Jiali Guo

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EDUCATION

Rollins School of Public Health, Emory University - Atlanta, GA **Aug 2022 – May 2024**
- Master of Public Health, Biostatistics. Honors: *Rollins Earn and Learn Award* GPA: 3.89/4.00

China Pharmaceutical University (CPU) - Nanjing, China **Sep 2018 – Jun 2022**
- Bachelor of Science, Pharmacy. Honors: *Third-class Award* GPA: 3.28/4.00

SUMMARY AND OBJECTIVES

I am a Biostatistician at Emory University, specializing in chronic disease epidemiology, biomedical informatics, and health equity, with a focus on diabetes and metabolic disorders. I apply advanced statistical modeling, longitudinal data analysis, and EHR-based research to study disease subtypes, biomarker trajectories, and treatment outcomes. My interests include leveraging large-scale EHR and population-based data to evaluate treatment effectiveness, drug safety, and disease progression across diverse populations.

PUBLICATIONS

PUBLISHED & ACCEPTED

1. **Guo, J.**, Li, Z., Patel, S. A., Chang, H. H., Ali, M. K., & Varghese, J. S. Pathophysiological Risk Factors Preceding Incidence of Type 2 Diabetes Subtypes: A Pooled Cohort Study in the United States. (2025). Accepted by ***Diabetes Care***. [Impact factor: 16.6]

   Keywords: `precision medicine` | `prediabetes` | `predictive analysis` | `cohort data` | `T2D phenotypes` | `clusters` | `beta cell function` | `insulin deficiency` | `insulin resistance`

   Presented at
   - **Oral presentation, ADA 85th Scientific Sessions**. doi.org/10.2337/db25-290-OR
   - Poster presentation, ADA 85th Scientific Sessions. doi.org/10.2337/db25-1600-P
   - Poster presentation, Emory AI in Cardiovascular Disease and Health

2. **Guo, J.**, Li, Z., Carrillo-Larco, R. M., Hsia, D. S., Harding, J. L., Ali, M. K., & Varghese, J. S. Data-driven subtypes of newly diagnosed youth-onset type 2 diabetes in the USA. (2025). ***The Journal of Diabetes and Its Complications***. [Impact factor: 3.1] doi.org/10.1016/j.jdiacomp.2025.109207

   Keywords: `data-driven cluster analysis` | `cohort data` | `precision medicine` | `diabetes phenotypes` | `youth type 2 diabetes` | `beta cell function` | `insulin deficiency` | `insulin resistance`

3. **Guo, J.**, Opara, S. C. O., Hussen, S. A., & Varghese, J. S. (2024). Prevalence, monitoring, treatment, and control of type 2 diabetes by race and sexual orientation among males with HIV. ***AIDS Patient Care and STDs***, 38(12), 539–542. [Impact factor: 3.8] doi.org/10.1089/apc.2024.0193

   Keywords: `type 2 diabetes` | `HIV` | `EHR` | `care cascade` | `cardiovascular disease` | `health disparities`

UNDER REVIEW

1. Galindo, R. J.*, **Guo, J.***, Arevalo, G., Sanaka, K. O., McCoy, R. G., Umpierrez, G. E., Garvey, W. T., & Ali, M. K. Body composition, anthropometric measures and body mass index among people without diabetes, pre-diabetes and diabetes: a U.S. national analysis. In review at *The Journal of Clinical Endocrinology and Metabolism*.

   Keywords: `NHANES` | `survey data` | `Body Mass Index` | `body composition` | `total body fat` | `visceral fat` | `diabetes`

2. **Guo, J.**, Goldsmith, D., Cotes, R. O., & Varghese, J. S. Metabolic Monitoring among Patients with Type 2 Diabetes Prescribed Second Generation Antipsychotics. In review at *Psychiatry Research.*

   Keywords: `mental health` | `EHR` | `serious mental illness` | `type 2 diabetes` | `antipsychotics` | `diabetes monitoring`

   Presented at
   - Poster presentation, ADA 85th Scientific Sessions. doi.org/10.2337/db25-1929-LB
   - **Oral presentation, AMIA 2025 Annual Symposium**. amia.secure-platform.com/symposium/gallery/rounds/82021/details/19123
   - Poster presentation, Emory 11th Annual Health Services Research Day.
   - Oral presentation, 9th Annual Georgia Center for Diabetes Translation Research Scientific Symposium.

