Jessica Lavery

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EDUCATION

2019 - Present — Doctoral student, Doctor of Public Health (DrPH) in Biostatistics
Columbia University Mailman School of Public Health, New York, NY

2014 — Master of Science in Biostatistics
University of North Carolina Chapel Hill, Chapel Hill, NC

Relevant Biostatistics Coursework: Probability and Statistical Inference, Longitudinal Data Analysis, Categorical Data Analysis, Statistical Methods, General Linear Models, Design of Public Health Studies, Epidemiology, Survival Analysis, Statistical Consulting

Master's Thesis: A simulation study comparing different methods of handling missing data in the context of type I diabetes clinical trials.

2012 — Bachelor of Science in Statistics, *cum laude*
Loyola University Maryland, Baltimore, MD

HONORS & AWARDS

2016, 2017 — Travel award recipient to the Women in Statistics and Data Science conference in Charlotte, NC (2016) and La Jolla, CA (2017)

2012 — Inducted as a member of Pi Mu Epsilon, the National Mathematical and Statistics Honor Society

2011 — Recipient of a full scholarship to the National Heart Lung and Blood Institute-funded Boston University Summer Institute for Training in Biostatistics. The program modules were in biostatistics, epidemiology, clinical trials, statistical genetics and training in SAS.

PROFESSIONAL EXPERIENCE

2017-Present — Research Biostatistician (Feb 2018-Present),
Assistant Research Biostatistician (Mar 2017-Feb 2018),
Memorial Sloan Kettering Cancer Center

- Collaborate with clinicians and health services researchers to answer questions related to healthcare utilization and outcomes for patients with cancer using retrospective institutional data in addition to large population-based administrative databases (Surveillance, Epidemiology, and End Results (SEER)-Medicare linked data, Medicare claims).
- Statistician for American Association of Cancer Research Genomics Evidence Neoplasia Information Exchange (GENIE) biopharmaceutical collaborative. Involved in writing standard operating procedures for quality assurance, maintaining quality assurance dashboard, deriving variables for analysis and performing analyses.
- Assist investigators with study design and research protocols, including performing sample size calculations and power analyses.

- Contribute to grant planning and writing.
- Authored two manuscripts validating the feasibility of using Medicare claims for cancer-specific analyses.
- Developed a repository of SAS macros for routine tasks (e.g. pulling claims from SEER-Medicare data) to improve efficiency and reproducibility.
- Built a project management tool through the R Shiny Application package to easily view the status of past, current and upcoming projects across multiple statisticians.

2016-2017 Biostatistician, **NYU Langone Medical Center**
- Collaborated with the Department of Population Health to analyze orthopaedic health outcomes utilizing large administrative databases (Healthcare Cost and Utilization Project, Statewide Planning and Research Cooperative System, National Ambulatory Medical Care Survey).
- Consulted with faculty, residents, fellows and musculoskeletal research staff in the Department of Orthopedic Surgery to design studies, manage and analyze data, present results, and write methods and results sections of manuscripts.

2014-2016 Biostatistician, **Columbia University Medical Center**
- Provided data management, programming and biostatistics support for the Safe Motherhood Initiative (Merck for Mothers), examining the impact of developing standard approaches to treat obstetric emergencies.
- Utilized large administrative claims databases (National Hospital Discharge Survey, National Vital Statistics System, Premier Perspectives) to explore maternal-fetal outcomes via hierarchical models, age-period-cohort models, and meta-analyses, among other methods.
- Served as a teaching assistant for Applied Methods in Health Services and Outcomes Research (Spring 2015 and 2016).

2013-2014 Graduate Research Assistant, **Rho, Inc.**
- Provided programming support to the federally funded autoimmune disease team by creating and modifying analysis datasets, tables, listings and figures.

2013-2014 Biostatistics Intern, **Lineberger Comprehensive Cancer Center**
- Created an experiential learning internship to gain exposure to the field of biostatistics by volunteering to assist a Master's level statistician with cancer studies by collaborating with investigators, programming analysis datasets, conducting analyses, and assisting with organizational tasks.

