

Bryan Blette

Curriculum Vitae

+1 (954) 695 4542
bryan.blette@vumc.org
bryanblette.com
bblette1

Employment

2023-Present **Assistant Professor**, *Department of Biostatistics*, Vanderbilt University Medical Center
2021-2023 **Postdoctoral Fellow**, *Center for Causal Inference*, University of Pennsylvania

Education

2021 **Ph.D. in Biostatistics**, *University of North Carolina at Chapel Hill*
Dissertation: Causal Inference for Error-Prone Exposures
Advisor: Dr. Michael Hudgens
2018 **M.S. in Biostatistics**, *University of North Carolina at Chapel Hill*
Advisors: Drs. Leah Frerichs and Annie Green-Howard
2015 **B.S. in Mathematics**, *University of Florida*
Second major: Statistics Study Abroad, Florence University of the Arts, Italy, 2014

Publications

Peer-reviewed (* indicates co-first author)

1. Becker-Dreps, S., **Blette, B.**, Briceño, R., Alemán, J., Hudgens, M.G., Moreno, G., Ordoñez, A., Rocha, J., Weber, D.J. and Amaya, E. (2017). Changes in the incidence of pneumonia, bacterial meningitis, and infant mortality 5 years following introduction of the 13-valent pneumococcal conjugate vaccine in a "3+ 0" schedule. *PloS One*, 12(8), p.e0183348.
2. **Blette, B.S.**, Howard, A.G. and Frerichs, L.M. (2019). High school physical activity and nutrition policy: Summarizing changes over time using latent class analysis. *American Journal of Preventive Medicine*, 57(3), pp.e69-e76.
3. Neidich, S.D., Fong, Y., Li, S.S., Geraghty, D.E., Williamson, B.D., ..., **Blette, B.**, ..., Tomaras, G. (2019). Antibody Fc effector functions and IgG3 associate with decreased HIV-1 risk. *Journal of Clinical Investigation*, 129(11), pp.4838-4849.
4. Collins, M.H., Zepeda, O., **Blette, B.**, Jadi, R., Morales, M., Pérez, R., Liou, G.J.A., Montoya-Cruz, M., Harris, E., Becker-Dreps, S. and de Silva, A.M. (2020). Serologic surveillance of maternal Zika infection in a prospective cohort in Leon, Nicaragua during the peak of the Zika epidemic. *PloS One*, 15(4), p.e0230692.
5. Gilbert, P.B., **Blette, B.S.**, Shepherd, B.E. and Hudgens, M.G. (2020). Post-randomization biomarker effect modification analysis in an HIV vaccine clinical trial. *Journal of Causal Inference*, 8(1), pp.54-69.
6. Vielot, N. A., González, F., Reyes, Y., Zepeda, O., **Blette, B.**, Paniagua, M., ..., Bucardo, F. (2021). Risk factors and clinical profile of Sapovirus-associated acute gastroenteritis in early childhood: A Nicaraguan birth cohort study. *The Pediatric Infectious Disease Journal*, 40(3), 220-226.
7. Stringer, E. M., Martinez, E., **Blette, B.**, Toval Ruiz, C. E., Boivin, M., Zepeda, O., ..., Bucardo, F. (2021). Neurodevelopmental outcomes of children following in utero exposure to Zika in Nicaragua. *Clinical Infectious Diseases*, 72(5), e146-e153.

