

Erika Rasnick Manning

SENIOR BIOSTATISTICIAN/EPIDEMIOLOGIST

☎ 765-256-0925 | ✉ Erika.Rasnick@cchmc.org | 🌐 [erikarasnick](https://erikarasnick.com)

Experienced Biostatistician and Epidemiologist with a strong foundation in statistical modeling, spatial analysis, and reproducible research workflows. At Cincinnati Children's Hospital, I lead data-driven investigations into environmental and social determinants of health using R (tidyverse, GIS packages, Quarto, Shiny), custom R package development, and computational tools like Git, Docker, and high performance computing environments. My work has contributed to over two dozen peer-reviewed publications, with a focus on advancing population health through rigorous, scalable methods for integrating geospatial and clinical data.

Experience

Cincinnati Children's Hospital Medical Center, Division of Biostatistics and Epidemiology

SENIOR BIOSTATISTICIAN/EPIDEMIOLOGIST

Cincinnati, OH

February 2025–present

BIOSTATISTICIAN/EPIDEMIOLOGIST II

January 2022–February 2025

BIOSTATISTICIAN/EPIDEMIOLOGIST I

May 2019–January 2022

Education

Miami University

M.S. STATISTICS

Oxford, OH

Aug-17–May-19

University of Indianapolis

B.S. BIOLOGY

Indianapolis, IN

Aug-13–May-17

Publications

1. Parikh, M. N., Manning, E. R., Niu, L., Ruehlmann, A. K., Folger, A. T., Brunst, K. J., & Brokamp, C. (2024). Increasing temporal sensitivity of omics association studies with epigenome-wide distributed lag models. *American Journal of Epidemiology*, 194(5), 1418–1425. <https://doi.org/10.1093/aje/kwae375>
2. Manning, E. R., Duan, Q., & Brokamp, C. (2025). Incorporating parcel-based housing conditions to increase the precision of identifying children with elevated blood lead. *Journal of Public Health Management & Practice*. <https://doi.org/10.1097/phh.0000000000002109>
3. Peterson, C. J., Rao, M. B., Palipana, A., Manning, E. R., Vancil, A., Ryan, P., Brokamp, C., Kramer, E., Szczesniak, R. D., & Gecili, E. (2024). Robust identification of environmental exposures and community characteristics predictive of rapid lung disease progression. *Science of The Total Environment*, 950, 175348. <https://doi.org/10.1016/j.scitotenv.2024.175348>
4. Beck, A. F., Mattingly, T., Brokamp, C., Sahay, R., Manning, E. R., Taylor, S., Kuhnell, P., Kegley, B., Trabue, K., Margolis, P. A., Kahn, R. S., & Hartley, D. M. (2024). The test and protect program: A data-driven, community-engaged approach to COVID-19 testing site localization. *Journal of Public Health Management & Practice*, 31(1), 61–64. <https://doi.org/10.1097/phh.0000000000001993>
5. Makkad, H., Saini, A., Manning, E. R., Duan, Q., Colegate, S., & Brokamp, C. (2024). Racial fairness of individual- and community-level proxies of socioeconomic status among birthing parent–child dyads. *Journal of Racial and Ethnic Health Disparities*. <https://doi.org/10.1007/s40615-024-02050-9>
6. Manning, E. R., Duan, Q., Taylor, S., Ray, S., Corley, A. M. S., Michael, J., Gillette, R., Unaka, N., Hartley, D., Beck, A. F., Brokamp, C., Anyigbo, C., Crosby, L., Leon, M. D. de, Egbo, J., Foley, B., Henize, A., Jones, M., Jones, N.-H. Y., ... Steller, J. (2024). Development of a multimodal geomarker pipeline to assess the impact of social, economic, and environmental factors on pediatric health outcomes. *Journal of the American Medical Informatics Association*, 31(7), 1471–1478. <https://doi.org/10.1093/jamia/ocae093>
7. Brokamp, C., Jones, M. N., Duan, Q., Rasnick Manning, E., Ray, S., Corley, A. M. S., Michael, J., Taylor, S., Unaka, N., & Beck, A. F. (2024). Causal mediation of neighborhood-level pediatric hospitalization inequities. *Pediatrics*, 153(4). <https://doi.org/10.1542/peds.2023-064432>

