

Weiliang Cen

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Professional Summary

PhD Biostatistician with 7+ years of experience in clinical trial design, statistical analysis, and regulatory reporting. Expertise in advanced statistical modeling, healthcare outcomes research, and large-scale data analysis using R, SAS, and Python. Published researcher with extensive teaching experience and proven track record health search and NIH-funded clinical trial and interdisciplinary collaboration.

Education

PhD in Biostatistics (Expected August 2025)

University of South Florida

Dissertation: "Statistical Challenges and Simulation Results for Pilot Clinical Trials"

Advisor: Dr. Henian Chen

MPH in Biostatistics (December 2017)

University of South Florida

BS in Exercise Physiology (May 2015)

University at Buffalo

Core Competencies

Programming/Statistical tools: R, SAS, Python, Mplus, SPSS, SQL , Linux, Shell/batch scripts for high-performance computing (HPC)

Statistical Methods: Clinical trial analysis, Linear Regression, longitudinal data analysis, Mixed models: (GLMM, GEE), survival analysis, Cox proportional hazards models, SEM/IRT

Clinical Research: Clinical trial design, CONSORT reporting, DSMB preparation

Data Management: SQL, REDCap, Qualtrics, automated reporting SAS macros and Python

Research Interests

- Clinical trial methodology and pilot study design
 - Healthcare outcomes research and intervention effectiveness
 - Statistical methods for longitudinal and survival clinical data
 - Regulatory compliance and clinical trial reporting
 - Simulations on how to properly design trials
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Professional Experience

Biostatistician (Research Assistant) | January 2022 – Present

Study Design and Data Analysis Team, University of South Florida

R01 Clinical Trial: R01CA243800 (NCI, NIH) - The Positively Quit Trial

PI: Dr. Stephanie Marhefka, College of Nursing - University of South Florida

- Lead biostatistician for NIH-funded smoking cessation trial among HIV+ individuals
- Conducted comprehensive statistical analyses for 200+ participant longitudinal study
- Managed complex clinical datasets from Qualtrics and REDCap platforms
- Prepared CONSORT diagrams and Data Safety Monitoring Board (DSMB) reports for regulatory compliance
- Developed automated R analysis to automate data cleaning, merging and data analyses
- Implemented generalized linear mixed models (GLMM) and Cox proportional hazards models for associate hazards of early relapse with potential risk/protective factors

Impact of Post-Stroke Post-Traumatic Stress Disorder Study

PI: Dr. Swetha Renati and Dr. Rose, Tampa General Hospital and University of South Florida

- Collaborated with interdisciplinary medical team on novel clinical outcomes research
- Developed patient-specific outcome measures for post-stroke PTSD assessment
- **Impact:** Resulted in 1 publication in *The Neurohospitalist* and 2 conference supplements in *Neurology* and *Stroke*

Dame Detect Study - Atrial Fibrillation Clinical Research

PI: Dr. Chan Gu and Dr. Rose, Tampa General Hospital and University of South Florida

- Lead biostatistician responsible for statistical analysis, data cleaning, and management for 122-patient prospective study examining dementia screening in atrial fibrillation patients
- Conducted comprehensive data analysis comparing cerebral microbleed detection across dementia screening groups and treatment modalities
- Generated all manuscript tables, figures, and statistical outputs for publication-ready results
- **Impact:** Manuscript submitted to *The American Journal of Medicine* (In-review)

ClinicalTrials.gov Compliance Analysis (Lead Research Project)

PI: Weiliang Cen and Dr. Henian Chen, College of Public Health University of South Florida

- Led comprehensive analysis of 1,860 NIH-funded clinical trials for regulatory compliance
- Designed novel data extraction methodology for ClinicalTrials.gov database
- Created classification system identifying high-risk categories for non-reporting across institutions
- **Impact:** First-author manuscript under review at *The Lancet Regional Health – Americas* (In-review)

Musicians' Mind-Body Balance Pilot Trial

PI: Sang-Hie Lee, College of Music - University of South Florida

- Lead statistician and research design specialist for innovative randomized pilot trial
- Collaborated on participant randomization and developed statistical analysis plan

- Applied specialized statistical methods for small-sample controlled studies

Statistical Data Analyst | January 2018 – December 2019

Rightpath Research and Innovation Center, CFS - University of South Florida

- Developed SAS macros for automated data cleaning, merging, and analysis workflows
 - Created Python optimization scripts reducing database fetch time from 30 minutes to 1 minute
 - Implemented Mplus structural equation modeling for 2×2×2 factorial design studies
 - Automated complex latent variable models using shell scripts on Linux research clusters
 - **Impact:** Contributed to publication in high-impact *Journal of Educational Psychology*
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Teaching Experience

