Nicholas Williams

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EDUCATION

M.P.H.   Biostatistics, Columbia University, 2019

B.A.   Psychology, University of Colorado at Boulder, 2017

PROFESSIONAL EXPERIENCE

2021-   Bayer AG, Independent Statistical Consultant

2021-   Columbia University, Mailman School of Public Health
            Senior Data Analyst
            Department of Epidemiology

2019-21   Weill Cornell Medical College
            Research Biostatistician I
            Division of Biostatistics, Department of Population Health Sciences

2018   Columbia University, Mailman School of Public Health
            Research Assistant for Christine Mauro, Ph.D.
            Department of Biostatistics

RESEARCH INTERESTS

Nonparametric causal inference.

Open source statistical software development.

PUBLICATIONS

Research in statistics

2020   Díaz, I., **Williams, N.**, Hoffman, K. and Schenck, E. "Non-parametric causal effects based on
            longitudinal modified treatment policies." In press at *Journal of the American Statistical
            Association - Theory and Methods*. DOI: 10.1080/01621459.2021.1955691.

Applied Health Sciences

2021   Winston, G., Guadix, S., Lavieri, M., Uribe-Cardenas, R., Kocharian, G., **Williams, N.**,
            Sholle, E., Grinspan, Z., and Hoffman, C. "Closed-Loop Vagal Nerve Stimulation for
            Intractable Epilepsy: A Single-Center Experience." *Seizure: European Journal of Epilepsy*. DOI:
            10.1016/j.seizure.2021.03.030

2021   Goel, A.R., Bruce, H.A, **Williams, N.** and Alexiades, G. "Long-Term Effects of Hearing Aids on Hearing Ability in Patients with Sensorineural Hearing Loss." *Journal of the American Academy of Audiology*.

2020   Thiesmeyer, J.W., Ullmann, T.M., Greenberg, J., **Williams, N.T.**, Limberg, J., Stefanova, D., Beninato, T., Finnerty, B.M., Vignaud, T., Leclerc, J., Fahey III, T.J., Mirallie, E.M., Brunaud, L. and Zarnegar, R.."Hypertension resolution after adrenalectomy for primary hyperaldosteronism: Which is the best predictive model?" *Surgery*. DOI: 10.1016/j.surg.2020.04.017

2020   Riley, C.A., Zheng, Z., **Williams, N.**, Smith, T.L., Orlandi, R.R. and Tabaee, A. "Concordance of self-reported practice patterns of American Rhinologic Society members with the International Consensus Statement of Allergy and Rhinology: Rhinosinusitis" *International Forum of Allergy and Rhinology*. DOI: 10.1002/alr.22533

2020   Day, J., Conti, M.S., **Williams, N.**, Ellis, S.J., Deland, J.T. and Cody, E.A. "Contribution of First-Tarsometatarsal Joint Fusion to Deformity Correction in the Treatment of Adult-Acquired Flatfoot Deformity." *Foot and Ankle Orthopaedics*. DOI: 10.1177/2473011420927321

2020   Day, J., Kim, J., Conti, M.S., **Williams, N.**, Deland, J.T. and Ellis, S.J. "Outcomes of Idiopathic Flexible Flatfoot Deformity Reconstruction in the Young Patient." *Foot and Ankle Orthopaedics*. DOI: 10.1177/2473011420937985

2020   Cronin, S., Conti, M., **Williams, N.** and Ellis., S.J. "Relationship Between Demographic and Radiographic Characteristics and Second Ray Pathology in Hallux Valgus Patients." *Foot and Ankle Orthopaedics*. DOI: https://doi.org/10.1177/2473011420909088

2019   Hussain, I., Winston, G.M., Goldberg, J., Curri, C., **Williams, N.**, Chazen, J.L., Greenfield, J.P. and Baaj, A.A. "Impact of imaging modality, age, and gender on craniocervical junction angles in adults without structural pathology." *Journal of Craniovertebral Junction and Spine*. PMID: 32089618

Manuscripts under review

2021   Rudolph, K.E., **Williams, N.**, Díaz, I., Luo, S.X., Rotrosen, J. and Nunes, E.V. "Optimally Matching Patients with Opioid Use Disorder Treatments to Minimize Risk of Relapse." Under review at *American Journal of Epidemiology*.

2021   Rudolph, K.E., **Williams, N.** and Díaz, I. "Causal Mediation with Instrumental Variables." Under review at *Journal of the Royal Statistical Society: Series B*.

2021   **Williams, N.**, Rosenblum, M. and Díaz, I. "Optimizing Precision and Power by Machine Learning in Randomized Trials, with an Application to COVID-19." Under review at *Journal of the Royal Statistical Society: Series A*.

2021   Lum, M., Chazen, J.L., **Williams, N.** and Riew, D. "Incidence of Internal Jugular Vein Compression by C1 Transverse Process and Styloid Process in Unselected Patient on CT Angiography." Under review at *Spine*.

INVITED TALKS

2020   "An Introduction to Answering Causal Questions with the lmtp R package." Weill Cornell Biostatistics Computing Club. New York, NY. July 14.

SOFTWARE

Maintainer

lmtp   R: Non-Parametric Causal Effects of Feasible Interventions Based on Modified Treatment Policies

cabinets   R: Project Specific Workspace Organization Templates

simul   R: Fast Simultaneous Confidence Bands Based on the Efficient Influence Function and Multiplier Bootstrap

catfun   R: Categorical Data Analysis

Contributer

broom   R: Convert Statistical Objects into Tidy Tibbles

CONFERENCE ACTIVITY

Conference Presentations

Presenting author *italicized*.

2021   *Brantner, C.*, Pearce-Fisher, D., Moezina, C., ..., **Williams, N.**, Demetres, M., and Goodman, S. "Treatment knowledge and preferences for Black people with hip and knee osteoarthritis: A Systematic Literature Review and Meta-Analysis." European Congress of Rheumatology.

2020   ***Williams, N.,*** Savenkov, O. and Chrea, B. "Estimating the Causal Effect of Surgical Treatment for Posterior Malleolus Fracture with Different Treatment Rules on Patient Reported Outcomes." Joint Statistical Meetings (Virtual), Philadelphia, PA.

2019   *Mauro, C.*, **Williams, N.** and An, A. "Experiences with Incorporating R into a Second-Level Biostatistics Course for MPH Students." Joint Statistical Meetings, Denver, CO.

SERVICE

Academic Journal Peer Review

The R Journal

GRANTS AND AWARDS

Awards and Honors

2017   Graduate with Distinction, University of Colorado at Boulder

Grants and Fellowships

2015   Virginia Summer Undergraduate Research Initiative. Project: "The relationship between cognitively oriented verbs and affect."

TEACHING

Weill Cornell Medicine

Data Science I
(Teaching Assistant)

Columbia University

Categorical Data Analysis
(Lead Teaching Assistant)

Research Methods, Quantitative Foundations
(Teaching Assistant)

PROFESSIONAL AFFILIATIONS

2020–   American Statistical Association

TECHNICAL SKILLS

R   expert
SAS
SQL
LaTeX
Julia   intermediate
C++   novice
Ruby   novice

Updated March 2022