2012-2013 Statistical Programmer I, **Stat-Tech Services, LLC**
- Provided programming support as specified in analysis plans for tables, graphs and listings. Validated statistical output and perform quality control as required.
- Provided data entry and quality control support of statistical packages. Documented data management and validation tasks per standard operating procedures. Responsible for creating, organizing and checking project file content.

LEADERSHIP & VOLUNTEER EXPERIENCE

2019	Volunteer Coordinator, **Caucus for Women in Statistics**

2019	Professional Development Committee, **Caucus for Women in Statistics**

Jan-Mar 2019 Volunteer, **DataKind**
- Review applications for Google.org's Artificial Intelligence (AI) Impact Challenge on the criteria of impact, feasibility, use of AI, scalability and responsibility in order to help identify the most promising ideas that aim to apply artificial intelligence to achieve positive social impact

2018-2019 Mentor, **1000 Girls, 1000 Futures, New York Academy of Sciences**
- Share experiences, advice, and resources throughout the course of a year-long mentoring program focused on leadership, critical thinking, communication and academic preparedness for two consecutive years.
- *Corresponding publication:* Ibrahim A, **Lavery JA**, Parkinson M, Neillie E, Williams J. 1000 girls, 1000 futures: The New York Academy of Sciences Mentoring Initiative. AmStat News: The Membership Magazine of the American Statistical Association. 2018 November.

May 2012 Volunteer, **Encounter El Salvador,** San Salvador and Santa Marta, El Salvador
- Participated in a ten-day immersion trip to serve the people of San Salvador and Santa Marta in solidarity and to gain a thorough understanding and appreciation of the country's history.

Spring 2011 Volunteer, **Caritas Roma,** Rome, Italy
- Volunteered weekly at a soup kitchen focused on serving the immigrant and refugee community in Rome.

2009-2012 President, **Loyola University's Chapter of Colleges Against Cancer**
- Organized fundraisers for American Cancer Society.
- Coordinated sign up and transportation for volunteers from Loyola to cheer on Memorial Sloan Kettering Fred's Team runners for the New York City Marathon (2009-2011).

SKILLS

- SAS
- R and RStudio
- Review Manager (RevMan)
- Git and GitHub
- LaTeX

INVITED PRESENTATIONS & SEMINARS

- Gennarelli RG, **Lavery JA** (2019). *Data Driven: The Role of Biostatistics in Cancer Research and Health Policy.* Presented at the Wake Forest Department of Mathematics and Statistics, Wake Forest, North Carolina.
- **Lavery JA** (2016) *Plurality and perinatal mortality: preterm delivery as a mediating effect.* Invited presentation at the Perinatal Epidemiology scientific forum at the Society for Maternal Fetal Medicine's 36th Annual Pregnancy Meeting, Atlanta, Georgia.

CONTRIBUTED PRESENTATIONS

- **Lavery JA**, Bach PB, Panageas KP (2020) *It's getting hot in here: A novel application of heatmaps to health outcomes research.* Contributed presentation at the International Conference for Health Policy Statistics, San Diego, CA.
- **Lavery JA**, Lipitz-Snyderman A, Li DG, Bach PB, Panageas KP (2019) *A Comparison of Provider Profiling Approaches with Respect to Low-Volume Providers.* Contributed presentation at the Joint Statistical Meetings, Denver, CO.
- **Lavery JA** (2019): *Real World Evidence to Profile Hospitals' Quality of Surgical Cancer Care.* Contributed presentation at AcademyHealth Datapalooza, Washington, DC.
- **Lavery JA** (2017) *Language and tools for establishing influence as an early-career statistician.* Contributed presentation at the Women in Statistics and Data Science conference (WSDS), La Jolla, California.
  - *Corresponding publication:* Lavery JA. Early-Career Statistician Offers Language, Tools for Establishing Influence. AmStat News: The Membership Magazine of the American Statistical Association. 2018 June.
- Ananth CV, **Lavery JA** (April 2015, July 2015, January 2016) Biostatistics Coordinating Center presentation for quarterly meetings of the Safe Motherhood Initiative, American Congress of Obstetricians and Gynecologists, New York.

