Lauren Blair Wilner

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Education

2010 - 2014 **BA, International Relations, Community Health, Studio Art**, Tufts University

2014 - 2015 **Master's in Public Health, Epidemiology and Biostatistics**, Tufts University School of Medicine
Thesis: Sustained use in a relief-to-recovery household water chlorination program in Haiti: comparing external evaluation findings with internal supervisor and community health worker monitoring data
Mentor: Dr. Daniele Lantagne

2022 - present **PhD, Epidemiology**, University of Washington
Thesis: Assessing the impact of floods and federal policies on older adult mortality: leveraging Bayesian, quasi-experimental, and agent-based modeling techniques
Mentor: Dr. Joan Casey

Work Experience

Research Assistant 2023 - present
University of Washington, Seattle WA
Department of Environmental and Occupational Health Sciences

- Research assistant with Dr. Joan Casey leading projects on climate change and health, working with collaborators in various industries and across different universities. Collaborating on projects on wildfires, power outages, extreme heat, and climate disasters and their impacts on human health.

Research Assistant 2025
University of Washington, Seattle WA
Center for Studies in Demography and Ecology

- Research assistant with Drs. Sara Curran and Ann Bosworth leading research on the Federal Emergency Management Agency (FEMA) programs and procedures as they relate to climate disaster preparedness and response, with a particular focus on their impacts on health.

Research Assistant 2022 - 2024
University of Washington, Seattle WA
Department of Epidemiology

- Research assistant with Professor Steve Mooney leading various research projects surrounding built environment and health, including studies on physical activity, traffic safety, and data privacy practices. Developed an R package now hosted on CRAN and have led the analyses, reports, and presentations for three different projects.

Research scientist, disease expenditures (DEX) project 2022-2023
University of Washington, Seattle WA
Institute for Health Metrics and Evaluation (IHME)

- Statistical modeler for the Disease Expenditure (DEX) team. Led the Skilled Nursing Facility and Dental care envelope estimation.

Managing research scientist, Global Burden of Disease (GBD) 2022
Research scientist, Global Burden of Disease (GBD) 2019-2022

Researcher, Global Burden of Disease (GBD) 2017-2019
University of Washington, Seattle WA
Institute for Health Metrics and Evaluation (IHME)

- Statistical modeler for all congenital birth defects for the Global Burden of Disease (GBD) study.
- Reviewed articles from systematic literature reviews and extracted data. Formatted, transformed, reviewed, and assessed data sources to determine their relevance and utility for ongoing analysis; Developed and managed large datasets to be used in epidemiological and statistical analyses via a cluster computing system.
- Ran and interpreted results from advanced statistical models including: ensemble models testing all combinations of covariates to maximize out-of-sample predictive validity, Bayesian hierarchical meta-regression models estimating the prevalence and incidence, and other novel meta-regression tools.
- Designed and ran entire modeling pipeline from data processing to statistical modeling to design/generation of diagnostic tables and figures, primarily in both R and Python.
- Led a team of researchers and data professionals modeling birth defects, blood disorders, and cerebral palsy; Led and co-lead peer-reviewed publications; presented at internal and external meetings and conferences.

ASPPH/CDC Allan Rosenfield Global Health Fellow 2015 - 2017
Centers for Disease Control and Prevention (CDC)
Division of Global Health Protection/Center for Global Health (DGHP/CGH)
Field Epidemiology Training Programs (FETP)

- Assistant program manager for FETP (FETPs are Ministry of Health – CDC partnerships globally to establish epidemiology training programs for host country doctors and public health professionals.) implementation across Francophone West Africa (approximately 75% travel to countries in the region); acting Public Health Advisor for implementation of FETP Senegal.
- Provided technical support for FETP implementation in Zika-affected countries of Central/South America.
- Assisted with conducting monitoring and evaluation of FETPs worldwide.

Data Analyst 2014 - 2017
International Nutrition Foundation (INF) TRUMF Ghana Study

- Performed statistical analysis for USAID-funded field study at Friedman School of Nutrition.

Data Analyst/GIS Specialist 2014-2015

Research Assistant/Intern 2013 - 2014
Food Aid Quality Review (FAQR) Study

- Co-created data collection instruments and templates for USAID-funded field studies in Malawi, Sierra Leone, and Burkina Faso on effectiveness and cost-effectiveness of supplementary feeding programs.
- Led and performed all required literature reviews and statistical and GIS analyses for three FAQR field studies; prepared methods and results for manuscripts and presentations.

