

# Lizbeth F. Gómez, PhD, MPH

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## PROFESSIONAL SUMMARY

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Environmental epidemiologist and postdoctoral researcher with specialized expertise in evaluating the interaction between environmental factors (air pollution, climate variables) and pharmaceutical treatments on health outcomes. Proficient in pharmacoepidemiological research methods, real-world evidence generation from large EHR databases, and statistical programming (R, SAS). Proven track record conducting rigorous observational studies, publishing in peer-reviewed journals, and developing independent research questions. Passionate about using epidemiological evidence to improve health equity and inform clinical and policy decision-making.

## CORE COMPETENCIES

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- Environmental Epidemiology: Air pollution exposure assessment, geospatial analysis, environmental health disparities
- Pharmacoepidemiology: Treatment effectiveness evaluation, medication response modification, clinical trial reanalysis
- Real-World Evidence & Database Research: Electronic health records, large relational databases, observational study design
- Statistical Programming: R, SAS, advanced statistical modeling, data quality assessment, propensity score methods
- Research Methods: Complex observational study protocols, secondary data analysis, geospatial analysis
- Manuscript Preparation: peer-reviewed publications, scientific writing and communication
- Collaborative Leadership: Cross-functional team coordination, mentoring, interdisciplinary research

## EDUCATION

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2024 PhD *Environmental Epidemiology*, Drexel Dornsife School of Public Health

2020 MPH *Public Health*, Columbia University Mailman School of Public Health

2018 BSc. *Biology*, City College of New York

## EXPERIENCE

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### Research

Jan 2026 – Present Postdoctoral Associate

*Rutgers University – Center for Climate, Health and Healthcare* New Brunswick, NJ

Examine synergistic effects of climate exposures (extreme heat, PM<sub>2.5</sub>) and medication use on health outcomes in vulnerable populations using national Medicaid data

Link large-scale administrative health databases with gridded climate data at ZIP code level for drug-environment interaction research

Collaborate with interdisciplinary team to produce evidence informing clinical and policy decisions for climate-vulnerable populations

Nov 2024 – Jan 2026 Postdoctoral Researcher

*University of Pennsylvania Perelman School of Medicine* Philadelphia, PA

Conduct comparative effectiveness studies evaluating pharmaceutical treatments in real-world settings using electronic health record data from Penn Medicine Health Systems

Design and execute observational studies examining modification of treatment effectiveness by environmental and social factors; develop complex statistical models and perform sensitivity analyses

Lead advanced research projects evaluating validity, usefulness, and bias of augmenting EHR data with external data sources; assess data quality and implement algorithm validation

Collaborate with biostatisticians, clinicians, and epidemiologists to translate complex data into actionable public health insights

Independently develop research questions, manage all study phases from conceptualization to publication

Fall 2024

**Research Scientist**

*Drexel Dornsife School of Public Health*

**Philadelphia, PA**

Conceptualize, develop and conduct research on the impact of air pollution on the effectiveness of step-up treatment strategies for pediatric asthma in Philadelphia.

Clean electronic health record datasets containing patient specific medical histories and asthma progression from 2005–2019.

Conduct statistical analyses to evaluate the impacts of air pollution on pharmaceutical responses for asthma.

2020 – 2024

**Doctoral Candidate**

*Drexel Dornsife School of Public Health*

**Philadelphia, PA**

Spearheaded the secondary analysis of clinical trial results to evaluate the impact of environmental and social exposures on asthma treatment efficacy.

Designed complex observational study protocols and conducted geospatial analysis using advanced statistical modeling techniques.

Published findings in leading journals and presented research at international conferences, securing funding for further studies.

2018–2020

**Research Fellow**

**New York, NY**

*Columbia University Mailman School of Public Health*

Developed an epidemiological study to assess asthma prevalence after hurricane Maria in San Juan Puerto Rico.

Collaborate with interprofessional research fellows to develop and implement a health assessment.

Coordinated research efforts with international partners, including academics and health institutions in Puerto Rico, to enhance the validity and reach of observational studies. Managed cross-functional teams to ensure timely delivery of research findings.

2017–2018

**Research Assistant**

**Bronx, NY**

*Montefiore Medical Center*

Conducted qualitative research on the effect of traditional and electronic consent forms on Biobank enrollment.

Assisted with the data collection process by administering blind study surveys.

