

# 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 Tabaei, 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 *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 *lmt* R package.” Weill Cornell Biostatistics Computing Club. New York, NY. July 14.

## SOFTWARE

### Maintainer

- lmt* 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

L<sup>A</sup>T<sub>E</sub>X

Julia      intermediate

C++        novice

Ruby        novice

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