Mobile Health Education Intern 2015 - 2017
Rubenstein Ecosystems Science Laboratory

Research Assistant/Data Analyst 2014 - 2015
Harvard Business School Zambian Water Project

Field Human Resources Intern 2013
Doctors without Borders (MSF)

Consulting Intern 2013
Partners Senegal

Administrative Intern 2012
Village Health Works (VHW)

Grants & Research Manager 2012 - 2017
Zimbabwe Orphans Fund (ZOF)

Research Assistant 2011 - 2014
Tufts University, Medford MA
Global Development and Environment Institute (GDAE)

Intern 2011
Humanity in Action (HIA)

Honors, awards, and scholarships

Graduate Student Conference Presentation Award 2025
University of Washington Graduate School
Selected to receive a travel award to present at the International Society for Environmental Epidemiology (ISEE) annual conference in Atlanta, GA.

ARCS Scholar 2022-2025
Achievement Rewards for College Scientists (ARCS) Foundation Seattle Chapter
Selected to be a scholar in the ARCS fellowship program based on academic achievement.

UW Top Scholar Award 2022-2025
University of Washington Graduate School
Awarded doctoral funding as a top prospective student.

Dean's list 2010-2014
Tufts University

Cum Laude 2014
Tufts University

Professional activities

Society memberships

Member, American Geophysical Union 2025
Member, International Society for Environmental Epidemiology 2023 - present
Member, Society for Epidemiologic Research 2022 - present
Member, American Public Health Association 2015 - 2017

Peer review

Nature 2025
Environmental Health Perspectives 2025

Professional development

Introduction to Bayesian Statistics: Likelihoods, Priors & Posteriors 2024
University of Washington

Agent Based Modeling in R 2024
University of Washington

Using Text as Data 2025
University of Washington

Publications

[1] Rogers BL, **WilnerLB**, Maganga G, Walton SM, Suri DJ, Langlois BK, Chui KKH, Boiteau JM, Vosti SA, and Webb P. "Program changes are effective and cost-effective in increasing the amount of oil used in preparing corn soy blend porridge for treatment of moderate acute malnutrition in Malawi". en. In: *Maternal & Child Nutrition* 13.4 (2017). _eprint: https://onlinelibrary.wiley.com/doi/pdf/e12393. ISSN: 1740-8709. DOI: 10.1111/mcn.12393.

[2] **Wilner LB**, Suri DJ, Langlois BK, Walton SM, and Rogers BL. "Effective delivery of social and behavior change communication through a Care Group model in a supplementary feeding program". en. In: *Journal of Health, Population and Nutrition* 36.1 (Sept. 2017), p. 34. ISSN: 2072-1315. DOI: 10.1186/s41043-017-0111-3.

[3] **Wilner LB**, Wells E, Ritter M, Casimir JM, Chui KKH, and Lantagne D. "Sustained use in a relief-to-recovery household water chlorination program in Haiti: comparing external evaluation findings with internal supervisor and community health worker monitoring data". en. In: *Journal of Water, Sanitation and Hygiene for Development* 7.1 (2017). ISSN: 2043-9083. DOI: 10.2166/washdev.2017.035.

[4] Langlois BK, Suri DJ, **Wilner LB**, Walton SM, Chui KKH, Caiafa KR, and Rogers BL. "Self-report vs. direct measures for assessing corn soy blend porridge preparation and feeding behavior in a moderate acute malnutrition treatment program in southern Malawi". en. In: *Journal of Hunger & Environmental Nutrition* 13.4 (Oct. 2018), pp. 470–481. ISSN: 1932-0248, 1932-0256. DOI: 10.1080/19320248.2017.1374902.

[5] Roth GA et al. "Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017". en. In: *The Lancet* 392.10159 (Nov. 2018), pp. 1736–1788. ISSN: 01406736. DOI: 10.1016/S0140-6736(18)32203-7.

[6] Kyu HH et al. "Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017". en. In: *The Lancet* 392.10159 (Nov. 2018), pp. 1859–1922. ISSN: 01406736. DOI: 10.1016/S0140-6736(18)32335-3.

