Steven Lawrence

Biostatistician / **Data Scientist** — Real-World Evidence & Health Equity

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SUMMARY

Senior biostatistician and PhD candidate with 7+ years of experience leading statistical strategy for clinical and real-world evidence studies across NYC health systems and external partners. Expertise in Bayesian hierarchical/spatial modeling, longitudinal and time-to-event analysis, and geospatial analytics, with a record of translating complex data into decision-ready results for clinicians, executives, and program stakeholders. CRAN author/maintainer of *tidyRHRV*.

EXPERIENCE

Graduate Research Assistant **2021–Present**

New York University Vilcek School of Biomedical Sciences

- Built Bayesian hierarchical spatial models in Stan, incorporating graph-aware priors and full MCMC inference for neighborhood-level pharmacy access analyses.
- Developed HIPAA-compliant GIS workflows leveraging high-performance computing (HPC), terminal-based pipelines, and containerized execution (Singularity) to support reproducible, secure geospatial analytics.
- Partnered with a multidisciplinary heart failure research team to compute patient-to-pharmacy distance and other geospatial features using a HIPAA-compliant framework to support access and adherence studies.

Biostatistician / Data Scientist (Consulting & Collaborative Research) **2018–Present**

Icahn School of Medicine at Mount Sinai

- **PAIRED Lab (autonomic neuropathy/HRV):** Led analyses and methods development for HIV/autonomic studies (e.g., PCA-based phenotyping; longitudinal outcomes; cytokine network analyses), resulting in first- and second-author publications; built and maintained *tidyRHRV* (CRAN).
- **Telemedicine during COVID:** Estimated changes in telemedicine utilization across pre/during/post shutdown periods and translated results for clinical audiences (*Pain Reports*, 2022; 2nd author — analysis lead).
- **COVID geospatial analytics (2020):** Produced census-tract-level descriptive maps/plots of testing vs positivity during Wave 1 in NYC to support leadership understanding and constrained testing allocation decisions.
- **CSWEA:** Co-developed a bibliometrics app to scrape websites and query PubMed via API to quantify h-index and productivity metrics (publications, collaborators); supported grant submissions (preliminary analyses, mock websites); served as a CREiGS teaching assistant.
- **OB/GYN quality improvement:** Consulted and supervised statisticians evaluating survey-based departmental climate assessments and maternal health quality/equity metrics (NTSV, SMM, OCI); built an automated template to compute and deliver quality metrics on-demand.

Data Science Consultant **2023–2025**

Graham Windham

- Developed and refined leadership dashboards and association/predictive analyses supporting student outcome monitoring and equity-focused operational decision-making.
- Built a HIPAA-compliant GIS pipeline (Summer 2025) supporting geospatial analytics and reproducible data processing.

Additional experience: Memorial Sloan Kettering Cancer Center (Project Manager, Bridge to Biostatistics Program; Summer 2025) • Hampton University (R Workshop Instructor; Summer 2024) • Nationwide Financial Services (Data Science Intern — ML fairness evaluation; Summer 2021) • University of Alabama Birmingham (Biostatistical Consultation — NIS survey-weighted analyses; Fall 2021)

EDUCATION

PhD, Biostatistics **Expected May 2026**
New York University

MS, Biostatistics **May 2021**
Columbia University

BS, Biology (Math Minor) **Jun 2019**
CUNY Medgar Evers

SKILLS

Methods: Bayesian hierarchical/spatial modeling; national survey analysis; machine learning/predictive modeling.

Relevant coursework: Clinical Trials; Longitudinal Data Analysis; Survival Analysis; Causal Inference; Machine Learning.

Tools: R Stan SQL Power BI GIS Git

PUBLICATIONS (H-INDEX: 7)

- **Lawrence S**, Robinson-Papp J, Kwon P. High-throughput cleaning of raw ECG data. *J Neurol Sci*. 2021.
- **Lawrence S**, Mueller BR, Kwon P, Robinson-Papp J. Phenotyping autonomic neuropathy using principal component analysis. *Auton Neurosci*. 2023.
- Mueller BR, **Lawrence S**, Benn E, et al. Disparities in telehealth utilization in patients with pain during COVID-19. *Pain Reports*. 2022.
- Kwon PM, **Lawrence S**, et al. Autonomic neuropathy as predictor of morbidity/mortality in HIV. *Neurol Clin Pract*. 2023.
- Mukhopadhyay A, Blecker S, Li X, et al. Neighborhood SES and prescription fill patterns in heart failure. *JAMA Netw Open*. 2023.
- Adhikari S, Stokes T, Li X, Zhao Y, **Lawrence S**, et al. ML prediction of medication adherence in heart failure. *JAMIA*. 2025.