3. Sanaka, K., **Guo, J.**, Hua, D., Li, Z., Ali, M. K., & Varghese, J. S. Rates of all-cause and cause-specific mortality for subtypes of type 2 diabetes. In review at *The Journal of Clinical Endocrinology and Metabolism.*

   Keywords: `mortality` | `T2D phenotype` | `NHANES` | `precision medicine` | `diabetes phenotype` | `clusters` | `beta cell function` | `insulin deficiency` | `insulin resistance`

4. Opara, S. C. O., **Guo, J.**, Hussen, S. A., & Varghese, J. S. Hypertension prevalence, treatment and control among men attending an HIV specialty clinic. *Journal of Human Hypertension*.

   Keywords: `hypertension` | `HIV` | `LGBTQ` | `cardiovascular disease` | `health disparities`

IN PROGRESS

1. Beeler Asay, G. R., **Guo, J.**, Hill, T., Hill, A. N., Winston, C., Marks, S., & Abimbola, T. Characteristics, demographics, and cost of US tuberculosis hospitalizations 2016 to 2021.

2. Li, Z., Salazar, B. C., **Guo, J.**, Hua, D., Sanaka, K., Vellanki, P., Ali, M. K., Hofmeister, C. C., & Varghese, J. S. Risks of cancers among novel subtypes of type 2 diabetes—A longitudinal analysis from the United States.

   Presented at: Oral presentation, ADA 85th Scientific Sessions. doi.org/10.2337/db25-70-OR

3. Li, Z., Salazar, B. C., **Guo, J.**, Sanaka, K., Kahkoska, A., Vellanki, P., Ali, M. K., & Varghese, J. S. Type 2 diabetes subtypes and risk of dementia in the United States.

   Presented at: Oral presentation, ADA 85th Scientific Sessions. doi.org/10.2337/db25-22-OR

4. Oguntade, A. S., Varghese, J. S., Carrillo-Larco, R. M., **Guo, J.**, Patel, S., Jagannathan, R., Quyyumi, A., Ali, M. K., & Narayan, K. M. V. Glycemic measures, homeostatic model assessment and risk prediction of incident cardiovascular events and mortality: A pooled analysis of multi-ethnic NHLBI cohorts.

JOURNAL PEER REVIEW

Peer Reviewer, HRB Open Research **Nov 2025**
Peer Reviewer, Journal of Diabetes Research **Jul 2025**

EXPERIENCE

Rollins School of Public Health, Emory University - Atlanta, GA **May 2024 – Present**
Biostatistician, Emory Global Diabetes Research Center (EGDRC), Hubert Department of Global Health

- Designed and executed robust statistical analyses for large-scale biomedical and epidemiological datasets, directly contributing to peer-reviewed publications and advancement of research objectives of EGDRC.
- Authored six first-author manuscripts and co-authored three papers that illuminate on the enhancement and alternative approaches to study design, advanced statistical modeling, and interpretation.
- Collaborated with physicians, psychologists, epidemiologists, and computer scientists on interdisciplinary projects to ensure methodological rigor and reproducibility as the foundation for high-quality publications.

- Rendered coding support and data interpretation consultations to PhD students, assisting them in troubleshooting in R, Python, and other statistical applications/platforms.
- Mentored over ten undergraduate and master's students through hands-on guidance in research methodology, data analysis, data management, copyediting, and publication best practices.
- Recruited candidates for graduate research assistants, screening 10 applicants and interviewing shortlisted candidates to evaluate technical expertise, problem-solving ability, and team fit.

