

Carly L. Brantner, PhD

Email: carly.brantner@duke.edu

Website: www.carlybrantner.com

GitHub: carlyls

Professional Data

Department of Biostatistics & Bioinformatics
Duke Clinical Research Institute
Duke University
2424 Erwin Rd
Durham, NC 27705

Education

2024	Ph.D.	Biostatistics Johns Hopkins Bloomberg School of Public Health Thesis Title: "Data Integration Approaches to Estimate Heterogeneous Treatment Effects" Advisor: Dr. Elizabeth A. Stuart
2020	M.S.	Applied Mathematics and Statistics Johns Hopkins University
2020	B.S.	Applied Mathematics and Statistics, Psychological and Brain Sciences Johns Hopkins University

Professional Experience

2024 – present	Assistant Professor , Duke University Department of Biostatistics & Bioinformatics and Duke Clinical Research Institute
2025 – present	Data Science Consultant , Kang Women's Institute at the US Soccer Federation
2023 – 2025	Research Scientist (Epidemiology/Data Science) , Kynisca Innovation Hub
2023	Senior Data Science Intern , Mathematica Policy Research
2019 – 2024	Research Assistant , Johns Hopkins Bloomberg School of Public Health Advisor: Dr. Elizabeth A. Stuart
2021 – 2023	Teaching Assistant , Johns Hopkins Bloomberg School of Public Health
2020 – 2023	Epidemiology and Biostatistics of Aging Training Grant Trainee , Johns Hopkins Bloomberg School of Public Health PI: Dr. Karen Bandeen-Roche

2019	CIPhER Intern in Education Research and Assessment , UNC Eshelman School of Pharmacy
2018 – 2020	Course Assistant , Center for Leadership Education at Johns Hopkins University
2018	Student Researcher , Summer Institute in Biostatistics (SIBS) at North Carolina State University
2017	Applied Statistics Intern , UNC Eshelman School of Pharmacy

Publications

Peer-Reviewed Articles

1. **Brantner CL**, Koffman L, Stoms M, Goldsmith J, Freemas J. Making sense of the cycle: Statistical modeling techniques for menstrual health data. *Women's Reproductive Health*. 11 Jul 2026; 1-19. doi:10.1080/23293691.2026.2692118
2. Hong H, Zhao C, Jeon K, Badillo Goicoechea E, **Brantner CL**, Ringlein GV, Zandi PP, Gagliardi JP, Goes FS, Goldstein BA, Stuart EA. Comparative effectiveness of antidepressants for depression using EHRs from two health systems. *BMC Psychiatry*. In press.
3. Chumpitazi BP, Zelinski A, Marchesani N, **Brantner CL**, Tomaiuolo M, Kappelman MD. High Burden of Constipation among Autistic Youth - A Nationwide Query Powered by PCORnet®. *The American Journal of Gastroenterology*:10.14309/ajg.0000000000003967.
4. **Brantner CL**, Yu W, Zhao C, Jeon K, Ringlein GV, Wang Q, Lemoto E, Nguyen TQ, Gagliardi JP, Zandi PP, Goldstein BA, Stuart EA, Hong H. The challenges of integrating diverse data sources: A case study in major depression. *Health Services and Outcomes Research Methodology*. Oct 2025. <https://doi.org/10.1007/s10742-025-00363-8>
5. **Brantner CL**, Nguyen TQ, Parikh H, Zhao C, Hong H, Stuart EA. Precision mental health: predicting heterogeneous treatment effects for depression through data integration. *Journal of the Royal Statistical Society Series C: Applied Statistics*. 2025 Dec 12:qlaf068.
6. Moore SR, Cantú EI, **Brantner CL**, Britton ME, DelBiondo GM, Blue MNM, Bruinvels G, Hackney AC, Register-Mihalik JK, Smith-Ryan AE. Utilizing Machine Learning for Identification of Athlete Availability Predictors in a Multi-Sport Elite Female Athlete Cohort. *Journal of Strength and Conditioning Research*. Accepted 2026.
7. Donnelly GM, Coltman CE, Straker R, Wilkau HCVLU, **Brantner CL**, Moore IM. Pelvic compression garments alter running biomechanics, perceived support and fear of symptoms in postpartum women with pelvic floor dysfunction. An exploratory, randomized, repeated-measure crossover design. *Frontiers in Sports and Active Living, section Women in Sport*. 8 Jan 2026;7. doi:10.3389/fspor.2025.1691794.