Recruited participants in Bronx health clinics to participate in a Biobank trial.

Assisted with data analysis of electronic consent form effects on trust and material comprehension.

2017–2018

**Undergraduate Research Fellow**

**New York, NY**

*Columbia University Mailman School of Public Health*

Selected and awarded for a NIEHS–funded program to conduct graduate–level research.  
 Conducted a systematic literature review on cardiovascular disease and epigenetics.  
 Skilled in data quality assessments to support epidemiological research and publications.

**2022–2024 Graduate Teaching Assistant Philadelphia, PA**  
***Drexel Dornsife School of Public Health***

**Course:** Exposure Science

Imparted lectures on the tools and techniques used to measure pollution exposures; GIS uses for exposure assessment and the role of exposure assessment in occupational settings

Created teaching materials (slides, worksheets, evaluation rubrics and assessment tools).

Host teaching office hours to help students with content–related questions.

### Professional

**2018–2020 Administrative Assistant, PrIMER New York, NY**  
***Columbia Mailman School of Public Health, Environmental Health Sciences***

Mentored undergraduate research trainees in the EHS PrIMER program.

Designed and co–led weekly professional development workshops for trainees.

Created, collected, and analyzed survey data to evaluate program outcomes.

**2019–2020 Graduate Teaching Assistant New York, NY**  
***Columbia Mailman School of Public Health, Environmental Health Sciences***

**Courses:** GIS & Environment, Health, and Justice

Developed course materials (i.e., quizzes, exams, and group projects) for the course.

Assisted with developing course syllabus and collaborated with instructor on course content.

Host teaching office hours to help students with content–related questions.

**2015–2017 Data Analyst New York, NY**  
***Mount Sinai Health System***

Conducted surveys for the Minority Outreach Recruitment Study to educate on breast and cervical cancer screening and preventive care.

Developed support activities to increase adherence to screening guidelines in the Harlem community.

Maintained and populated the study database with survey responses, including data entry and quality checks.

Taught seminars for the Esperanza y Vida breast and cervical cancer education program.

### TEACHING

**2024 *Co–Instructor*, Department of Environmental and Occupational Health, Drexel University**  
 EOH812: Environmental Exposure Sciences (Graduate)

**2023 *Teaching assistant*, Department of Environmental and Occupational Health, Drexel University.** EOH812: Environmental Exposure Sciences (Graduate)

**2020 *Teaching assistant*, Department of Environmental Health Sciences, Columbia University**  
 P8371: Public Health GIS (Graduate)

**2019 *Teaching assistant*, Department of Environmental Health Sciences, Columbia University**  
 PUBHG4200: Environment, Health, and Justice: concepts and practice (Undergraduate)

### GRANTS

**2023**      **PRCEEH Climate Change Pilot Grant** to evaluate the modifying effect of air pollution on asthma step-up treatment effectiveness among children in Philadelphia. Amount \$25,000

## **RESEARCH AND TRAINING AWARDS**

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**2025**      Hablemos Ciencia Postdoctoral Poster Award, 1<sup>st</sup> Place  
**2024**      Outstanding Dissertation Award, School of Public Health Finalist  
**2023**      ISEE Travel award  
**2023**      Global Engagement Funding Award ISEE Taiwan  
**2023**      Teck-Kah Lim Travel Subsidy Award. ISEE-NAC Corvallis, OR  
**2023**      Teck-Kah Lim Travel Subsidy Award SER Portland, OR  
**2022 – 2023**      NIMNHD 5T37MD014251-04: National Institute on Minority Health and Health Disparities (NIMHD) Minority Health and Health Disparities Research Training Program, through Global Alliance for Training in Health Equity Research grant 5T37MD014251 as a predoctoral fellow. (PI: Dr. Gina Lovasi)  
**2020**      Mailman School of Public Health EHS Student Award  
**2017 – 2018**      1-R25-ES025505-03 grant: "Program to Inspire Minority Undergraduates in Environmental Health Science Research" (PI: Dr. Ana Navas-Acien)