[7] Lozano R et al. "Measuring progress from 1990 to 2017 and projecting attainment to 2030 of the health-related Sustainable Development Goals for 195 countries and territories: a systematic analysis for the Global Burden of Disease Study 2017". en. In: *The Lancet* 392.10159 (Nov. 2018), pp. 2091–2138. ISSN: 01406736. DOI: 10.1016/S0140-6736(18)32281-5.

[8] James SL et al. "Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017". en. In: *The Lancet* 392.10159 (Nov. 2018), pp. 1789–1858. ISSN: 01406736. DOI: 10.1016/S0140-6736(18)32279-7.

[9] Murray CJL et al. "Five insights from the Global Burden of Disease Study 2019". en. In: *The Lancet* 396.10258 (Oct. 2020), pp. 1135–1159. ISSN: 01406736. DOI: 10.1016/S0140-6736(20)31404-5.

[10] Zimmerman MS et al. "Global, regional, and national burden of congenital heart disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017". en. In: *The Lancet Child & Adolescent Health* 4.3 (Mar. 2020), pp. 185–200. ISSN: 23524642. DOI: 10.1016/S2352-4642(19)30402-X.

[11] Lozano R et al. "Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019". en. In: *The Lancet* 396.10258 (Oct. 2020), pp. 1250–1284. ISSN: 01406736. DOI: 10.1016/S0140-6736(20)30750-9.

[12] Vos T et al. "Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019". en. In: *The Lancet* 396.10258 (Oct. 2020), pp. 1204–1222. ISSN: 01406736. DOI: 10.1016/S0140-6736(20)30925-9.

[13] Brennan J, Bannick M, Kassebaum N, **Wilner LB**, Thomson A, Aravkin A, and Zheng P. *Analysis and Methods to Mitigate Effects of Under-reporting in Count Data*. arXiv:2109.12247 [stat]. Sept. 2021.

[14] Paulson KR et al. "Global, regional, and national progress towards Sustainable Development Goal 3.2 for neonatal and child health: all-cause and cause-specific mortality findings from the Global Burden of Disease Study 2019". en. In: *The Lancet* 398.10303 (Sept. 2021), pp. 870–905. ISSN: 01406736. DOI: 10.1016/S0140-6736(21)01207-1.

[15] James SL et al. "Policy and technical considerations for implementing a risk-based approach to international travel in the context of COVID-19: A systematic analysis for the Global Burden of Disease Study 2017". In: *The Lancet* 392.10159 (2021), pp. 1789–1858. ISSN: 0140-6736. DOI: 10.1016/S0140-6736(18)32279-7.

[16] SmileTrain & IHME. "A Generation Lost: The Devastating Effect of Malnutrition on Children with Clefts". In: (2022).

[17] Su Z, Zou Z, Hay SI, Liu Y, Li S, Chen H, Naghavi M, Zimmerman MS, Martin GR, **Wilner LB**, Sable CA, Murray CJL, Kassebaum NJ, Patton GC, and Zhang H. "Global, regional, and national time trends in mortality for congenital heart disease, 1990–2019: An age-period-cohort analysis for the Global Burden of Disease 2019 study". en. In: *eClinicalMedicine* 43 (2022). ISSN: 2589-5370. DOI: 10.1016/j.eclinm.2021.101249.

[18] Thomson AM et al. "Global, regional, and national prevalence and mortality burden of sickle cell disease, 2000–2021: a systematic analysis from the Global Burden of Disease Study 2021". en. In: *The Lancet Haematology* 10.8 (Aug. 2023), e585–e599. ISSN: 23523026. DOI: 10.1016/S2352-3026(23)00118-7.

[19] GBD 2021 Nervous System Disorders Collaborators et al. "Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021". en. In: *The Lancet Neurology* 23.4 (2024). ISSN: 1474-4422. DOI: 10.1016/s1474-4422(24)00038-3.

[20] Naghavi M et al. "Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021". English. In: *The Lancet* 403.10440 (May 2024). Publisher: Elsevier, pp. 2100–2132. ISSN: 0140-6736, 1474-547X. DOI: 10.1016/S0140-6736(24)00367-2.