8. Ettman CK, Ringlein GV, Dohlmman P, Straub J, **Brantner CL**, Chin ET, Sthapit S, Badillo Goicoechea E, Mojtabai R, Albert M, Spivak S, Iwashyna TJ, Goes FS, Stuart EA, Zandi PP. Trends in mental health care and telehealth use across area deprivation: An analysis of electronic health records from 2016-2024. *PNAS Nexus*. Feb 2025; 4: pgaf016. <https://doi.org/10.1093/pnasnexus/pgaf016>
9. Ettman CK, **Brantner CL**, Badillo Goicoechea E, Dohlmman P, Ringlein GV, Straub J, Sthapit S, Mojtabai R, Spivak S, Albert M, Goes FS, Stuart EA, Zandi PP. Gaps in psychiatric care before and after the COVID-19 pandemic among patients with depression using electronic health records. *Psychiatry Research*. In press.
10. McNulty KL, Taim BC, Freemas JA, Hassan A, **Brantner CL**, Oleka CT, Scott D, Howatson G, Moore IS, Yung KK, Hicks KM, Whalan M, Lovell R, Moore SR, Russell S, Smith-Ryan AE, Bruinvels G. Research across the female lifecycle: Reframing the narrative for health and performance in athletic females and showcasing solutions to drive advancements in research and its translation. *Women in Sport and Physical Activity Journal*. 2024 Sep 23;32(1). doi: 10.1123/wspaj.2024-0064.
11. **Brantner CL**, Nguyen TQ, Tang T, Zhao C, Hong H, Stuart EA. Comparison of methods that combine multiple randomized trials to estimate heterogeneous treatment effects. *Stat Med*. 2024 Mar 30;43(7):1291-1314. doi: 10.1002/sim.9955. Epub 2024 Jan 25. PMID: 38273647; PMCID: PMC11086055.
12. Nguyen TQ, Roberts Lavigne LC, **Brantner CL**, Kirk GD, Mehta SH, Linton SL. Estimation of place-based vulnerability scores for HIV viral non-suppression: an application leveraging data from a cohort of people with histories of using drugs. *BMC Med Res Methodol*. 2024 Jan 25;24(1):21. doi: 10.1186/s12874-023-02133-x. PMID: 38273277; PMCID: PMC10809603.
13. **Brantner CL**, Chang TH, Nguyen TQ, Hong H, Stefano LD, Stuart EA. Methods for Integrating Trials and Non-experimental Data to Examine Treatment Effect Heterogeneity. *Stat Sci*. 2023 Nov;38(4):640-654. doi: 10.1214/23-sts890. Epub 2023 Nov 6. PMID: 38638306; PMCID: PMC11025720.
14. **Brantner CL**, Bentley JP, Roth DL. Subtypes of Transitions into a Family Caregiving Role: A Latent Class Analysis. *J Appl Gerontol*. 2024 Apr;43(4):374-385. doi: 10.1177/07334648231210680. Epub 2023 Nov 21. PMID: 37990505; PMCID: PMC10923009.
15. Ettman CK, **Brantner CL**, Albert M, Goes FS, Mojtabai R, Spivak S, Stuart EA, Zandi PP. Trends in Telepsychiatry and In-Person Psychiatric Care for Depression in an Academic Health System, 2017-2022. *Psychiatr Serv*. 2024 Feb 1;75(2):178-181. doi: 10.1176/appi.ps.20230064. Epub 2023 Aug 9. PMID: 37554006; PMCID: PMC10862532.
16. Olsen AA, **Brantner CL**, Dallaghan GLB, McLaughlin JE. A review of interprofessional education research: Disciplines, authorship practices, research design, and dissemination trends. *Journal of Interprof Educ Prac*. 2023 May 16;32:100653. doi: 10.1016/j.xjep.2023.100653
17. **Lupton-Smith C**, Goicoechea EB, Collins M, Lessler J, Grabowski MK, Stuart EA. Consistency between Household and County Measures of Onsite Schooling during the COVID-19 Pandemic. *J Res Educ Eff*. 2023;16(3):419-441. doi:

10.1080/19345747.2022.2131660. Epub 2022 Nov 1. PMID: 37605777; PMCID: PMC10441621.