Centers for Disease Control and Prevention (CDC) - Atlanta, GA **Nov 2022 – May 2024**
Emory Work Study Student, Div. of TB Elimination, National Center for HIV, and STD Prevention

- Analyzed medical spending of TB (identified by ICD-9, ICD-10) hospitalizations across 46 states from 2016 to 2021 using HCUPNET and SAS, identifying patterns and driving health spending policy studies and changes.
- Updated annual cost report for the TB program and maintained 99% data integrity using Excel and Tableau.
- Consolidated annual performance reports generated by the Program Evaluation consultants, and presented the program evaluation (PE) activities covering 66 regions to researchers of DTBE department at the CDC.

PricewaterhouseCoopers - Nanjing, China **Jan 2021 – Feb 2021**
Biotech Consultant Intern

- Assisted a Fortune 50 biotech firm in strategies of improving R&D productivity and operational efficiency.
- Formalized analysis plans and advised analysis strategies; reviewed and interpreted clinical trial data.
- Used SPSS and statistical methods to analyze research data to derive information for senior researchers; consulted on the development of business strategies in relation to scientific inferences and conclusions.

RESEARCH

Rollins School of Public Health, Emory University - Atlanta, GA
Research Assistant, Department of Biostatistics and Bioinformatics

Cardiometabolic Risk Reduction in South Asia: the CARRS Cohort (carrsprogram.org) **May 2023 – Present**

- Curated a biorepository of 360,000 stored samples, collected and analyzed population-based samples in two cities in India in two waves (CARRS-1 and CARRS-2) with biospecimens using SAS and R.
- Setup a web codebook (R-Shiny) to support collaborative research and pooled studies of health globally.
- Developed health reports in two different languages (Hindi and Tamil), summarized clinical and statistical findings, and enabled individuals to monitor their health and benchmark against different populations.
- Analyzed spousal BMI concordance and longitudinal changes in obesity and applied mixed models and time-to-event methods to evaluate how BMI changes in one partner predict incident obesity in the other.
- Demonstrated strong within-couple correlation in BMI change ($r \approx 0.9$ for age, $r = 0.22$ for BMI), with men's and women's BMI changes significantly predicting each other ($\beta \approx 0.15$–0.19 per unit change) and incident obesity risk elevated when a spouse became obese (HR≈1.7).

Bayesian Semiparametric Estimation of Heterogeneous Effects in Case-Control Studies with an Application to Emergency Department Visits and Home Medication Use **Nov 2023 – May 2024**

- Incorporated Bayesian additive regression trees (BART) into the conditional logistic regression model to identify heterogeneous effects of home medication use exposures in a case-crossover design.
- Applied conditional logistic BART (CL-BART) to a study of the impact of home medication use on patient-level ED visits from five Emory Healthcare hospitals in the Atlanta Metropolitan area during the warm season (May to September) from 2013 to 2019 and effect modification by other chronic conditions.
- Conducted a comparative analysis by stratifying data based on home medication usage, revealing heightened correlations between daily maximum temperature and emergency department (ED) visits.

Multicenter Trial of Stem Cell Therapy for Osteoarthritis **Aug 2023 – May 2024**

- Identified a superior stem cell source for osteoarthritis treatment by comparing four treatment groups using methods (LDA, cLDA, ANCOVA, survival analysis) and models (LDA, cross-sectional) in SAS and R.
- Generated publication-ready tabular and graphical datasets for manuscript inclusion, including outcomes such as visual analog score (VAS) pain score, knee injury and osteoarthritis outcome (KOOS) score.

Risk Factor Analysis for Multimorbidity across Age Groups in the U.S. **May 2023 – Sep 2023**

- Harmonized and bridged national longitudinal data from 7 nationwide datasets to track the incidence of chronic diseases and multimorbidity in the U.S. starting at age 30 using R, Stata, and Excel.
- Drafted comprehensive analysis plans, authored in-depth specifications for analysis files, performed statistical analyses, interpreted findings, and maintained the analytical rigor of the study.
- Incorporated 7 national longitudinal datasets encompassing over 135K participants to study the various associations among chronic conditions, their risk factors, and morbidity rates at multiple time-points.

