

# Carly Lupton Brantner, PhD

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## Professional Data

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

## Education

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2024	Ph.D.	<b>Biostatistics</b> 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.	<b>Applied Mathematics and Statistics</b> Johns Hopkins University
2020	B.S.	<b>Applied Mathematics and Statistics, Psychological and Brain Sciences</b> Johns Hopkins University

## Professional Experience

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Beginning Aug 2024	<b>Assistant Professor</b> , Duke University Department of Biostatistics & Bioinformatics and Duke Clinical Research Institute
2023 – present	<b>Research Scientist (Epidemiology/Data Science)</b> , Kynisca Innovation Hub
2023	<b>Senior Data Science Intern</b> , Mathematica Policy Research
2019 – 2024	<b>Research Assistant</b> , Johns Hopkins Bloomberg School of Public Health Advisor: Dr. Elizabeth A. Stuart
2021 – 2023	<b>Teaching Assistant</b> , Johns Hopkins Bloomberg School of Public Health
2020 – 2023	<b>Epidemiology and Biostatistics of Aging Training Grant Trainee</b> , Johns Hopkins Bloomberg School of Public Health PI: Dr. Karen Bandeen-Roche
2019	<b>CIPhER Intern in Education Research and Assessment</b> , 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

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### Peer-Reviewed Articles

1. **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.
2. 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.
3. **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.
4. **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.
5. 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.
6. 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
7. **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.
8. 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.

9. 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.
10. **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.
11. 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.
12. 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.
13. **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.
14. 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.
15. 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.
16. 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

#### In Progress/Under Review

1. **Brantner CL**, Nguyen TQ, Parikh H, Zhao C, Hong H, Stuart EA. Predicting heterogeneous treatment effects in a target setting via data integration. Under review.
2. Ettman CK, **Brantner CL**, Badillo Goicochea E, Dohlman P, Ringlein GV, Straub J, Sthapi S, Motjabai R, Spivak S, Albert M, Goes FS, Stuart EA, Zandi P. Gaps in psychiatric care before and during the COVID-19 pandemic among patients with

depression. Under review.

3. Ettman CK, Ringlein G, Dohleman P, Straub J, **Brantner CL**, Chin E, Sthapit S, Badillo Goicoechea E, Mojtabai R, Albert M, Spivak S, Iwashyna T, Goes F, Stuart EA, Zandi P. Trends in telehealth use across area deprivation during and after the COVID-19 state of emergency. Under review.

## Presentations

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### Invited Presentations

1. **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.*
2. **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.*
3. **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.*
4. **Brantner CL**. February 23, 2024. Data integration approaches to estimate heterogeneous treatment effects. Invited presentation for Johns Hopkins Biostatistics Prospective PhD Student Visit Day.
5. **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.
6. **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

7. **Brantner CL**. March 22, 2023. Combining datasets to estimate heterogeneous treatment effects. Eastern North American Region (ENAR) International Biometrics Society.
8. **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).
9. **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. Ettman CK, Ringlein GV, Straub JL, Dohman 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**
2. **Brantner CL**. (2023). Combining datasets to estimate heterogeneous treatment effects. *American Causal Inference Conference*.
3. 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*.
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. *AcademyHealth*.
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. *International Association for Population Health Sciences*.
6. Bentley J, **Lupton-Smith C**, Roth D. (2021). Family caregiving subtypes in the Caregiving Transitions Study: A latent class analysis. *Gerontological Society of America*.
7. 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*.
8. 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**. May 30, 2022. School Reopening Analysis. Data Skeptic.  
<https://dataskeptic.com/blog/episodes/2022/school-reopening-analysis>.

## Honors and Awards

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1. **Delta Omega Inductee**, Delta Omega Alpha Chapter, 2024
2. **Gertrude M. Cox Scholarship Honorable Mention**, American Statistical Association, 2023
3. **June B. Culley Award** for the best preliminary examination paper, Johns Hopkins Department of Biostatistics, 2023
4. **Jane and Steve Dykacz Award** for an outstanding paper in medical statistics, Johns Hopkins Department of Biostatistics, 2023

5. **Epidemiology and Biostatistics of Aging Training Grant Recipient**, Johns Hopkins University, 2020-2023
6. **Dean's List**, Johns Hopkins University, 2016-2020
7. **Phi Beta Kappa**, Johns Hopkins University, 2020
8. **Applied Mathematics and Statistics Achievement Award**, Johns Hopkins University, 2020
9. **Applied Mathematics and Statistics Prize for Outstanding Master's Research**, Johns Hopkins University, 2020
10. **Applied Mathematics and Statistics Mathematical Modeling Competition Prize**, Johns Hopkins University, 2020
11. **Naddor Prize**, Johns Hopkins University Department of Applied Mathematics and Statistics, 2019
12. **Centennial Conference Women's Soccer Scholar-Athlete of the Year**, Johns Hopkins Women's Soccer, 2019
13. **CoSIDA Third Team Academic All-American**, Johns Hopkins Women's Soccer, 2019
14. **CoSIDA Academic All-District Team**, Johns Hopkins Women's Soccer, 2019
15. **Chi Alpha Sigma**, Scholar Athlete Honor Society, Johns Hopkins University, 2019

## Leadership Experience

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

## Teaching Experience

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**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

**Professional Service**

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Professional Memberships

- American Statistical Association (2022 – present)
  - Session Chair, ICHPS (2025)
- International Biometrics Society, Eastern North American Region (2022 – present)

Journal Peer Review Activities

- American Journal of Epidemiology
- Journal of the Royal Statistical Society: Series A
- Statistics in Medicine
- Aging and Mental Health

**Skills**

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**Programming:** R, SAS, MPlus, Python, MATLAB, Stata, SQL, Git

**Research:** Machine learning, data integration, causal inference, multiple imputation, nonparametric statistics, propensity score estimation, variable selection, regression, latent class analysis, electronic health records, text mining, sentiment analysis, social network analysis