18. Fuller K, **Lupton-Smith C**, Hubal R, McLaughlin JE. Automated Analysis of Preceptor Comments: A Pilot Study Using Sentiment Analysis to Identify Potential Student Issues in Experiential Education. *Am J Pharm Educ*. 2023 Sep;87(9):100005. doi: 10.1016/j.ajpe.2023.02.005. Epub 2023 Mar 15. PMID: 37714650.
19. McLaughlin JE, Lyons K, **Lupton-Smith C**, Fuller K. An introduction to text analytics for educators. *Curr Pharm Teach Learn*. 2022 Oct;14(10):1319-1325. doi: 10.1016/j.cptl.2022.09.005. Epub 2022 Sep 15. PMID: 36280557; PMCID: PMC9904956.
20. **Lupton-Smith C**, Badillo-Goicochea E, Chang TH, Maniates H, Riehm KE, Schmid I, Stuart EA. Factors associated with county-level mental health during the COVID-19 pandemic. *J Community Psychol*. 2022 Jul;50(5):2431-2442. doi: 10.1002/jcop.22785. Epub 2021 Dec 30. PMID: 34969152; PMCID: PMC9015572.
21. Riehm, KE, Badillo-Goicochea E, Wang FM, Kim E, Aldridge LR, **Lupton-Smith C**, Presskreischer R, Chang TH, LaRocca S, Kreuter F, Stuart EA. Association of Non-Pharmaceutical Interventions to Reduce the Spread of SARS-CoV-2 With Anxiety and Depressive Symptoms: A Multi-National Study of 43 Countries. *Int J Public Health*. 2022 Mar 3;67:1604430. doi: 10.3389/ijph.2022.1604430. PMID: 35308051; PMCID: PMC8927027.
22. Lessler J, Grabowski MK, Grantz KH, Badillo-Goicochea E, Metcalf CJE, **Lupton-Smith C**, Azman AS, Stuart EA. Household COVID-19 risk and in-person schooling. *Science*. 2021 Jun 4;372(6546):1092-1097. doi: 10.1126/science.abh2939. Epub 2021 Apr 29. PMID: 33927057; PMCID: PMC8168618.
23. **Lupton-Smith C**, Stuart EA, McGinty EE, Dalcin AT, Jerome GJ, Wang NY, Daumit GL. Determining Predictors of Weight Loss in a Behavioral Intervention: A Case Study in the Use of Lasso Regression. *Front Psychiatry*. 2022 Feb 3;12:707707. doi: 10.3389/fpsy.2021.707707. PMID: 35185628; PMCID: PMC8850776.
24. Olsen AA, **Lupton-Smith C**, Rodgers PT, McLaughlin JE. Characterizing Research About Interprofessional Education Within Pharmacy. *Am J Pharm Educ*. 2021 Sep;85(8):8541. doi: 10.5688/ajpe8541. Epub 2021 Mar 12. PMID: 34615627; PMCID: PMC8500280.
25. Wolcott MD, Lupton-Smith C, Cox WC, McLaughlin JE. A Five-Minute Situational Judgment Test to Assess Empathy in First-Year Student Pharmacists. *Am J Pharm Educ*. 2019 Aug;83(6):6960. doi: 10.5688/ajpe6960. PMID: 31507291; PMCID: PMC6718496.
26. McLaughlin JE, **Lupton-Smith C**, Wolcott MD. Text mining as a method for examining the alignment between educational outcomes and the workforce needs. *Educ Health Prof*. 2018 Jan;1(2):55-60. doi: 10.4103/EHP.EHP_25_18

