

# 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 & PROFESSIONAL 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)
- 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

## AWARDS & FELLOWSHIPS

- 2023–25 Big-Data Scientist Training Enhancement Program, U.S. Department of Veterans Affairs
- 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. Harris, A., Eddington, H., Shah, V., Shwartz, M., Gurewich, D., Rosen, A., Quinteros, B., Wilcher, B., **Nieser, K.**, Jones, G., Wu, J., Morris, A. Statistical Methods to Examine Racial and Ethnic Disparities in the Surgical Literature: A Review and Recommendations for Improvement. (under review)
11. Harris, A. H. S., Liu, P., Breland, J. Y., Wagner, T. H., **Nieser, K. J.**, Schmidt, E. M. Differences across Race and Ethnicity in the Quality of Antidepressant Medication Management. (under review).
12. Pingeton, B. C., **Nieser, K. J.**, Cochran, A., Goodman, S. H., Laurent, H., Sbrilli, M. D., Knight, B., Newport, D. J., Stowe, Z. N. Childhood Maltreatment Exposure is Differentially Associated with Transdiagnostic Perinatal Depression Symptoms. (under review).

## CONFERENCE PRESENTATIONS & POSTERS

1. **Nieser, K.**, Schmidt, E., Harris, A. (Jun. 29–Jul. 2, 2024). Health Care Quality Measure Reliability Estimates Can Hinge on the Method. 2024 Academy Health Annual Research Meeting in Baltimore, MD [accepted for poster presentation].
2. Schmidt, E. M., Chen, C., **Nieser, K.**, Wagner, T. H., Harris, A.H.S. (Jun. 29–Jul. 2, 2024). Differences in Follow up after Psychiatric Hospitalizations for VA Purchased Versus VA Provided Care. 2024 Academy Health Annual Research Meeting in Baltimore, MD [abstract accepted for podium presentation].
3. Harris, A., Eddington, H., Shah, V., Shwartz, M., Gurewich, D., Rosen, A., Quinteros, B., Wilcher, B., **Nieser, K.**, Jones, G., Wu, J., Morris, A. (Jun. 29–Jul. 2, 2024). Statistical Methods to Examine Racial and Ethnic Disparities in the Surgical Literature: A Review and Recommendations for Improvement. 2024 Academy Health Annual Research Meeting in Baltimore, MD [accepted for poster presentation].
4. Harris, A., Eddington, H., Shah, V., Shwartz, M., Gurewich, D., Rosen, A., Quinteros, B., Wilcher, B., **Nieser, K.**, Jones, G., Wu, J., Morris, A. (Nov. 13, 2023). Statistical Methods to Examine Racial and Ethnic Disparities in the Surgical Literature: A Review and Recommendations for Improvement. ISPOR Europe 2023 in Copenhagen, Denmark. [poster presentation].
5. Odeh-Couvertier, V., **Nieser, K.**, Patterson, B., Zayas-Cabán, G., Cochran, A. (Oct. 15-18, 2023). Quasi-Experimental Designs for Learning Health Systems. INFORMS Annual Meeting in Phoenix, AZ. [poster presentation].

6. **Nieser, K.** (Sep. 25, 2023). Improving health care equity requires reliable quality measurement. S-SPIRE Center, Department of Surgery, Stanford University [talk].
7. Cochran, A., Odeh-Couvertier, V., Zayas-Cabán, G., **Nieser, K.**, Patterson, B. (May 24-26, 2023). Quasi-Experimental Designs for Learning Health Systems. American Causal Inference Conference in Austin, TX. [poster presentation]
8. **Nieser, K.**, Cochran, A. (Jun. 14–17, 2022). Average Treatment Effects in Synthetic Samples with More Equitable Representation. Society for Epidemiologic Research Annual Meeting in Chicago, IL [poster].
9. Hansmann, K., Jenkins, M., **Nieser, K.**, Svenson, E., Walts, Z. (all equal contribution) (Apr. 25, 2022). PHS Antiracism Initiative: Research Methods Toolkit. Population Health Sciences Monday Seminar, University of Wisconsin–Madison [virtual talk].
10. **Nieser, K.** (Apr. 9, 2021). Optimizing for whom? The role of robustness in equitable algorithms. Machine Learning Day, Arizona State University [virtual talk].
11. **Nieser, K.** (Feb. 3, 2021). Detecting Inequity in the Analysis of Mental Health. Data Science Research Bazaar: Data Science for the Social Good, University of Wisconsin–Madison [virtual lightning talk].
12. **Nieser, K.** (Dec. 15–18, 2020). Bias Analysis of Depression Rate Comparisons between Racial/Ethnic Groups. Society for Epidemiologic Research Annual Meeting [virtual poster].
13. **Nieser, K.**, Stowe, Z., Cochran, A. (Mar. 9, 2020). Addressing Heterogeneity in Mental Illnesses through Robust Estimation. Department of Population Health Sciences Annual Poster Session, University of Wisconsin–Madison [poster].
14. **Nieser, K.**, Stowe, Z., Cochran, A. (May 17–19, 2019). Robust estimation for factor loadings with application to postpartum depression. Biology and Medicine through Mathematics (BAMM!) in Richmond, VA [poster].
15. **Nieser, K.**, Collings, P. (Mar. 18–22, 2013). Kinetics of Assembly and Dis-assembly of Structures Forming a Chromonic Liquid Crystal at Low Concentrations. American Physical Society March Meeting in 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**

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)