OTHER PROFESSIONAL EXPERIENCE

2019	Session chair, *Using Unique Associations to Address Health Policy Questions.* Joint Statistical Meetings, Denver, CO.
2019	Roundtable organizer and facilitator, *The Social Statistician: Navigating Social Media in 2019.* Joint Statistical Meetings, Denver, CO.
2019	Topic-contributed session organizer, *Practical and methodological issues related to profiling hospitals in the United States.* Joint Statistical Meetings. Vancouver, BC.
2018	Ad hoc reviewer, Journal of Urology
2018	Ad hoc reviewer, BMJ Open
2014	Ad hoc reviewer, British Journal of Obstetrics and Gynaecology
2014	Ad hoc reviewer, Paediatric and Perinatal Epidemiology
2012	Participant, SAMSI Undergraduate Workshop, Research Triangle Park, NC
2012	Invited participant, Women's Leadership Conference, Baltimore, MD

PUBLICATIONS

1. Ganesh K, Wu C, O'Rourke KP, Szeglin BC, Zheng Y, Sauvé CG, Adileh M, Wasserman I, Marco MR, Kim AS, Shady M, Sanchez-Vega F, Karthaus WR, Won HH, Choi SH, Pelossof R, Barlas A, Ntiamoah P, Pappou E, Elghouayel A, Strong JS, Chen CT, Harris JW, Weiser MR, Nash GM, Guillem JG, Wei IH, Kolesnick RN, Veeraraghavan H, Ortiz EJ, Petkovska I, Cercek A, Manova-Todorova KO, Saltz LB, **Lavery JA**, DeMatteo RP, Massagué J, Paty PB, Yaeger R, Chen X, Patil S, Clevers H, Berger MF, Lowe SW, Shia J, Romesser PB, Dow LE, Garcia-Aguilar J, Sawyers CL, Smith JJ. A rectal cancer organoid platform to study individual responses to chemoradiation. Nat Med. 2019 Oct 7;. doi: 10.1038/s41591-019-0584-2. [Epub ahead of print] PubMed PMID: 31591597.

2. Slover J, **Lavery JA**, Toombs C, Bosco JA, Gold HT. Factors Associated with Utilizing the Same Hospital for Subsequent Total Hip or Knee Arthroplasty in Osteoarthritis Patients. Bull Hosp Jt Dis (2013). 2019 Sep;77(3):164-170. PubMed PMID: 31487480.

3. **Lavery JA**, Lipitz-Snyderman A, Li DG, Bach PB, Panageas KS. Assessing whether cancer stage is needed to evaluate measures of hospital surgical performance. J Eval Clin Pract. 2019 May 9;. doi: 10.1111/jep.13168. [Epub ahead of print] PubMed PMID: 31069903.

4. Friedman AM, Ananth CV, **Lavery JA**, Fleischer AA, Chazotte C, D'Alton ME. Implementing Obstetric Venous Thromboembolism Protocols on a Statewide Basis: Results from New York State's Safe Motherhood Initiative. Am J Perinatol. 2019 May;36(6):574-580. doi: 10.1055/s-0038-1668549. Epub 2018 Sep 13. PubMed PMID: 30212917.

5. Nobel TB, **Lavery JA**, Barbetta A, Gennarelli RL, Lidor AO, Jones DR, Molena D. National guidelines may reduce socioeconomic disparities in treatment selection for esophageal cancer. Dis Esophagus. 2019 May 1;32(5). doi: 10.1093/dote/doy111. PubMed PMID: 30496376; PubMed Central PMCID: PMC6514299.

6. Salz T, **Lavery JA**, Lipitz-Snyderman AN, Boudreau DM, Moryl N, Gillespie EF, Korenstein D. Trends in Opioid Use Among Older Survivors of Colorectal, Lung, and Breast Cancers. J Clin Oncol. 2019 Apr 20;37(12):1001-1011. doi: 10.1200/JCO.18.00938. Epub 2019 Feb 28. PubMed PMID: 30817249; PubMed Central PMCID: PMC6494264.

7. **Lavery JA**, Panageas KS. Appropriate statistical methods are available to handle biases encountered in blinded, independent, central review (BICR) determined progression-free survival. J Hosp Manag Health Policy. 2019 Apr;3. doi: 10.21037/jhmhp.2019.04.01. Epub 2019 Apr 9. PubMed PMID: 31304462; PubMed Central PMCID: PMC6625798.