Presentations

Invited Presentations

1. **Brantner CL.** December 17, 2025. From Cohorts to Outcomes: The Art of EHR Study Design. Invited webinar for ALACRITY Center Advanced Methods for Mental Health Services Research Webinar Series. <https://youtu.be/xzng3lInLe8>
2. Freemans J, **Brantner CL**, Bruinvels G. October 7, 2025. Establishing best practice for cycle tracking in soccer. Invited presentation for Orreco Science Exchange.
3. **Brantner CL.** August 26, 2025. What Works for Whom: Traditional and Modern Approaches for Estimating Heterogeneous Treatment Effects. Invited seminar for Durham Center of Innovation to Accelerate Discovery and Practice Transformation.
4. **Brantner CL.** June 12, 2025. Overview of traditional and machine learning approaches to assess heterogeneous treatment effects. Society for Epidemiologic Research. *Part of invited symposium: Beyond Average: Estimating and Interpreting Heterogeneous Treatment Effects.*
5. **Brantner CL.** March 24, 2025. Estimating variation of female health characteristics in exercising females. Eastern North American Region (ENAR) International Biometrics Society. *Part of invited session (organizer: **Brantner CL**): Statistical Methods for Female Health: From Functional Data Approaches to Hierarchical Modeling.*
6. **Brantner CL.** January 6, 2025. Predicting heterogeneous treatment effects in electronic health records via data integration. International Conference on Health Policy Statistics (ICHPS). *Part of invited session (organizer: Hong H): Challenges and Promises on Generalizability and Inference using Electronic Health Records.*
7. **Brantner CL.** November 15, 2024. Data integration approaches to estimate heterogeneous treatment effects. Invited presentation for Duke Statistical Science Seminar Series.
8. **Brantner CL.** October 18, 2024. Data integration approaches to estimate heterogeneous treatment effects. Women in Statistics and Data Science. *Part of invited session (organizer: Lotspeich S): Cause for celebration: Adapting causal inference methods for challenging datasets.*
9. **Brantner CL.** October 4, 2024. From causal inference to female health and performance: My research overview. Invited presentation for Duke Biostatistics & Bioinformatics PhD Seminar Course.
10. **Brantner CL.** September 19, 2024. Data integration approaches to estimate heterogeneous treatment effects. Invited seminar for Julie Josse Lab Group.
11. **Brantner CL.** March 10, 2024. Combining trials to estimate heterogeneous treatment effects in a target sample. Eastern North American Region (ENAR) International Biometrics Society. *Part of invited session (organizer: **Brantner CL**): Integrating Data from Multiple Sources to Estimate Causal Effects.*
12. **Brantner CL.** February 23, 2024. Data integration approaches to estimate heterogeneous treatment effects. Invited presentation for Johns Hopkins Biostatistics Prospective PhD Student Visit Day.

13. **Lupton-Smith C.** January 24, 2022. Family caregiving subtypes and well-being in the Caregiving Transitions Study: A latent class analysis. Research in Progress presentation for Epidemiology and Biostatistics of Aging Training Group.
14. **Lupton-Smith C.** October 8, 2021. Factors associated with county-level mental health during the COVID-19 pandemic. Invited presentation for Johns Hopkins Biostatistics Virtual Prospective Student Event.

Contributed Presentations

15. Moore SR, **Brantner CL**, Cantú EI, Britton ME, Smith-Ryan AE. Utility of Machine Learning for Identification of Athlete Availability Predictors in NCAA Women's Lacrosse. Southeast ACSM Regional Conference, Greenville, SC. Submitted 2024.
16. **Brantner CL.** March 22, 2023. Combining datasets to estimate heterogeneous treatment effects. Eastern North American Region (ENAR) International Biometrics Society.
17. **Brantner CL.** December 18, 2022. Combining datasets to estimate heterogeneous treatment effects. International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022).
18. **Lupton-Smith C.**, Badillo Goicoechea E, Chang T, Stuart EA. October 7, 2021. Factors associated with county-level mental health during the COVID-19 pandemic. Women in Statistics and Data Science Conference.

