

Jialiang Hua

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EDUCATION

Columbia University, Mailman School of Public Health, New York, NY
Master of Science in Biostatistics (Theory and Methods Track)
May 2023

Soochow University, School of Medicine, Suzhou, China
Bachelor of Medicine (English-based, WES certified U.S. MD-equivalent)
June 2020

PROFESSIONAL EXPERIENCE

**Center for Health Services Research,
Institute for Health, Health Care Policy and Aging Research, Rutgers University**
Research Project Manager

July 2024 – Present • New Brunswick, NJ

- Led statistical analyses for NIH-funded R01 studies; conducted survival analyses to examine predictors of medication for opioid use disorder (MOUD) initiation following new overdose, integrating patient-, clinical-, and community-level variables through extensive data linkage. Findings included in manuscripts under journal submission.
- Applied time-to-event modeling with time-varying covariates to examine repeat overdose risk in relation to daily MOUD availability, providing novel evidence on treatment dynamics and overdose prevention.
- Designed and optimized SQLite databases and R pipelines to efficiently parse and analyze IQVIA national pharmacy claims data. Investigated buprenorphine dose–duration relationships, state-level prevalence, prescribers, and reimbursement of long-acting injectable buprenorphine, as well as retention and adherence differences between long-acting injectable and sublingual formulations. Results contributed to manuscripts currently under journal submission.
- Employed parallelized computation to prepare over 700 GB of data for joinpoint regression, enabling a robust analysis of stimulant prescribing trends and the impact of the 2022 U.S. shortage on patients receiving stable therapy. Helped identify key disruption patterns and informed policy-relevant findings.
- Conducted methodological review and quality control of analytic outputs for multiple collaborative manuscripts, including “Antipsychotic Use by Older Adults in the United States” (JAMA Psychiatry).

Mental Health Data Science,

Columbia University Department of Psychiatry and New York State Psychiatric Institute
Biostatistician

July 2023 – June 2024 • New York, NY

- Led comprehensive data analyses for 6 clinical studies, including 3 NIH R01-funded studies.
- Utilized advanced statistical methods, including generalized nonlinear mixed-effects models and mediation models, to analyze longitudinal data, contributing to key findings on the effect of gestational SSRI exposure in the development of functional gastrointestinal disorders.
- Developed complex R and SAS algorithms to parse and analyze the Medicaid MAX and TAF data; investigated long-term outcomes of buprenorphine treatment in opioid use disorder.

Department of Biostatistics, Columbia University

Research Assistant

April 2022 – April 2023 • New York, NY

- Conducted in-depth research on the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) dataset using R. Ensured data quality through thorough validation and pre-processing, handling missing values, and performed comprehensive statistical analysis.
- Developed predictive models using advanced machine learning techniques, including weighted random forest, to identify key risk factors for mania in people with major depressive disorder.
- Investigated various methods for addressing data imbalance, including balanced random forest, over-sampling, down-sampling, and Synthetic Minority Over-sampling Technique (SMOTE).
- Produced research abstracts and reports for seminars and symposiums.

Pfizer Inc.

Clinical Data Manager (Wuxi Clinical Outsourced)

October 2020 – April 2021 • Shanghai, China

- Performed data reviews, reconciliation, and query management using SQL and Excel to support 3 ongoing clinical trials.
- Provided over 30 data management metrics reports to study teams and stakeholders.
- Conducted user acceptance tests of eCRFs and ensured documentation compliance.

RESEARCH PROJECTS

Evaluating Weighting Strategies in Estimated Marginal Means

Project Lead

December 2023

- Pioneered research on weights options in Estimated Marginal Means (EMMs), combining empirical testing and mathematical analysis to refine weight selection methodologies.

- Collaborated with researchers to analyze the “type” and “regrid” options in EMMs; derived calculations of EMMs for models with link function by emmeans function in R, Genmod lsmeans and %margins macro in SAS.
- Developed an online resource detailing EMM calculations for various models and link functions.

Modeling of Innocent Death Rate Made by Police in the U.S.

Project Team Member

September 2021 – December 2021

- Collected, cleaned, and processed raw death record data from 50 U.S. states (2010–2020).
- Constructed multiple linear regression models to investigate associations between innocent death rates by police and potential factors, validated model assumptions through diagnostics.
- Authored the final report and developed an interactive website aggregating findings.

PUBLICATIONS

Peer-Reviewed Publications

1. Samples H, Cook S, **Hua J**, Treitler P, Stone EM, Miles J, Olfson M, Crystal S. Timely Receipt of New Medication Treatment After Acute Care Encounters for Opioid Overdose in the U.S. Medicaid Population. *J Gen Intern Med*. 2026. doi:10.1007/s11606-025-10108-5
2. Olfson M, Xie F, Bushnell G, **Hua J**, Miles J, Crystal S. Antipsychotic Medication Use by Older Adults. *JAMA Psychiatry*. 2026;83(2):214–216. doi:10.1001/jamapsychiatry.2025.3658
3. Girgis RR, de la Fuente-Sandoval C, Lewis-Fernández R, Reyes-Madrigal F, Wall MM, **Hua J**, Mao X, Malacara M, Kegeles LS, Shungu DC. Concerted Elevations of Cortical and Striatal Glutamate and GABA in Antipsychotic-Free Individuals at Clinical High-Risk for Psychosis. *Neuropsychopharmacology*. 2025;50(13):2063–2071. doi:10.1038/s41386-025-02251-8
4. Hung LY, Alves ND, Del Colle A, Talati A, Najjar SA, Bouchard V, Gillet V, Tong Y, Huang Z, Browning KN, **Hua J**, Liu Y, Woodruff JO, Juarez D, Medina M, Posner J, Tonello R, Yalcinkaya N, Israelyan N, Ringel R, Yang L, Leong KW, Yang M, Sze JY, Savidge T, Gingrich J, Shulman RJ, Gershon MD, Ouellet A, Takser L, Ansoorge MS, Margolis KG. Intestinal Epithelial Serotonin as a Novel Target for Treating Disorders of Gut-Brain Interaction and Mood. *Gastroenterology*. 2025;168(4):754-768. doi:10.1053/j.gastro.2024.11.012

Manuscripts Under Review

1. Williams AR, **Hua J**, Olfson M, Samples H, Crystal S. Uptake of Long-Acting Injectable Buprenorphine has been Rapid but Uneven across States, Prescribers, and Payers. *Health Aff.* Under review.
2. Lindenfeld Z, Barnett ML, **Hua J**, Crystal S. Increased Buprenorphine Prescribing Following Implementation of a Low-Barrier Virtual Prescriber Network. *J Subst Use Addict Treat.* Under review.
3. Olfson M, Xie F, Bushnell G, Cruz N, **Hua J**, Miles J, Crystal S. Benzodiazepine Prescriptions to Older Adults in the United States, 2015-2024. *Ann Intern Med.* Under review.

SKILLS

- **Programming Languages:** R, SAS, SQL, Python
- **Software & Tools:** Microsoft Word, Excel, PowerPoint, Oracle Health Sciences
- **Certifications:** Python for Everybody Specialization (University of Michigan, Coursera)
- **Languages:** English (professional), Mandarin Chinese (native)

ADDITIONAL LINKS

- Understanding Weights in EMMs: [GitHub Link](#)
- Innocent Death Rate Modeling: [Project Website](#)