8. **Lavery JA**, Lipitz-Snyderman A, Li DG, Bach PB, Panageas KS. Identifying Cancer-Directed Surgeries in Medicare Claims: A Validation Study Using SEER-Medicare Data. JCO Clin Cancer Inform. 2019 Feb;(3):1-24. doi: 10.1200/CCI.18.00093. PubMed PMID: 30715928.

9. Goffman D, Ananth CV, Fleischer A, D'Alton M, **Lavery JA**, Smiley R, Zielinski K, Chazotte C; Safe Motherhood Initiative Obstetric Hemorrhage Work Group. The New York State Safe Motherhood Initiative: Early Impact of Obstetric Hemorrhage Bundle Implementation. Am J Perinatol. 2019 Jan 4. doi: 10.1055/s-0038-1676976. [Epub ahead of print] PubMed PMID: 30609429.

10. Phillips D, Fisher N, **Lavery JA**, Karia R, Kalet A. Assessing resident perceptions of electronic medical record utilization: what affects the quality of clinical notes? Bull Hosp Jt Dis. 2018;76(4):273-7.

11. Lowry M, Buza J, Liu J, Rosenbaum H, **Lavery J**, Bosco J, Walker PS. Surgical Accuracy of an Early Intervention Knee Implant Instrumentation System. J Knee Surg. 2018 Nov;31(10):979-985. doi: 10.1055/s-0038-1625959. Epub 2018 Jan 30. PubMed PMID: 29381882.

12. Simpson LL, Rochelson B, Ananth CV, Bernstein PS, D'Alton M, Chazotte C, **Lavery JA,** Zielinski K; Safe Motherhood Initiative Severe Hypertension in Pregnancy Work Group. Safe Motherhood Initiative: Early Impact of Severe Hypertension in Pregnancy Bundle Implementation. AJP Rep. 2018 Oct;8(4):e212-e218. doi: 10.1055/s-0038-1673632. Epub 2018 Oct 11. PubMed PMID: 30319925; PubMed Central PMCID: PMC6181646.

13. Schwarzkopf R, **Lavery JA**, Hooper J, Parikh M, Gold HT. Bariatric Surgery and Time to Total Joint Arthroplasty: Does It Affect Readmission and Complication Rates? Obes Surg. 2018 May;28(5):1395-1401. doi: 10.1007/s11695-017-3034-6. PubMed PMID: 29168111.

14. Pergolotti M, **Lavery J**, Reeve BB, Dusetzina SB. Therapy Caps and Variation in Cost of Outpatient Occupational Therapy by Provider, Insurance Status, and Geographic Region. Am J Occup Ther. 2018 Mar/Apr;72(2):7202205050p1-7202205050p9. doi: 10.5014/ajot.2018.023796. PubMed PMID: 29426383; PubMed Central PMCID: PMC5807401.

15. Ganta A, Ding D, Fisher N, **Lavery J**, Jain S, Tejwani NC. Continuous Infraclavicular Brachial Block Versus Single-Shot Nerve Block for Distal Radius Surgery: A Prospective Randomized Control Trial. J Orthop Trauma. 2018 Jan;32(1):22-26. doi: 10.1097/BOT.0000000000001021. PubMed PMID: 29040231.

16. Slover J, **Lavery JA**, Schwarzkopf R, Iorio R, Bosco J, Gold HT. Incidence and Risk Factors for Blood Transfusion in Total Joint Arthroplasty: Analysis of a Statewide Database. J Arthroplasty. 2017 Sep;32(9):2684-2687.e1. doi: 10.1016/j.arth.2017.04.048. Epub 2017 May 4. PubMed PMID: 28579446.

17. Ananth CV, **Lavery JA**, Friedman AM, Wapner RJ, Wright JD. Serious maternal complications in relation to severe pre-eclampsia: a retrospective cohort study of the impact of hospital volume. BJOG. 2017 Jul;124(8):1246-1253. doi: 10.1111/1471-0528.14384. Epub 2016 Oct 21. PubMed PMID: 27770512.