Posters

1. **Brantner CL**, Freemas J, Moore I, Bruinvels G. (2025). The Menstrual Cycle as an Indicator for Health: Estimating Variability of Cycle Length in Active Women. *Duke Women's Health Symposium*.
2. Ettman CK, Ringlein GV, Straub JL, Dohlmán P, **Brantner CL**, Chin E, Badillo Goicoechea E, Sthapit S, Goes FS, Stuart EA, Zandi PP. (2024). Trends in the Use of Telehealth by Area Deprivation in a Large U.S. Academic Hospital. *Society for Epidemiologic Research Annual Meeting*.
*Recipient of Best Poster Award
3. **Brantner CL.** (2023). Combining datasets to estimate heterogeneous treatment effects. *American Causal Inference Conference*.
4. Ettman CK, **Brantner CL**, Albert M, et al. (2023). Trends in telehealth and in-person psychiatric care from 2017-2022 among patients with depression in a large US academic medical system. *Society for Epidemiologic Research*.
5. Ettman CK, **Brantner CL**, Albert M, et al. (2023). Trends in telehealth and in-person psychiatric care from 2017-2022 among patients with depression in a large US academic medical system. *AcademyHealth*.
6. Ettman CK, **Brantner CL**, Albert M, et al. (2023). Trends in telehealth and in-person psychiatric care from 2017-2022 among patients with depression in a large US academic medical system. *International Association for Population Health Sciences*.

7. Bentley J, **Lupton-Smith C**, Roth D. (2021). Family caregiving subtypes in the Caregiving Transitions Study: A latent class analysis. *Gerontological Society of America*.
8. Chang T, **Lupton-Smith C**, Badillo Goicoechea E, Stuart EA (2021). Examining county-level mental health using Facebook COVID-19 Symptom Survey data. *American Psychopathological Association*.
9. McLaughlin JE, **Lupton-Smith C**, Bell EL, Hubal R, Persky A. (2020). Automated analysis of course evaluation comments: The use of sentiment analysis to characterize classroom teaching. *American Association of Colleges of Pharmacy*.
***Recipient of AACP SAS Best Poster Award**

Podcasts

1. **Brantner CL**. June 12, 2025. Combining Data & Making Effects Generalizable with Carly Brantner. Casual Inference Podcast. <https://casualinfer.libsyn.com/combining-data-making-effects-generalizable-with-carly-brantner-season-6-episode-7>
2. **Brantner CL**. (May 30, 2022). School Reopening Analysis. Data Skeptic. <https://dataskeptic.com/blog/episodes/2022/school-reopening-analysis>.

Software

1. Obeng D, **Brantner CL**, Stuart EA. (2025). multicate R package. <https://github.com/dobengjhu/multicate/releases/tag/v1.0.0>

Media

1. New Resources Will Support Representativeness of PCORnet® Studies. November 11, 2025. <https://pcornet.org/news/blog-new-resources-will-support-representativeness-of-pcornet-studies/>

Honors and Awards

1. **International Conference on Health Policy Statistics Travel Award**, American Statistical Association, 2025
2. **Delta Omega Inductee**, Delta Omega Alpha Chapter, 2024
3. **Gertrude M. Cox Scholarship Honorable Mention**, American Statistical Association, 2023
4. **June B. Culley Award** for the best preliminary examination paper, Johns Hopkins Department of Biostatistics, 2023
5. **Jane and Steve Dykacz Award** for an outstanding paper in medical statistics, Johns Hopkins Department of Biostatistics, 2023
6. **Epidemiology and Biostatistics of Aging Training Grant Recipient**, Johns Hopkins University, 2020-2023
7. **Dean's List**, Johns Hopkins University, 2016-2020
8. **Phi Beta Kappa**, Johns Hopkins University, 2020

9. **Applied Mathematics and Statistics Achievement Award**, Johns Hopkins University, 2020
10. **Applied Mathematics and Statistics Prize for Outstanding Master's Research**, Johns Hopkins University, 2020
11. **Applied Mathematics and Statistics Mathematical Modeling Competition Prize**, Johns Hopkins University, 2020
12. **Naddor Prize**, Johns Hopkins University Department of Applied Mathematics and Statistics, 2019
13. **Centennial Conference Women's Soccer Scholar-Athlete of the Year**, Johns Hopkins Women's Soccer, 2019
14. **CoSIDA Third Team Academic All-American**, Johns Hopkins Women's Soccer, 2019
15. **CoSIDA Academic All-District Team**, Johns Hopkins Women's Soccer, 2019
16. **Chi Alpha Sigma**, Scholar Athlete Honor Society, Johns Hopkins University, 2019
17. **National Merit Scholar**, Cary Academy, 2015