[21] Hamra GB, Buller ID, Riddell CA, **Wilner LB**, Brown Audrey, and MacNell NS. "Advancing Reproducible Research Through Version Control Technology". en-US. In: *Epidemiology* 36.3 (May 2025), p. 344. ISSN: 1044-3983. DOI: 10.1097/EDE.0000000000001845.

[22] McBrien H, Casey JA, Chillrud LG, Flores NM, and **Wilner LB**. *popexposure: An open-source Python package to find the number of people residing near environmental hazards quickly and efficiently*. en. ISSN: 3067-2007 Pages: 2025.10.19.25338326. Oct. 2025. DOI: 10.1101/2025.10.19.25338326.

[23] Casey JA, Gu YM, Schwarz L, Frankland TB, **Wilner LB**, McBrien H, Flores NM, Dey AK, GS Lee, Chen C, Benmarhnia T, and Tartof SY. "The 2025 Los Angeles Wildfires and Outpatient Acute Healthcare Utilization". In: *medRxiv* (Mar. 2025), p. 2025.03.13.25323617. DOI: 10.1101/2025.03.13.25323617.

[24] Dieleman JL, Weil M, Beauchamp M, Bisignano C, Crosby SW, DeJarnatt D, Lescinsky H, Mokdad AH, Ostroff S, Paul H, Pollock I, Sahu M, Scott JW, Taylor KV, Thomson A, Weaver MR, **Wilner LB**, and Murray CJL. "Drivers of Variation in Health Care Spending Across US Counties". In: *JAMA Health Forum* 6.2 (Feb. 2025), e245220. ISSN: 2689-0186. DOI: 10.1001/jamahealthforum.2024.5220.

[25] Dieleman JL et al. "Tracking US Health Care Spending by Health Condition and County". In: *JAMA* 333.12 (Mar. 2025), pp. 1051–1061. ISSN: 0098-7484. DOI: 10.1001/jama.2024.26790.

[26] AJ Northrop, Do V, Flores NM, **Wilner LB**, Sheffield PE, and JA Casey. "Power Outages and Carbon Monoxide Poisoning in Children". In: *Pediatrics* 155.6 (May 2025), e2024068213. ISSN: 0031-4005. DOI: 10.1542/peds.2024-068213.

[27] Do V, **Wilner LB**, Flores NM, McBrien H, NorthropAJ, and JA Casey. "Spatiotemporal patterns of individual and multiple simultaneous severe weather events co-occurring with power outages in the United States, 2018–2020". en. In: *PLOS Climate* 4.1 (Jan. 2025). Publisher: Public Library of Science, e0000523. ISSN: 2767-3200. DOI: 10.1371/journal.pclm.0000523.

[28] **Wilner LB**, Piepmeier L, Gordon M, Steiger BB, Northrop AJ, McBrien H, Shea B, Meltzer BY, Bedi NS, Blake EM, Benmarhnia T, Braun D, and Casey JA. "Two and a half decades of United States wildfire burn zone disaster data, 2000-2025". In: *Scientific Data* (Nov. 2025).

Funding history

Assessing the impact of floods and federal policies on older adult mortality: leveraging Bayesian, quasi-experimental, and agent-based modeling techniques
Role on Project: Principal Investigator
Dates: September 2025 - August 2027
Funding Agency: NIH/NIA F31-AG094267
Funding: $99,076 direct costs
Description: The overarching goal of this training award is to use novel methods to first assess whether FEMA programs buffer against flood-related mortality and then evaluate the short- and long-term mortality impacts of floods in the US.

Conference presentations and posters

Wilner LB, McBrien H, Flores N, Casey JA. PopExp: An open-source Python package to quickly and efficiently estimate populations exposed to environmental hazards. *International Society for Environmental Epidemiology (ISEE).* Atlanta, GA 2025

Wilner LB, Dieleman JL, Casey JA. The National Flood Insurance Program (NFIP): spatial distribution of who can be covered and who is covered across the United States. *Society for Epidemiologic Research (SER)*. Boston, MA 2025

Wilner LB, Jones-Ngo C, Benmahrnia T, Casey JA. Dual exposure to power outages and wildfire $PM_{2.5}$ in California among vulnerable populations. *The Workshop in Environmental Economics and Data Science (TWEEDS)*. Portland, OR 2025