8. Bowman, N. M., Bucardo, F., Collins, M. H., Reyes, Y., Cuadra, E. C., **Blette, B.**, ..., Becker-Dreps, S. (2021). Clinical and epidemiological features of acute Zika virus infections in León, Nicaragua. *The American Journal of Tropical Medicine and Hygiene*, 105(4), 924-930.
9. Vielot, N., Becker-Dreps, S., **Blette, B.**, Gonzalez, F., Toval-Ruiz, C., Gutierrez, L., Vilchez, S., Diez-Valcarce, M., Vinje, J., Becker-Dreps, S., Bucardo, F. (2022). First episodes of norovirus and sapovirus gastroenteritis protect against subsequent episodes in a Nicaraguan birth cohort. *Epidemiology*, 33(5), 650-653.
10. Spelke, M. B., Paul, R., **Blette, B.**, Meltzer-Brody, S., Schiller, C. E., Ncheka, J. M., Kasaro, M. P., Price, J. T., Stringer, J. S., Stringer, E.M. (2022). Interpersonal therapy vs. antidepressant medication for treatment of postpartum depression and anxiety among women with HIV in Zambia: a randomized feasibility trial. *Journal of the International AIDS Society*, 25(7), p.e25959.
11. Harhay, M.O., **Blette, B.S.**, Granholm, A., Moler, F.W., Zampieri, F.G., Goligher, E.C., Gardner, M.M., Topjian, A.A. and Yehya, N. (2022). A Bayesian interpretation of a pediatric cardiac arrest trial (THAPCA-OH). *NEJM Evidence*, p.EVIDoa2200196.
12. **Blette, B.S.**, Granholm, A., Li, F., Shankar-Hari, M., Lange, T., Munch, M.W., Møller, M.H., Perner, A. and Harhay, M.O. (2023). Causal Bayesian machine learning to assess treatment effect heterogeneity by dexamethasone dose for patients with COVID-19 and severe hypoxemia. *Scientific Reports*, 13(1), p.6570.
13. Schweickert WD, Jablonski J, Bayes B, Chowdhury M, Whitman C, Tian J, **Blette B**, Tran T, Halpern SD. (2023) Structured Mobilization for Critically Ill Patients: A Pragmatic Cluster-randomized Trial. *Am J Respir Crit Care Med*. 2023 Jul 1;208(1):49-58. doi: 10.1164/rccm.202209-1763OC. PMID: 36996413.
14. Kahan, B.C., Li, F., **Blette, B.**, Jairath, V., Copas, A., & Harhay, M. (2023). Informative cluster size in cluster-randomised trials: A case study from the TRIGGER trial. *Clinical Trials*, 17407745231186094.
15. **Blette, B.S.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C.E., Cheng, C., Appleby, D., Urbanowicz, R.J., Fritz, J., Mazurek, J.A., Li, F. and Kawut, S.M. (2023). Is low-risk status a surrogate outcome in pulmonary arterial hypertension? An analysis of three randomised trials. *The Lancet Respiratory Medicine*.
16. Huang, Y., Hejazi, N.S., **Blette, B.**, Carpp, L.N., Benkeser, D., Montefiori, D.C., McDermott, A.B., Fong, Y., Janes, H.E., Deng, W. and Zhou, H. (2023). Stochastic Interventional Vaccine Efficacy and Principal Surrogate Analyses of Antibody Markers as Correlates of Protection against Symptomatic COVID-19 in the COVE mRNA-1273 Trial. *Viruses*, 15(10), 2029.

Under Review

17. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials (under revision, *Statistical Methods in Medical Research*)
18. Hart, J., Summer, A., Ogunduyile, L., Lapite, F., Hong, D., Whitman, C., **Blette, B.**, Harhay, M., Halpern, S. The accuracy and impact of patients' expectations in severe chronic obstructive pulmonary disease: A longitudinal cohort study (under revision, *JAMA Network Open*)
19. **Blette, B.**, Gilbert, P., Hudgens, M. Addressing confounding and continuous exposure measurement error using conditional score functions (submitted)

20. Kasaro, M., **Blette, B.**, Paul, R., Meltzer-Brody, S., Mwanze, J., Spelke, M.B., Stringer, J., Stringer, E. Factors associated with severity of Edinburgh Postnatal Depression Screen (EPDS) and optimal cutoff of EPDS for diagnosing depression and anxiety among postpartum HIV positive women in Lusaka, Zambia (submitted)
21. Spelke, M.B., Okumu, E., Perry, N., **Blette, B.**, Paul, R., Schiller, C., Ncheka, J.M., Kasaro, M., Price, J., Meltzer-Brody, S., Stringer, J., Stringer, E. Acceptability of a randomized trial of anti-depressant medication or interpersonal therapy for treatment of perinatal depression in HIV infected women (submitted)
22. Max, R., Toval-Ruiz, C., Becker-Dreps, S., Gajewski, A., Martinez, E., Cross, K., **Blette, B.**, ..., Bucardo, F. Neurodevelopment in preschool children exposed and unexposed to Zika virus in utero (submitted)
23. Kahan, B., **Blette, B.**, Harhay, M., Halpern, S., Jairath V., Copas, A., Li, F. Demystifying estimands in cluster-randomised trials (submitted)

In Preparation (selected)

24. **Blette, B.**, Gilbert, P., Hudgens, M. Causal joint modeling of longitudinal and survival data: An IPW approach
25. **Blette, B.**, Hudgens, M. A causal joint modeling procedure to assess joint treatment and biomarker effects in an HIV clinical trial
26. **Blette, B.**, Harhay, M., Li, F., Kahan, B. Using estimands to guide design and analysis of pragmatic trials