Instructor of Record | January 2020 – Present

College of Public Health, University of South Florida

Courses Taught:

- PHC 4069 – Biostatistics for Society (January 2020 – Present)
- PHC 4030 – Introduction to Epidemiology (January 2022 – Fall 2024)
- PHC 3302 – Introduction to Environmental and Occupational Health (Summer 2023, 2024)

Teaching Assistant | Fall 2021 – Present

College of Public Health, University of South Florida

- PHC 6051 – Biostatistics II (Spring 2023 – Present)
 - PHC 4933 – Modern Epidemiology (Fall 2021, Fall 2022)
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Publications

Peer-Reviewed Articles

1. **Cen, W.**, Sahay, S.S., & Chen, H. (2025). 57.9% of NIH-funded completed clinical trials do not report results. *The Lancet Regional Health - Americas*. (Under Review)
2. Gu, C., Rose, D., Glaser, A., Chen, H., **Cen, W.**, et al. (2025). Dementia Screening in Atrial Fibrillation Clinic: Cerebral Microbleed Early Detection for Ischemic-Hemorrhagic Stroke Risk-Benefit Analysis. *The American Journal of Medicine*. (Under Review)
3. Chen, H., Pang, J., Zhao, Y., Cao, B., Valente, M.J., **Cen, W.**, & Valkanova, E. (2023). Investigating started sample size, completed sample size and drop-out rate in 10,252 phase III clinical trials: Insights from ClinicalTrials.gov. *British Journal of Clinical Pharmacology*.
4. Renati, S., Raju, S., Makarova, A., Hairston, M., Beba Abadal, K., Bozeman, A., Chen, H., **Cen, W.**, Rose, D.Z., & Burgin, W.S. (2023). Impact of Post-Stroke Post-Traumatic Stress Disorder. *The Neurohospitalist*, 19418744251315201.
5. Chen, H., Zhao, Y., Cao, B., Petersen, D.J., Valente, M.J., & **Cen, W.** (2023). Breaking the silence of sharing data in medical research. *PLOS One*, 19(5), e0301917.
6. Lu, Y., **Cen, W.**, Wang, W., Huang, Y., & Chen, H. (2023). How big is a big hazard ratio in clinical trials. *International Journal of Clinical Trials*, 10, 195-200.
7. Anthony, J.L., Chen, Y.J., Williams, J.M., **Cen, W.**, & Erazo, N.A. (2023). US children's understanding of the English alphabet: Its acquisition, conceptualization, and measurement. *Journal of Educational Psychology*, 113(6), 1073.

Conference Abstracts and Supplements

8. Renati, S., Hairston, M., **Cen, W.**, Chen, H., Bozeman, A., & Burgin, W.S. (2023). Lower Omega-3 Levels Were Found In Post Stroke Post Traumatic Stress Disorder (P3-5.012). *Neurology*, 100(17_supplement_2), 4382.
9. Renati, S., Hilker, N., Hairston, M., **Cen, W.**, Chen, H., & Bozeman, A. (2023). Abstract WP61: Impact Of Post-stroke Post Traumatic Stress Disorder On Quality Of Life. *Stroke*, 54(Suppl_1), AWP61-AWP61.
10. Kurji, N., Erskine, J., **Cen, W.**, & DeBate, R. (2016). Improving physical activity frequency and internal assets among 3rd-5th grade girls: An exploratory study of a

sport-based positive youth development program. *APHA 2016 Annual Meeting & Expo.*

11. **Cen, W.**, Kurji, N., Erskine, J., & DeBate, R. (2016). Changes in developmental assets among non-white 3rd-5th grade girls participating in a girl-focused sport-based positive youth development program. *APHA 2016 Annual Meeting & Expo.*

Professional Certifications

- **SAS Certified Advanced Programmer for SAS 9** | SAS Institute (August 2017)
- **Certified in Public Health (CPH)** | National Board of Public Health Examiners (February 2017)
Credential ID: 13257

Honors and Awards

- **International Book Scholarships for International Students** | 2020-2025
- **Student Honorary Award for Research and Practice** | University of South Florida (February 2017)
- **Oral Presenter** | APHA Conference 2016

Professional Memberships

- American Public Health Association (APHA) | 2016, 2022