18. Ananth CV, Friedman AM, Keyes KM, **Lavery JA**, Hamilton A, Wright JD. Primary and Repeat Cesarean Deliveries: A Population-based Study in the United States, 1979-2010. Epidemiology. 2017 Jul;28(4):567-574. doi: 10.1097/EDE.0000000000000658. PubMed PMID: 28346271; PubMed Central PMCID: PMC5501955.

19. Doll KM, **Lavery JA**, Snavely AC, Gehrig PA. Intraoperative Handoffs and Postoperative Complications Among Patients Undergoing Gynecologic Oncology Operations. J Healthc Qual. 2017 Jul/Aug;39(4):e42-e48. doi: 10.1097/JHQ.0000000000000042. PubMed PMID: 27348430; PubMed Central PMCID: PMC5183519.

20. **Lavery JA**, Friedman AM, Keyes KM, Wright JD, Ananth CV. Gestational diabetes in the United States: temporal changes in prevalence rates between 1979 and 2010. BJOG. 2017 Apr;124(5):804-813. doi: 10.1111/1471-0528.14236. Epub 2016 Aug 11. PubMed PMID: 27510598; PubMed Central PMCID: PMC5303559.
    Corresponding video abstract: https://vimeo.com/rcog/authorinsights14236

21. Ananth CV, Friedman AM, **Lavery JA**, VanderWeele TJ, Keim S, Williams MA. Neurodevelopmental outcomes in children in relation to placental abruption. BJOG. 2017 Feb;124(3):463-472. doi: 10.1111/1471-0528.14049. Epub 2016 Apr 22. PubMed PMID: 27102365.

22. Drassinower D, **Lavery JA**, Friedman AM, Levin HI, Običan SG, Ananth CV. The effect of maternal haematocrit on offspring IQ at 4 and 7 years of age: a secondary analysis. BJOG. 2016 Dec;123(13):2087-2093. doi: 10.1111/1471-0528.14263. Epub 2016 Aug 17. PubMed PMID: 27533357.

23. Andrikopoulou M, **Lavery JA**, Ananth CV, Vintzileos AM. Cervical ripening agents in the second trimester of pregnancy in women with a scarred uterus: a systematic review and metaanalysis of observational studies. Am J Obstet Gynecol. 2016 Aug;215(2):177-94. doi: 10.1016/j.ajog.2016.03.037. Epub 2016 Mar 25. Review. PubMed PMID: 27018469.

24. Lisonkova S, **Lavery JA**, Ananth CV, Chen I, Muraca G, Cundiff GW, Joseph KS. Temporal trends in obstetric trauma and inpatient surgery for pelvic organ prolapse: an age-period-cohort analysis. Am J Obstet Gynecol. 2016 Aug;215(2):208.e1-208.e12. doi: 10.1016/j.ajog.2016.02.027. Epub 2016 Feb 17. PubMed PMID: 26899905.

25. Ananth CV, **Lavery JA**. Biases in secondary analyses of randomised trials: recognition, correction, and implications. BJOG. 2016 Jun;123(7):1056-9. doi: 10.1111/1471-0528.13732. PubMed PMID: 27206028.

26. Ananth CV, **Lavery JA**, Vintzileos AM, Skupski DW, Varner M, Saade G, Biggio J, Williams MA, Wapner RJ, Wright JD. Severe placental abruption: clinical definition and associations with maternal complications.Am J Obstet Gynecol. 2016 Feb;214(2):272.e1-9. doi: 10.1016/j.ajog.2015.09.069. Epub 2015 Sep 21. PubMed PMID: 26393335.

27. Vahanian SA, **Lavery JA**, Ananth CV, Vintzileos A. Placental implantation abnormalities and risk of preterm delivery: a systematic review and metaanalysis. Am J Obstet Gynecol. 2015 Oct;213(4 Suppl):S78-90. doi: 10.1016/j.ajog.2015.05.058. Review. PubMed PMID: 26428506.

28. Pergolotti M, Deal AM, **Lavery J**, Reeve BB, Muss HB. The prevalence of potentially modifiable functional deficits and the subsequent use of occupational and physical therapy by older adults with cancer. J Geriatr Oncol. 2015 May;6(3):194-201. doi: 10.1016/j.jgo.2015.01.004. Epub 2015 Jan 19. PubMed PMID: 25614296; PubMed Central PMCID: PMC4459887.