Presentations

Invited Talks and Seminars

1. **Blette, B.**, Gilbert, P., Hudgens, M. Causal joint modeling of longitudinal and survival data: An IPW approach. *Center for Causal Inference (CCI) Seminar Series*. April 2022
2. **Blette, B.** Association vs. causation in medical research. *Penn Palliative and Advanced Illness Research (PAIR) Center Seminar Series*. May 2022
3. **Blette, B.**, Gilbert, P., Hudgens, M. Causal joint modeling of longitudinal and survival data: An IPW approach. *International Biometric Society: Kenya Region Seminar Series*. November 2022
4. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Northwestern University Division of Biostatistics Seminar*. January 2023
5. **Blette, B.**, Gilbert, P., Hudgens, M. Combining Causal and Joint Modeling Methods to Address Policy-Relevant Questions using HIV Vaccine Trial Data. *RAND Statistics Group Seminar*. January 2023
6. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Vanderbilt Department of Biostatistics Seminar*. January 2023
7. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *Ohio State University Division of Biomedical Informatics Seminar*. February 2023
8. **Blette, B.**, Gilbert, P., Hudgens, M. Combining causal and joint modeling methods to address practical issues in HIV clinical trials. *University of Pennsylvania Division of Biostatistics Seminar*. February 2023

9. **Blette, B.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C., Cheng, C., Appleby, D., Urbanowicz, R., Fritz, J., Mazurek, J., Li, F., Kawut, S., Harhay, M. Is low-risk status a surrogate outcome in pulmonary arterial hypertension? An analysis of three randomised trials. *Pulmonary Vascular Research Institute Community Seminar*. July 2023
10. **Blette, B.**, Kahan, B., Harhay, M., Li, F. Evaluating informative cluster size in cluster-randomized trials. *CMStatistics*. Upcoming in December 2023
11. **Blette, B.**, Kahan, B., Harhay, M., Li, F. Evaluating informative cluster size in cluster-randomized trials. *ENAR Spring Meeting*. Upcoming in March 2024

Contributed Talks

1. **Blette, B.**, Ploutz-Snyder, R., Feiveson, A. Data analysis challenges in the space life sciences. *Space Life Sciences Summer Institute Research Conference*. August 2015
2. **Blette, B.**, Richardson, A., Jiao, Y. Modeling considerations in data-driven attribution. *Google Internship Presentation*. September 2018
3. **Blette, B.**, Gilbert, P., Shepherd, B., Hudgens, M. Post-randomization biomarker effect modification in an HIV vaccine clinical trial. *ENAR Spring Meeting*. March 2019
4. **Blette, B.**, Gilbert, P., Hudgens, M. Structural joint modeling of longitudinal and survival Data. *UNC Student Seminar*. 2019
5. **Blette, B.** Preparing for the next Zika epidemic: Clinical, epidemiological, and statistical Challenges. *UNC Prospective Students Day*. 2020
6. **Blette, B.**, Gilbert, P., Hudgens, M. Structural joint modeling of longitudinal and survival data. *ENAR Spring Meeting*. March 2020
7. **Blette, B.**, Gilbert, P., Hudgens, M. Addressing concurrent confounding and measurement error using conditional score functions. *ENAR Spring Meeting*. March 2021
8. **Blette, B.**, Hudgens, M. Causal joint modeling of longitudinal and survival data using the parametric g-formula. *ENAR Spring Meeting*. March 2022
9. **Blette, B.**, Gilbert, P., Hudgens, M. Addressing confounding and continuous exposure measurement error using conditional score functions. *Joint Statistical Meetings*. August 2022 (Biometrics Section Paper Award presentation)
10. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *8th Annual Conference on Current Developments in Cluster Randomized Trials and Stepped Wedge Designs*. November 2022
11. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *ENAR Spring Meeting*. March 2023
12. **Blette, B.**, Moutchia, J., Al-Naamani, N., Ventetuolo, C., Cheng, C., Appleby, D., Urbanowicz, R., Fritz, J., Mazurek, J., Li, F., Kawut, S., Harhay, M. Multivariable risk scores as potential surrogate outcomes in pulmonary arterial hypertension trials. *American Thoracic Society International Conference*. May 2023

Posters

1. **Blette, B.**, Howard, A.G., Frerichs, L. Latent class analysis for classification of latent policy environments: A case study. *Joint Statistical Meetings*. August 2019
2. **Blette, B.**, Halpern, S., Li, F., Harhay, M. Assessing treatment effect heterogeneity in the presence of missing effect modifier data in cluster-randomized trials. *Penn DBEI and CCEB Research Day*. April 2022

