Kenneth J. Nieser, Ph.D.

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Current Positions

2023-present Postdoctoral Fellow, Big-Data Scientist Training Enhancement Program, U.S. Department of Veterans Affairs HSR&D Center for Innovation to Implementation

2023-present Postdoctoral Fellow, Department of Surgery, Stanford University School of Medicine

Education

2018-2023 Ph.D. Epidemiology, Minor in Statistics
University of Wisconsin-Madison School of Medicine and Public Health

2009-2013 B.A. Physics and Mathematics, High Honors
Swarthmore College

Professional Experience

2020-2023 Research Assistant, University of Wisconsin-Madison, Madison, WI
2019-2020 Project Assistant, University of Wisconsin-Madison, Madison, WI
2017-2018 Senior Analyst, Healthgrades, Madison, WI
2015-2017 Market Analyst, Healthgrades, Madison, WI
2014-2015 Healthcare Data Analyst for Wisconsin Medicaid, HP Enterprise Services, Madison, WI
2013-2014 Technical Services Analyst, Epic, Verona, WI

Peer-reviewed Publications

*denotes joint first authors

1. **Nieser, K. J.**, Cochran, A. L. (2023). Quantifying and reducing inequity in average treatment effect estimation. *BMC Medical Research Methodology*, 23(297). https://doi.org/10.1186/s12874-023-02104-2

2. Green, R. K.*, **Nieser, K. J.***, Jacobsohn, G. C., Cochran, A. L., Caprio, T. V., Cushman, J. T., Kind, A. J., Lohmeier, M., Shah, M. N. (2023). Differential Effects of an Emergency Department-to-Home Care Transitions Intervention in an Older Adult Population: A Latent Class Analysis. *Medical Care, 61*(6), 400-408. https://doi.org/10.1097/MLR.0000000000001848

3. **Nieser, K. J.**, Stowe, Z. N., Newport, J., Coker J. L., Cochran, A. L. (2023). Detection of differential depressive symptom patterns in a cohort of perinatal women: an exploratory factor analysis using a robust statistics approach. *eClinicalMedicine*, 57, 101830. https://doi.org/10.1016/j.eclinm.2023.101830

4. **Nieser, K. J.**, & Cochran, A. L. (2023). Addressing heterogeneous populations in latent variable settings through robust estimation. *Psychological Methods, 28*(1), 39-60. https://doi.org/10.1037/met0000413

5. Cochran, A. L., **Nieser, K. J.**, Forger, D. B., Zöllner, S., & McInnis, M. G. (2020). Gene-set Enrichment with Mathematical Biology (GEMB). *GigaScience, 9*(10), giaa091. https://doi.org/10.1093/gigascience/giaa091

Liquid crystals (research done as an undergraduate)

1. Collings, P. J., Goldstein, J. N., Hamilton, E. J., Mercado, B. R., **Nieser, K. J.**, & Regan, M. H. (2015). The nature of the assembly process in chromonic liquid crystals. *Liquid Crystals Reviews, 3*(1), 1-27. https://doi.org/10.1080/21680396.2015.1025305

2. Mercado, B. R., **Nieser, K. J.**, & Collings, P. J. (2014). Cooperativity of the assembly process in a low concentration chromonic liquid crystal. *The Journal of Physical Chemistry. B, 118*(46), 13312–13320. https://doi.org/10.1021/jp510025j

Works in Progress

1. **Nieser, K. J.** Improving the fairness of algorithms that inform patient care. (submitted)

2. **Nieser, K. J.**, Harris, A. H. S., Split-sample reliability estimation in health care quality measurement: Once is not enough. (submitted)

3. **Nieser, K. J.**, Harris, A. H. S., Comparing methods for assessing the reliability of health care quality measures. (submitted)

Awards

2020	Rankin/Skatrud Travel Award
2019	Biology and Medicine through Mathematics (BAMM!) Travel Award
2019	Student Research Grants Competition – Conference Presentation Funds
2018-19	New Graduate Student Fellowship

Conference Presentations and Posters

1. Improving health care equity requires reliable quality measurement. Stanford Department of Surgery, S-SPIRE Center. Sept. 25, 2023. (talk)

2. Average Treatment Effects in Synthetic Samples with More Equitable Representation. Society for Epidemiologic Research Annual Meeting 2022, Chicago, IL (poster).

3. PHS Antiracism Initiative: Research Methods Toolkit. University of Wisconsin-Madison Department of Population Health Sciences Monday Seminar. April 25, 2022 (virtual talk). With Marina Jenkins, Emma Svenson, Zoe Walts, and KJ Hansmann.

4. Optimizing for whom? The role of robustness in equitable algorithms. 2021 Machine Learning Day, Arizona State University (virtual talk).

5. Detecting Inequity in the Analysis of Mental Health. 2021 Data Science Research Bazaar: *Data Science for the Social Good*, University of Wisconsin-Madison (virtual lightning talk).

6. Bias Analysis of Depression Rate Comparisons between Racial/Ethnic Groups. Society for Epidemiologic Research Annual Meeting 2020 (virtual poster).

7. Addressing Heterogeneity in Mental Illnesses through Robust Estimation. Population Health Sciences Annual Poster Session 2020, University of Wisconsin-Madison (poster).

8. Robust estimation for factor loadings with application to postpartum depression. Biology and Medicine through Mathematics (BAMM!) 2019, Virginia Commonwealth University (poster).

9. Kinetics of Assembly and Dis-assembly of Structures Forming a Chromonic Liquid Crystal at Low Concentrations. American Physical Society March Meeting 2013, Baltimore, MD (talk).

Teaching

Teaching Associate, Swarthmore College

Spring 2013	General Physics II
Spring 2012	General Physics II with Biomedical Applications
Fall 2011	General Physics I
Fall 2011-12	Spacetime, Quanta & Cosmology

Tutor, Swarthmore College

Spring 2013	General Physics II
Spring 2012	General Physics II with Biomedical Applications
Fall 2011-12	General Physics I

Service

Grader
PHS 798: Epidemiologic Methods, 2020
PHS 651: Advanced Regression Methods for Population Health, 2020
MATH 888: Topics in Mathematical Data Science (Causal inference), 2022

Conference abstract review: SER Annual Meeting, 2022

Journal article review: *Journal of Medical Internet Research*

Grant review: University of Wisconsin Institute for Clinical and Translational Research, 2023