/trials/3994/history/43131

Teaching Experience

EPI207 - Advanced Epidemiologic Methods

Teaching Fellow **August, 2020 - December, 2020**

Required course for epidemiology PhD students. Causal inference for time-varying exposures: g-formula, inverse-probability weighting, marginal structural models, static and dynamic treatment regimes. Responsible for leading 90 min lab section and grading homeworks and tests.

PHS2000 - Quantitative reseach methods

Teaching Fellow **August, 2019 - May, 2020**

Year-long required methods course for first-year PhD students. Regression models, sampling, longitudinal and multilevel analysis, time-varying confounding, mediation and interaction, econometric methods, missing data. Responsible for leading 90 min lab section, developing homework assignments and tests, and drafting course materials.

Professional Experience

Innovations for Poverty Action, New York, New York USA

Technical Lead **September, 2017 - September, 2018**

Managed a team that provided support to 70+ active randomized evaluations advising on research and questionnaire design, programming (Stata, R, and Python), statistics/econometrics, and data management. Responsible for improving quality and efficiency of data collected at IPA through innovative technical solutions and research methods. Lead global technical training.

Senior Research and Data Analyst **April, 2016 - August, 2017**

Provided technical guidance to randomized evaluations testing the impact of the Partnership Schools Program in Liberia, the impact of the IRC's Girl Empower Program in Liberia. Authored Stata packages used by IPA, J-PAL, and the World Bank to automate daily checks of survey data quality.

Research and Data Analyst **July, 2015 - March, 2016**

Lead data manager and analyst on a randomized evaluation testing the impact of interpersonal communication networks on contraceptive use in Zambia.

Columbia University, New York, New York USA

Research Associate **December, 2013 - July, 2015**

Provided research support on data management, analysis, and preparation of manuscripts on studies in Ghana and Tanzania for Dr. James Phillips and the program on Advancing Research on Comprehensive Health Systems (ARCHeS).

Peace Corps, Montepuez, Cabo Delgado, Mozambique

Secondary Science Teacher **September, 2010 - December, 2012**

Instructed more than 700 secondary school students in Physics and English. Lessons delivered in Portuguese. Established first science laboratory in the district. Collaborated with the Ministry of Education to organize regional and provincial science fair competition. Managed extracurricular journalism club.

Consulting Experience

StellarEmploy, New York, New York USA

Data Scientist **December, 2017 - August, 2018**

Built and refined prediction models of the probability of employee turnover using psychometric data from applicants for private sector clients in high-turnover industries to help them make smarter hiring decisions.

World Bank, Washington, DC USA

R/Python Programmer **March, 2016 - August, 2016**

Built data pipeline and visualization using Python to automate the creation of easy-to-read municipal

performance scorecards for low-literacy populations as part of a randomized evaluation on voter engagement and political preferences in Burkina Faso.

Published Software

Boyer, C.B., Baako, I.A., and Sandino, R.S. 2018. ipacheck, Stata package for running high-frequency checks of survey data.

Boyer, C.B. and White, M. 2016. bcstats, Stata package for comparing survey and back check data.

Programming

Statistics:	R, Stata, Python, SAS, Julia (beginner), Stan (beginner)
Web:	HTML, JavaScript, CSS, D3.js
GIS:	ArcGIS, QGIS, ggmap, ggplot
Markup:	Markdown, LaTeX
Survey:	SurveyCTO, Qualtrics
Other:	C/C++, SQL, Java