3. **Blette, B.**, Kahan. B, Harhay, M., Li. F. Assessing informative cluster size in cluster-randomized trials. *American Causal Inference Conference*. May 2023

Non-Academic Research Experience

- 2018 **Quantitative Analyst Intern**, Google
Hosts: Drs. Amy Richardson and Yang Jiao
- 2015 **Research Apprentice**, *National Space Biomedical Research Institute*, Johnson Space Center, NASA
Advisor: Dr. Alan Feiveson, Co-advisor: Dr. Robert Ploutz-Snyder

Teaching

- Spring 2022, **Guest Lecturer**, *Advanced Topics in Epidemiologic Research*, EPID702, University of Pennsylvania
Spring 2023 Guest lecture on Bayesian thinking and analysis
- Fall 2022 **Guest Lecturer**, *Causal Inference in Biomedical Research*, BSTA7900, University of Pennsylvania
Guest lecture on causal inference with interference
- Fall 2021 **Instructor**, *Public Health Methods and Measures*, SPHG712, UNC - Chapel Hill
○ Adjunct faculty instructor for introductory epidemiology course for MPH students (online)
○ Strong teaching evaluations from students - contact me for scores
- Spring 2020 **Academic Enrichment Program Tutor**, *Intro to Biostatistics / Intro to Epidemiology*, BIOS 600 / EPID 600, UNC - Chapel Hill
Acted as the official school of public health tutor for introductory courses in biostatistics and epidemiology
- Fall 2017 **Teaching Assistant**, *Intro to Biostatistics*, BIOS 600, UNC - Chapel Hill
Assisted professor in writing exams and quizzes, created formats for students to take quizzes online, graded exams, hosted review sessions for exams, and assisted students one-on-one throughout the semester (TAs not reviewed for this course)
- Spring 2015 **Teaching Assistant**, *Intro to Statistics*, STA 2023, University of Florida
○ Managed the tutoring room for several hours each week, proctored exams, graded papers and exams, and taught multiple lab classes each week
○ Strong teaching evaluations from students - contact me for scores

Honors and Awards

- 2022 ASA Biometrics Section Paper Award (awarded to 5 students or recent graduates out of 121 applicants)
- 2020 ASA Biopharmaceutical Section Scholarship Award
- 2020 AcademyHealth HSRProj Research Competition - Finalist, with Natalie Smith and Katherine Miller
- 2018,2019 UNC Conference Travel Award
- 2017 National Defense Science and Engineering Graduate Fellowship - Alternate Selection (received a fundable score but ultimately not selected for funding)
- 2016 UW SISIMID Travel Award
- 2015 Mohberg Scholarship (awarded to one first-year Biostatistics Ph.D. student)
- 2015 Anderson Scholar (one of the top graduating students from UF Liberal Arts and Sciences)
- 2014 Elected to Phi Beta Kappa and Phi Kappa Phi

2012 University of Florida Presidential Scholar, National Merit Scholar

Leadership

- 2021–2022 **Co-chair**, *Council for Emerging and New Statisticians*, ENAR
○ Co-led CENS activities for the 2021-2022 term, including leading teams to run networking events and invited sessions at ENAR and JSM
- 2020–2022 **Steering Committee**, *Council for Emerging and New Statisticians*, ENAR
○ Organized council events and activities for 2-year term
- 2018–2020 **Officer, Webmaster**, *Biostatistics Student Association*, UNC - Chapel Hill

Service

- 2019–present **Referee**,
Annals of the American Thoracic Society, Biometrics, International Journal of Infectious Diseases, The Pediatric Infectious Disease Journal, PLOS ONE, Statistics in Medicine,
Some reviews listed on <https://www.webofscience.com/wos/author/record/1568666>
- 2022–2023 **Co-organizer**, *2023 University of Pennsylvania Conference on Statistical Issues in Clinical Trials*
- 2021–2023 **Co-organizer**, *Center for Causal Inference*, Seminar Series
- 2021–2023 **Conference Session Chair**, ENAR Contributed Papers: Handling of Missing Data; ENAR Contributed Papers: Adaptive design/adaptive randomization in clinical trials; ACIC Weighting Methodologies in Causal Inference
- 2023 **Reviewer**, *Selection Committee*, 2023 ASA Biometrics Section Paper Award Competition
- 2019–2022 **Committee Member**, *ENAR, Council for Emerging and New Statisticians*
- 2019 **Panelist**, *Choosing a Dissertation Advisor Panel*, Department of Biostatistics, UNC - Chapel Hill
- 2016 **Panelist**, *Finding an Internship Panel*, Department of Biostatistics, UNC - Chapel Hill