Wilner LB, Dieleman JL, Casey JA. The National Flood Insurance Program (NFIP): spatial distribution of designations, policies, and claims across the United States. *Cascadia Annual Symposium on Environmental Occupational and Population health*. Blaine, WA 2025

Wilner LB, Jones-Ngo C, Benmahrnia T, Casey JA. Dual exposure to power outages and wildfire $PM_{2.5}$ in California among vulnerable populations. *International Society for Environmental Epidemiology (ISEE)*. Santiago, Chile 2024

Wilner LB, Zhou W, Youngbloom A, Mooney SJ. A shift in data sharing paradigms: a case study of the ways in which big data and complex algorithms allow for increased data sharing while preserving privacy. *Society for Epidemiologic Research (SER)* Portland, OR 2023

Wilner LB, Kassebaum NJ. Global, Regional, and National Levels and Trends in Congenital Birth Defects, 1990-2019. *International Conference on Birth Defects and Disabilities.* Colombo, Sri Lanka 2020

Wilner LB, Suri DJ, Langlois B, Walton S, and Rogers BL. Effective delivery of social-behavioral change communication through a care group model in a supplementary feeding program: A descriptive analysis. *Experimental Biology* Chicago, IL 2017

Wilner LB, Passarelli S, Suri DJ, Maganga G, Langlois B, Marcus S, Chui KKH, Boiteau JM, Rosenberg I, Webb P, and Rogers BL. The Price of Oil: Assessing Behavior Change Communication & Increased Oil Ration on improving Oil Use in Food Aid Preparation for Children Malawi. *Experimental Biology* Boston, MA 2015

Software

`walkboutr`
R: The goal of `walkboutr` is to process GPS and accelerometry data into walking bouts.

`popexposure`
Python: `popexposure` is an open-source Python package providing fast, memory-efficient, and consistent estimates of the number of people living near environmental hazards.

Teaching history

Workshops

1. Dr. Joan Casey's research lab at University of Washington, Workshop Instructor, "Git and GitHub for Public Health." November 2025. Seattle, WA
2. Dr. Joan Casey's research lab at University of Washington, Workshop Instructor, "Git and GitHub for Public Health." September 2024. Seattle, WA
3. Dr. Tarik Benmahrnia's research lab at University of California San Diego, Workshop Instructor, "Git and GitHub for Public Health." April 2025. Virtual
4. Society for Epidemiologic Research, Workshop Co-Instructor, "Git and GitHub for Public Health." June 10, 2025. Boston, MA

5. Society for Epidemiologic Research, Workshop Co-Instructor, "Git and GitHub for Public Health." June 18, 2024. Austin, TX
6. California Department of Public Health, Workshop Co-Instructor, "Git and GitHub for Public Health." May 3, 2025. Sacramento, CA

Teaching Assistant Positions

1. SHARP Bootcamp (2-day short course)—Environmental Justice Boot Camp: Theory and Methods to Study Environmental Health Disparities, Teaching Assistant. August 12-13, 2025. Virtual.
   Facilitated discussion and co-led lab
2. EPI 560: Data Management for Public Health, Teaching Assistant. Spring 2024. University of Washington, Seattle, WA.
   Co-led 20 labs lasting 110 minutes for 15 person course; provided written feedback and graded all labs
3. EPI 560: Data Management for Public Health, Teaching Assistant. Winter 2024. University of Washington, Seattle, WA.
   Developed course and lab materials for lab-based class
4. TA Principles of Biostatistics. Fall 2014. Tufts University School of Medicine, Boston, MA
   Led labs; graded all labs
5. TA Principles of Biostatistics Tufts. Spring 2015. Tufts University School of Medicine, Boston, MA
   Led labs; graded all labs
6. TA Intro to SAS Programming Tufts. Spring 2015. Tufts University School of Medicine, Boston, MA
   Led labs; graded all labs

Technical and language skills

Proficient R, SQL, Git, GitHub, LaTeX, French (fluent)
Competent Python, Stata, ArcGIS
Familiar HTML, SAS

Service

UW Department of Epidemiology Peer Mentor Program 2023 - present
Peer mentor

UW Department of Epidemiology Curriculum Committee 2023 - 2024
Student representative

IHME Staff Feedback Improvement Group 2019
Researcher representative