## **SERVICE**

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**2025 – present** ISEE: Co-liaison Membership Committee  
**2025 – present** ISPE: Co-chair Environmental Pharmacoepidemiology SIG  
**2025 – 2026**      ISEE NAC Conference Planning Committee Member  
**2025 – 2026**      Penn Postdoctoral Association: Co-chair Social Committee  
**2025 – 2026**      USTRIVE: College Applicant Advisor  
**2023 – 2024**      Curriculum & Assessment Committee (CAC): Doctoral Student Representative  
**2023 – 2024**      Public Health Doctoral Student Advisory Group (PHDSAG): President  
**2022 – 2023**      Public Health Doctoral Student Advisory Group (PHDSAG): Event Coordinator  
**2018 – 2020**      One Health Initiative: Treasurer  
**2018 – 2020**      Healthcare Data Analytics: Event Coordinator  
**2018 – 2020**      Columbia IPE Service-Learning Fellowship: Research Fellow  
**2018 – 2020**      EOH Climate and Health Journal Club: co-founder  
**2019 – 2020**      R.I.S.E. Program: Peer-Mentor

## **PROFESSIONAL ACTIVITIES**

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### **Editorial Duties**

**2025-present** Journal of Urban Health – Reviewer  
**2024-present** Journal of Asthma – Reviewer  
**2024-present** BMC Pulmonary Medicine – Reviewer  
**2024-present** Springer Nature – Reviewer  
**2023-present** Society for Epidemiologic Research – Abstract Reviewer  
**2023-present** Environmental Health Perspective – Reviewer

2021–present International Society for Environmental Epidemiology – Abstract Reviewer

### Media

1. **When the air we breathe feels unfriendly: how science can help us understand asthma.** *Your Neighborhood Scientist*, Embargoed until 6/6/2025

## PROFESSIONAL DEVELOPMENT

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### Training

2023–2024 Certificate in College Teaching, Drexel University

2023–2024 Molecular Epidemiology Certificate, Columbia University

2022–2023 Bayesian Analysis for Urban Health, Drexel Urban Health Institute

### Professional Organizations and Societies

2025 – present ISPE member

2021 – present SER member

2020 – present ISEE member

2017 – present National Society of Leadership and Success

### Skills

**Programming:** R, SAS, ArcGIS, R Shiny, ArcGIS Online

**Language:** Native Spanish, English, Basic French

**Research:** Literature review, project design, data science including regression analysis, spatial statistical methods, survey design, participant recruitment, qualitative interviewing

## PUBLICATIONS

### PEER–REVIEWED PUBLICATIONS

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1. **Gómez, L. F.**, Kimberly D. Lactaen, Patrick K. Gleeson, Alana Schreiber, Jason D. Christie, Andrea J. Apter, Rebecca A. Hubbard, Gary E. Weissman, Blanca E. Himes medRxiv 2025.09.19.25336168; doi: <https://doi.org/10.1101/2025.09.19.25336168>
2. **Gómez, L. F.**, Kinnee, E. J., Young, M. T., Kaufman, J. D., Fitzpatrick, A. M., Nyenhuis, S. M., Solway, J., White, S. R., Naureckas, E. T., Phipatanakul, W., et al. (2025). Asthma treatment response modified by fine particulate matter, nitrogen dioxide, and ozone among Black children: A reanalysis of the AsthmaNet Best African American Response to Asthma Drugs trial. *Journal of Allergy and Clinical Immunology*.
3. **Gomez LF**, Szeto JJ, Radack JK, Novick-Goldstein NP, Scott KA, Murosko DC, Gibbs KA, Whitman E, Levin JC, Lorch SA, DeMauro SB, Kenyon CC, Just AC, Burris HH, Nelin TD. "Associations of early life ambient PM<sub>2.5</sub> exposure with asthma risk in a cohort of preterm infants with bronchopulmonary dysplasia." *Pediatr Pulmonol* (2025). In Press.
4. **Gómez, L. F.**, Kinnee, E., Young, M. T., Kaufman, J. D., Fitzpatrick, A. M., Nyenhuis, S. M., Solway, J., White, S. R., Naureckas, E. T., Phipatanakul, W., et al. (2025). Asthma Treatment Response Modified by PM<sub>2.5</sub>, NO<sub>2</sub>, and O<sub>3</sub> Among African American Children: A Reanalysis of the AsthmaNet's BARD Trial. *The Journal of Allergy and Clinical Immunology*, S0091–6749.
5. **Gómez, L. F.**, Kinnee, E., Kaufman, J. D., Young, M. T., Fitzpatrick, A. M., Phipatanakul, W., Mauger, D. T., McClure, L. A., Bilal, U., Holguin, F., et al. (2024). Modification of asthma treatment efficacy by healthcare access: A reanalysis of AsthmaNet Step–Up Yellow Zone Inhaled Corticosteroids to Prevent Exacerbations (STICS) clinical trial. *Respiratory Medicine*, 234, 107853.