Leadership

2023 – present	Council for Emerging and New Statisticians (CENS) , Eastern North American Region (ENAR) of International Biometrics Society - Co-Chair, 2025 – present - Steering Committee Member, 2024 – 2025
2022 – 2024	Co-President of Biostatistics Student Organization , Johns Hopkins Bloomberg School of Public Health
2021 – 2024	Mental Health Graduate Network Representative , Johns Hopkins University
2020 – 2024	Biostatistics Student Organization Mentoring Committee and Curriculum Committee Member , Johns Hopkins Bloomberg School of Public Health
2019	Varsity Women's Soccer Captain , Johns Hopkins University
2019	Assistant New Member Director , Phi Mu Gamma Tau Chapter
2019 – 2020	Blue Jays LEAD Captains Cohort Member , Johns Hopkins University

Teaching and Mentorship

Teaching

Course Director, Duke University School of Medicine Master of Biomedical Sciences
1. Medical Statistics Fall 2025

Lead Teaching Assistant, Johns Hopkins Bloomberg School of Public Health

1. Statistical Methods in Public Health I, II Fall 2022 & 2023
Instructors: Dr. Marie Diener-West and Dr. Karen Bandeen-Roche

Teaching Assistant, Johns Hopkins Bloomberg School of Public Health

1. Causal Inference in Medicine and Public Health I Spring 2022 & 2023
Instructor: Dr. Elizabeth Stuart
2. Statistical Methods in Public Health I, II Fall 2021
Instructors: Dr. Marie Diener-West and Dr. Karen Bandeen-Roche

Course Assistant, Johns Hopkins University

1. Leading Teams Fall 2018 – Spring 2020
Instructor: Dr. William Smedick

Mentorship

Advisor, Duke University

1. William Stewart, MS Student Fall 2025 – Spring 2026
2. Sahil Patel, PhD Student Summer 2025
3. Pranav Radulapati, BS Student Summer 2025 – present

Committee Member, Duke University

1. Christine Bui, MS Student Fall 2025 – Spring 2026
2. Hanyu Wang, MS Student Fall 2024 – Spring 2025
3. Tianyi Yang, MS Student Fall 2024 – Spring 2025

Service

Professional Memberships

American Statistical Association (2022 – present)

- Session Chair, ICHPS (2025)

International Biometrics Society, Eastern North American Region (2022 – present)

- Session Chair, ENAR (2025)

Society for Epidemiologic Research (2025 – present)

Journal Peer Review Activities

American Journal of Epidemiology

Journal of the Royal Statistical Society: Series A

Statistics in Medicine

Aging and Mental Health

Stress and Health

Biostatistics

Journal of the Royal Statistical Society: Series B

Interactive Journal of Medical Research

Rural Sociology

Health Services and Outcomes Research Methodology

Nature Mental Health

Committees

Duke Biostatistics & Bioinformatics PhD Admissions Committee Member (2024 –

present)
Duke Industry Statistics Symposium Early Career Poster Award Committee
(2025)

Research Grant Participation

<u>Title</u>	<u>Agency</u>	<u>Role</u>	<u>Level</u>	<u>Budget</u>
COMPARE (Comparative Effectiveness of Alternative Emerging Medications on Symptom Burden and Clinical Disease Activity in Children with Inflammatory Bowel Disease)	PCORI (Sub through UNC)	Key Personnel	10%	\$11,211,849 (from UNC to Duke)
PCORnet Statement 9: Representativeness (12/1/2024 – 11/15/2025)	PCORI	Co-Investigator	20%	\$314,807
Omecamtiv Mecarbil CV Outcomes Trial (9/1/2024 – 11/12/2028)	Cytokinetics, Inc.	Statistical Faculty	8.7%	\$44,533,505
Combining data sources to identify effect moderation for personalized mental health treatment (9/1/2021 – 5/31/2025)	NIMH	Biostatistician	10%	\$912,247