School of Pharmacy, China Pharmaceutical University - Nanjing, China **May 2021 – Jun 2022**

Researcher, Author of Undergraduate Thesis

- Developed a near-infrared induced phototherapy and gas-therapy integrated nanocatalyst for glioma treatment as an enhanced delivery mechanism for photothermal therapy and photodynamic therapy.
- Engineered lactoferrin-modified, hollow mesoporous copper sulfide nanoparticles for blood-brain barrier penetration and tumor-targeted uptake via boronate-sialic acid interactions.
- Proposed a novel brain-targeted nano-drug delivery platform that integrates hollow mesoporous copper sulfide, L-arginine, and combined PTT/PDT to advance clinical glioma therapy for mechanistic exploration.

High-end Pharmaceutical Preparation and Materials Research Center - Nanjing, China **Sep 2019 – Dec 2020**

Research Assistant

- Developed a TGF-β receptor inhibitor-based drug delivery system to treat lung metastases from breast cancer; loaded Abraxane with IFN-γ-treated neutrophils; discovered favorable features for commercial use.
- Experimented in four 4T1 lung metastasis groups; improved the total targeting efficiency by 4.48%.

China Laboratory of Natural Medicine Active Components and Pharmacodynamics **Sep 2019 – Jan 2020**

Research Assistant

- Assisted in designing chitosan-based nanovehicles for dual-stimuli-triggered delivery of anticoccidial agents; used SPCS/DIC micelles to eliminate coccidia in cecum effectively and promote intestinal repair at low doses.
- Achieved a dual-stimuli responsive micellar system including a nanocarrier platform to deliver anti-infectious agents at target sites; demonstrated biostability, biosafety, flexibility, and enhanced anticoccidial efficacy.

MENTORSHIP

Rollins Professional Advancement and Student Experience Center, Emory University **Sep 2022 – May 2024**

Career Development Ambassador

- Co-organized 10+ events such as career fair, networking nights, mock interviews, and drop-in consultations.
- Assisted program leadership with grant prep, students with resume makeovers and cover letter critiques.

Hubert Department of Global Health, Emory University **Feb 2023 – Mar 2023**

Teaching Assistant

- Liaised between CDC and Emory in delivering the GH 510: Epi Methods in Humanitarian Emergency class at Rollins School of Public Health. Facilitated logistics, course materials, agenda, teaching plans, and evals.
- Assisted students in all lectures (10 sessions) to lead discussions, answer questions, and provide feedback.

SKILLS

Laboratory:	Cell culture, flow cytometry, fluorescence microscopy, animal tumor models, nanoparticle formulation, drug release assays, HPLC, DLS, histology.
Programming:	R, Python, SAS, SQL, Stata.
Statistics:	Survival Analysis, Longitudinal Data Analysis, ANCOVA, Linear Regression, Logistic Regression, Deep Learning, Machine Learning.

RECENT TRAINING

Practical Deep Learning for Coders, Part 1 by fast.ai **Aug 2025 – Sep 2025**

Supervised Machine Learning: Regression and Classification by Coursera **Nov 2024 – Jan 2025**

Epic Cosmos Datathon by Epic Cosmos **Mar 2025**

- Participated in a one-day Epic Cosmos Datathon. Designed a study on HIV risk in cisgender women, focusing on identifying gaps in CDC PrEP eligibility criteria.
- Conducted exploratory analyses of new HIV diagnoses using Cosmos data, developed comparator cohorts, and proposed logistic regression models to evaluate risk factors among CDC-eligible vs ineligible groups.

MEDIA AND PRESS COVERAGE

Special Award, Petri Dish Art Contest, China Pharmaceutical University (Inaugural) **Oct 2018**

- Participated in the Petri Dish Art Contest and produced award-winning work “Love and Nation”.
- Studied the growth characteristics of different microbial colonies and crafted patterns, color palettes, and shapes based on careful experimental design, including adjusting bacterial suspension concentrations and precisely controlling colony growth within pre-drawn boundaries.
- Became featured on major news outlets in China, including: China Jiangsu Net, Sohu News, China News Service, Sina News, Global Times Online, Toutiao Daily, OurJiangsu.com, Yellow Pages of Jiangsu Education.