6. Navas–Acien, A., Domingo–Relloso, A., Subedi, P., Riffo–Campos, A. L., Xia, R., **Gómez, L.**, Haack, K., Goldsmith, J., Howard, B. V., Best, L. G., et al. (2021). Blood DNA methylation and incident coronary heart disease: Evidence from the Strong Heart Study. *JAMA Cardiology*, 6(11), 1237–1246.

### Manuscripts in preparation and/or under review

1. **Gómez, L. F.**, Lactaoen, K., Schreiber, A., Weissman, G. E., Himes, BE. Self-Report Versus Neighborhood-Level Measures in Models Estimating Asthma Emergency Visits
2. **Gómez, L. F.**, Lactaoen, K., Schreiber, A., Gleeson, P., Weissman, G. E. Comparative effectiveness of monoclonal antibody therapy for asthma: a target trial emulation
3. **Gómez, L. F.**, Kinnee, E., Kaufman, J. D., Holguin, F., Young, M. T., Clougherty, J. E. Associations between Criteria Air Pollutants and Asthma Symptoms by Eosinophilic Phenotype and Medication in a Randomized Control Trial.
4. **Gómez, L. F.**, DeRoos, A., Kenyon, C., Clougherty, J. E., Modifying effects of inhaled corticosteroids on associations between air pollutants and pediatric asthma in Philadelphia: a retrospective case-crossover analysis of electronic health records.
5. Weissman, GE., **Gómez, L. F.**, Vyas, A., Ortiz, AC., Schmid, BE., Bishop, NS., Admon, AJ., Hubbard, RA. Mortality benefit of rapid treatment in response to different sepsis triggers: Study protocol for a target trial emulation.

### Conference Papers & Abstracts

1. **Gómez, L. F.**, Lactaoen, K., Schreiber, A., Gleeson, P., Weissman, G. E. (2025). Comparative Effectiveness of Asthma Monoclonal Antibody Therapy in Adults: An EHR–based Propensity–Score–Matched Retrospective Cohort Study. *American Journal of Respiratory and Critical Care Medicine*, 211(Abstracts), A5558.
2. **Gómez, L. F.**, Kinnee, E., Holguin, F., Clougherty, J. E. (2023). Estimated Travel Time and Distance to Trial Site: Modifiers of Step–Up Treatment Efficacy in Black Adults with Poorly Controlled Asthma. *ISEE Conference Abstracts*, 2023(1).
3. **Gómez, L. F.**, Kinnee, E. J., Kaufman, J. D., Mauger, D. T., Holguin, F., Clougherty, J. E. (2022). PM<sub>2.5</sub> and NO<sub>2</sub> as Potential Modifiers of Clinical Trial Results on Asthma Exacerbation and Control. *ISEE Conference Abstracts*, 2022(1).
4. **Gómez, L. F.**, Kinnee, E., Kaufman, J. D., Holguin, F., Young, M. T., Clougherty, J. E. (2021). Modification of Asthma Clinical Trial Treatment Efficacy by Social and Environmental Exposures. *ISEE Conference Abstracts*, 2021(1).
5. Domingo–Relloso, A., Tellez–Plaza, M., Bozack, A., **Gómez, L.**, Herreros, M., Devereux, R., Baccarelli, A., Umans, J., Howard, B., Zhao, J., et al. (2020). Common DNA methylation signatures of arsenic exposure and incident cardiovascular disease in the Strong Heart Study. *ISEE Conference Abstracts*, 2020(1).
6. Navas–Acien, A., Domingo–Relloso, A., Tellez–Plaza, M., **Gómez, L.**, Herreros, M., Devereux, R. B., Baccarelli, A., Umans, J. G., Howard, B., Zhao, J., et al. (2020). Abstract MP31: Blood DNA Methylation Signatures of Incident Coronary Heart Disease: An Epigenome–wide Analysis in the Strong Heart Study. *Circulation*, 141(Suppl\_1), AMP31.