8. Klages, K. L., Schwartz, L. E., Crabtree, E. J. S., Brokamp, C., Rasnick, E., Dandoy, C. E., Davies, S. M., & Pai, A. L. H. (2024). Social determinants of health predict health outcomes following pediatric allogeneic hematopoietic stem cell transplant. *Pediatric Blood & Cancer*, 71(4). <https://doi.org/10.1002/pbc.30892>
9. Yalung, J. E., Shifman, H. P., Manning, E. R., Beck, A., Bucuvalas, J., Lai, J. C., & Wadhwani, S. I. (2024). Ambient air pollution is associated with graft failure/death in pediatric liver transplant recipients. *American Journal of Transplantation*, 24(3), 448–457. <https://doi.org/10.1016/j.ajt.2023.10.015>
10. Palipana, A. K., Vancil, A., Gecili, E., Rasnick, E., Ehrlich, D., Pestian, T., Andrinopoulou, E.-R., Afonso, P. M., Keogh, R. H., Ni, Y., Dexheimer, J. W., Clancy, J. P., Ryan, P., Brokamp, C., & Szczesniak, R. D. (2023). Social-environmental phenotypes of rapid cystic fibrosis lung disease progression in adolescents and young adults living in the united states. *Environmental Advances*, 14, 100449. <https://doi.org/10.1016/j.envadv.2023.100449>
11. Manning, E. R., E, R., P, R., J, B., H, L.-G., N, L., R, H., DR, G., A, V., J, S., JE, G., & C, B. (2023). High resolution and spatiotemporal place-based computable exposures at scale. *AMIA Joint Summits on Translational Science Proceedings. AMIA Joint Summits on Translational Science*.
12. Iyanna, N., Yolton, K., LeMasters, G., Lanphear, B. P., Cecil, K. M., Schwartz, J., Brokamp, C., Rasnick, E., Xu, Y., MacDougall, M. C., & Ryan, P. H. (2023). Air pollution exposure and social responsiveness in childhood: The cincinnati combined childhood cohorts. *International Journal of Hygiene and Environmental Health*, 251, 114172. <https://doi.org/10.1016/j.ijheh.2023.114172>
13. Gecili, E., Brokamp, C., Rasnick, E., Afonso, P. M., Andrinopoulou, E., Dexheimer, J. W., Clancy, J. P., Keogh, R. H., Ni, Y., Palipana, A., Pestian, T., Vancil, A., Zhou, G. C., Su, W., Siracusa, C., Ryan, P., & Szczesniak, R. D. (2023). Built environment factors predictive of early rapid lung function decline in cystic fibrosis. *Pediatric Pulmonology*, 58(5), 1501–1513. <https://doi.org/10.1002/ppul.26352>
14. Pennington, J., Rasnick, E., Martin, L. J., Biagini, J. M., Mersha, T. B., Parsons, A., Khurana Hershey, G. K., Ryan, P., & Brokamp, C. (2022). Racial fairness in precision medicine: Pediatric asthma prediction algorithms. *American Journal of Health Promotion*, 37(2), 239–242. <https://doi.org/10.1177/08901171221121639>
15. Trinidad, S., Brokamp, C., Mor Huertas, A., Beck, A. F., Riley, C. L., Rasnik, E., Falcone, R., & Kotagal, M. (2022). Use of area-based socioeconomic deprivation indices: A scoping review and qualitative analysis: Study examines socioeconomic deprivation indices. *Health Affairs*, 41(12), 1804–1811. <https://doi.org/10.1377/hlthaff.2022.00482>
16. Vancil, A., Strawn, J. R., Rasnick, E., Levine, A., Schroeder, H. K., Specht, A. M., Turner, A. L., Ryan, P. H., & Brokamp, C. (2022). Pediatric anxiety and daily fine particulate matter: A longitudinal study. *Psychiatry Research Communications*, 2(4), 100077. <https://doi.org/10.1016/j.psychom.2022.100077>
17. Parikh, M. N., Brokamp, C., Rasnick, E., Ding, L., Mersha, T. B., Bowers, K., & Folger, A. T. (2022). Epigenome-wide association of neonatal methylation and trimester-specific prenatal PM2.5 exposure. *Environmental Epidemiology*, 6(5), e227. <https://doi.org/10.1097/ee9.0000000000000227>
18. Shah, A. N., Rasnick, E., Bhuiyan, M. A., Wolfe, C., Bosse, D., Simmons, J. M., Shah, S. S., Brokamp, C., & Beck, A. F. (2022). Using geomarkers and sociodemographics to inform assessment of caregiver adversity and resilience. *Hospital Pediatrics*, 12(8), 689–695. <https://doi.org/10.1542/hpeds.2021-006121>
19. Shifman, H. P., Rasnick, E., Huang, C.-Y., Beck, A. F., Bucuvalas, J., Lai, J. C., & Wadhwani, S. I. (2022). Association of primary care shortage areas with adverse outcomes after pediatric liver transplant. *The Journal of Pediatrics*, 246, 103–109.e2. <https://doi.org/10.1016/j.jpeds.2022.03.007>
20. Thomson, J., Butts, B., Camara, S., Rasnick, E., Brokamp, C., Heyd, C., Steuart, R., Callahan, S., Taylor, S., & Beck, A. F. (2022). Neighborhood socioeconomic deprivation and health care utilization of medically complex children. *Pediatrics*, 149(4). <https://doi.org/10.1542/peds.2021-052592>
21. Maxwell, A. R., Jones, N. Y., Taylor, S., Corathers, S. D., Rasnick, E., Brokamp, C., Riley, C. L., Parsons, A., Kichler, J. C., & Beck, A. F. (2021). Socioeconomic and racial disparities in diabetic ketoacidosis admissions in youth with type 1 diabetes. *Journal of Hospital Medicine*, 16(9), 517–523. <https://doi.org/10.12788/jhm.3664>
22. Gecili, E., Palipana, A., Brokamp, C., Huang, R., Andrinopoulou, E.-R., Pestian, T., Rasnick, E., Keogh, R. H., Ni, Y., Clancy, J. P., Ryan, P., & Szczesniak, R. D. (2021). Seasonality, mediation and comparison (SMAC) methods to identify influences on lung function decline. *MethodsX*, 8, 101313. <https://doi.org/10.1016/j.mex.2021.101313>
23. Lowe, L., Brokamp, C., Rasnick, E., Hall, E. S., & Acquavita, S. (2021). A geographic perspective on opioid misuse: Substance abuse treatment deserts in southwestern ohio. *Ohio Journal of Public Health*, 4(1), 31–37. <https://doi.org/10.18061/ojph.v4i1.8075>

