

Kenneth J. Nieser, Ph.D.

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RESEARCH INTERESTS

Algorithmic fairness, health care equity, quality measurement, mental health

EDUCATION & TRAINING

- 2023–present Postdoctoral Fellow, Center for Innovation to Implementation, U.S. Department of Veterans Affairs, Menlo Park, CA
- 2023–present Postdoctoral Fellow, Department of Surgery, Stanford University School of Medicine, Stanford, CA
- 2018–2023 Ph.D. Epidemiology, Minor in Statistics
University of Wisconsin–Madison School of Medicine and Public Health, Madison, WI
- 2009–2013 B.A. Physics and Mathematics, High Honors
Swarthmore College, Swarthmore, PA

RESEARCH EXPERIENCE

- 2020–2023 Research Assistant, Department of Population Health Sciences, University of Wisconsin–Madison, Madison, WI. (PI: Amy Cochran)
- 2019–2020 Project Assistant, Gene-set enrichment with mathematical biology. Center for Human Genomics and Precision Medicine, University of Wisconsin–Madison, Madison, WI. (PI: Amy Cochran)

AWARDS & FELLOWSHIPS

- 2023–25 Big-Data Scientist Training Enhancement Program, U.S. Department of Veterans Affairs & National Cancer Institute
- 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

PEER-REVIEWED JOURNAL ARTICLES

*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), g1aa091. <https://doi.org/10.1093/gigascience/g1aa091>

Liquid crystals (research done as an undergraduate)

6. 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>
7. 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

8. **Nieser, K. J.**, Harris, A. H. S., Split-sample reliability estimation in health care quality measurement: Once is not enough. (under review)
9. **Nieser, K. J.**, Harris, A. H. S., Comparing methods for assessing the reliability of health care quality measures. (under review)
10. **Nieser, K. J.** Improving the fairness of algorithms that inform patient care. (submitted)

CONFERENCE PRESENTATIONS AND POSTERS

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

2. Average Treatment Effects in Synthetic Samples with More Equitable Representation. (Jun. 14–17, 2022). Society for Epidemiologic Research Annual Meeting in Chicago, IL [poster].
3. PHS Antiracism Initiative: Research Methods Toolkit. (Apr. 25, 2022). With Marina Jenkins, Emma Svenson, Zoe Walts, and KJ Hansmann. Population Health Sciences Monday Seminar, University of Wisconsin–Madison [virtual talk].
4. Optimizing for whom? The role of robustness in equitable algorithms. (Apr. 9, 2021). Machine Learning Day, Arizona State University [virtual talk].
5. Detecting Inequity in the Analysis of Mental Health. (Feb. 3, 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. (Dec. 15–18, 2020). Society for Epidemiologic Research Annual Meeting [virtual poster].
7. Addressing Heterogeneity in Mental Illnesses through Robust Estimation. (Mar. 9, 2020). Department of Population Health Sciences Annual Poster Session, University of Wisconsin–Madison [poster].
8. Robust estimation for factor loadings with application to postpartum depression. (May 17–19, 2019). Biology and Medicine through Mathematics (BAMM!) in Richmond, VA [poster].
9. Kinetics of Assembly and Dis-assembly of Structures Forming a Chromonic Liquid Crystal at Low Concentrations. (Mar. 18–22, 2013). American Physical Society March Meeting in Baltimore, MD [talk].

PROFESSIONAL EXPERIENCE

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

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

Manuscript reviewer

Journal of Medical Internet Research (2022)

Grant reviewer

University of Wisconsin Institute for Clinical and Translational Research (2023)

Conference abstract reviewer

Society for Epidemiologic Research Annual Meeting (2022)

Grader

Pop Health 798: Epidemiologic Methods (2020)

Pop Health 651: Advanced Regression Methods for Population Health (2020)

Math 888: Topics in Mathematical Data Science—Causal inference (2022)