24. Rasnick, E., Ryan, P. H., Bailer, A. J., Fisher, T., Parsons, P. J., Yolton, K., Newman, N. C., Lanphear, B. P., & Brokamp, C. (2021). Identifying sensitive windows of airborne lead exposure associated with behavioral outcomes at age 12. *Environmental Epidemiology*, 5(2), e144. <https://doi.org/10.1097/ee9.000000000000144>
25. Wadhwani, S. I., Brokamp, C., Rasnick, E., Bucuvalas, J. C., Lai, J. C., & Beck, A. F. (2021). Neighborhood socioeconomic deprivation, racial segregation, and organ donation across 5 states. *American Journal of Transplantation*, 21(3), 1206–1214. <https://doi.org/10.1111/ajt.16186>
26. Scholes, D. R., Rasnick, E. N., & Paige, K. N. (2017). Characterization of arabidopsis thaliana regrowth patterns suggests a trade-off between undamaged fitness and damage tolerance. *Oecologia*, 184(3), 643–652. <https://doi.org/10.1007/s00442-017-3897-1>

Presentations

High Resolution and Spatiotemporal Place-Based Computable Exposures at Scale

INTERNATIONAL SOCIETY OF EXPOSURE SCIENCE ANNUAL MEETING

Chicago, IL

23-Aug

Methods for linking housing-unit-level characteristics with residential addresses in the electronic health record: A comparison of approaches using messy, real-world addresses

INTERNATIONAL SOCIETY OF EXPOSURE SCIENCE ANNUAL MEETING

Chicago, IL

23-Aug

Geospatial harmonization with multimodal geomarkers and R package developments (invited)

ERICIM WG ON COMPUTATIONAL AND METHODOLOGICAL STUDIES

Virtual (King's College London, UK)

22-Dec

High Resolution and Spatiotemporal Place-Based Computable Exposures at Scale

INTERNATIONAL SOCIETY OF ENVIRONMENTAL EPIDEMIOLOGY ANNUAL MEETING

Athens, Greece

22-Sep

Democratizing Geospatial Data

USER 2022

Virtual

22-Jun

Introduction to Sample Size Lecture

DESIGN AND MANAGEMENT OF FIELD STUDIES IN EPIDEMIOLOGY COURSE

University of Cincinnati

22-Feb

Decentralized and Reproducible Geocoding and Characterization of Community and Environmental Exposures for Multi-Site Studies

MOBILIZING BIOMEDICAL COMPUTABLE KNOWLEDGE CONFERENCE

Virtual

21-Jul

APIs and R

DIVISION OF BIOSTATISTICS AND EPIDEMIOLOGY LUNCH AND LEARN

Cincinnati Children's Hospital,
Cincinnati, OH

21-May

Introduction to Sample Size Lecture

DESIGN AND MANAGEMENT OF FIELD STUDIES IN EPIDEMIOLOGY COURSE

University of Cincinnati

21-Mar

Geomarker Assessment with R

SATRDAY COLUMBUS

Virtual (Columbus, OH)

20-Nov

Identifying sensitive windows of air lead exposure associated with behavioral outcomes at age12

INTERNATIONAL SOCIETY OF ENVIRONMENTAL EPIDEMIOLOGY ANNUAL MEETING

Virtual

20-Aug

Identifying sensitive windows of air lead exposure associated with behavioral outcomes at age12

CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER DIVISION OF BIOSTATISTICS AND EPIDEMIOLOGY SEMINAR

Cincinnati, OH

19-Aug

Identifying sensitive windows of air lead exposure associated with behavioral outcomes at age12

MIAMI UNIVERSITY DEPARTMENT OF STATISTICS MASTER'S DEGREE PRESENTATION

Oxford, OH

19-Apr

Characterization of Arabidopsis thaliana regrowth patterns suggests a trade-off between undamaged fitness and damage tolerance

MIDWEST ECOLOGY AND EVOLUTION CONFERENCE

Champaign, IL

17-Mar