Mary Denise Schiff, MPH

Epidemiology Data Center, Suite 500, Pittsburgh, PA 15213

mds159@pitt.edu | https://orcid.org/0000-0002-7702-6677

PROFILE

- **Doctoral Candidate in Epidemiology** at the University of Pittsburgh Graduate School of Public Health
- **Predoctoral Trainee in Cardiovascular Epidemiology** (NHLBI T32 HL083825-13)
- **Investigator-in-Training** for *the Study of Women's Health Across the Nation (SWAN)*

My area of interest and current work integrates *social*, *spatial*, and *causal inference* methods to answer questions regarding the role of changing neighborhood conditions on cardiovascular risk progression across the female life course.

SKILLS & COMPETENCIES

- Conceptual modeling and statistical inference procedures
- Multivariable model building
- Interaction and confounding assessment
- Multilevel & longitudinal mixed effects modeling
- Latent class and growth mixture modeling
- Causal inference procedures and G-Methods
- Machine learning and predictive modeling methods
- Geospatial mapping and spatial regression procedures
- Statistical programming and data analysis
  - High proficiency: SAS, R, ArcGIS, QGIS, Geoda
  - Intermediate proficiency: Javascript, MPlus, Stata, HLM, Google Earth Engine
  - Basic proficiency: Python, SQL, C++
- Data collection, entry, and management
- Large database utilization
- Secondary data harmonization
- Query construction and database integration
- Data scraping and data mining techniques
- Project management and multi-site coordination
- Grant writing and proposal review
- Manuscript drafting, revision, and submission

EDUCATION

Doctor of Philosophy (Epidemiology)   **August 2017 – Present**
University of Pittsburgh, *Pittsburgh, Pennsylvania*   Cumulative GPA: 4.00
Graduate School of Public Health
> *Dissertation Title: Longitudinal Exposure to Neighborhood Structural Disadvantage and Midlife Markers of Cardiovascular Health in Women: The Study of Women's Health Across the Nation*

Master of Public Health (Epidemiology)   **August 2015 – May 2017**
University of Illinois at Chicago, *Chicago, Illinois*   Cumulative GPA: 4.00
School of Public Health   Pharmacoepidemiology Certificate

Bachelor of Science in Public Health   **September 2011 – May 2015**
The Ohio State University, *Columbus, Ohio*   Major GPA: 3.89 (Cum: 3.84)
College of Public Health   *Summa Cum Laude*
Sociology Specialization

PROFESSIONAL EXPERIENCE

Pre-Doctoral Trainee in Cardiovascular Epidemiology   **May 2019 – Present**
Director, PI: Akira Sekikawa, MD, PhD, MPH (NHLBI T32 HL083825-13)
University of Pittsburgh, Department of Epidemiology, *Pittsburgh, Pennsylvania*

- This award has provided me with nearly three years of funding to date to support my work and to advance my understanding in cardiovascular disease epidemiology
  - As a result of this funding, I was able to enroll in classes, to participate in (and later coordinate for) weekly CVD Epi journal clubs, to attend workshops and seminars as well as complete a remote training experience – all of which significantly furthered my professional development and benefited my analytical skillset as a cardiovascular epi researcher

- In addition to supporting my education, professional development, and dissertation work, this award also allowed me to pursue an additional independent research project – involving large scale data collection of neighborhood level indictors of socioeconomic advantage from public-use and secondary data sources using web-scraping techniques and formal programming queries
  - o Compiled and harmonized these data into a single database, which contained several indicators of residential sociodemographic and housing characteristics at the census tract and block group spatial units
  - o Generated measures of residential racial and economic segregation at the neighborhood-level using local spatial statistics - available for merging into existing cohorts at the individual-level
- Gained invaluable experience with secondary data utilization, large database creation, data harmonization, big data management, data analysis, as well as abstract submission, manuscript drafting, revision, and manuscript submission in a first author capacity

Investigator-in-Training, *The Study of Women's Health Across the Nation*   **May 2019 – Present**
Mentors: Emma Barinas-Mitchell, PhD (primary mentor) & Maria Brooks, PhD (Data Coordinating Center PI)
University of Pittsburgh, **Epidemiology Data Center (SWAN Coordinating Center)**, *Pittsburgh, Pennsylvania*
- Submitted *New Study* proposal to conduct dissertation research using data from the *Study of Women's Health Across the Nation* (SWAN) – which was approved
  - o To investigate how longitudinal exposure to adverse neighborhood socioeconomic conditions impacts cardiovascular health progression across midlife among an ethnically and geographically diverse cohort of women transitioning through menopause
- Developed census tract-level measures of neighborhood socioeconomic deprivation and residential segregation – which will be integrated into the existing SWAN cohort upon dissertation completion in the form of an ancillary dataset for use by future interested SWAN investigators
- Presented analytic methodology and research findings at regular SWAN Data Coordinating Center Analyst meetings

Graduate Student Researcher in Social Epidemiology   **August 2017 – May 2019**
Supervisors: Anthony Fabio, PhD (primary advisor), Dara Mendez, PhD, & Tiffany Gary-Webb, PhD
University of Pittsburgh, **Epidemiology Data Center**, *Pittsburgh, Pennsylvania*
- Worked on three primary research projects alongside a multi-disciplinary team of health equity and social epidemiology researchers in varying capacities

Project #1: *Evaluating the effectiveness of neighborhood-level mobile market intervention to improve dietary intake among individuals residing in food deserts*
- Developed spatial methods to identify residential food deserts amenable for intervention in Allegheny County
- Evaluated the impact of a *Green Grocer* mobile food market intervention on dietary intake among local community members
- *Primarily responsible for*: data analysis, results communication, & manuscript drafting, revision, and publication

Project #2: *Using web-scraping techniques and consumer-level database queries to describe national trends in apparent household beer and alcohol consumption over the course of a decade*
- Compiled, processed, and analyzed 11 years' worth of consumer purchasing data made by households in the massive *Nielsen Consumer Panel* marketing database
- Combined information on beverage alcohol content, obtained from web-scraping public-use internet sources, to products purchased in consumer panel data
- Described national trends in apparent beer and standard drink consumption among US households over the decade
- *Primarily responsible for*: large database utilization, secondary data integration, data harmonization, big data management, data analysis, & manuscript drafting, revision, and submission as first author

Project #3: *Determining the impact of neighborhood mortgage discrimination on adverse maternal and child health outcomes among child-bearing women*
- Compiled and harmonized 18 years' worth of public-use data from the *Home Mortgage and Disclosure Act (HMDA)* database

- Developed measures of residential mortgage discrimination using HMDA data and multilevel modeling techniques
- Linked neighborhood-level measures to birth record data by the birth mother's census tract number and delivery year
- Evaluated the impact of neighborhood mortgage discrimination on adverse maternal and child health outcomes in Pennsylvanian women
- *Primarily responsible for*: secondary data utilization, large database creation, data harmonization, big data management, data analysis, & manuscript drafting and revision

Additional experience with grant writing and multi-site coordination for a resource-focused proposal to generate a public-use database of neighborhood sociodemographic indicators for interested investigators
- Provided administrative and research support for NIH R24 grant submission by drafting and revising grant proposal, coordinating and collecting deliverables from participating sites, compiling and analyzing preliminary data, and creating geospatial maps highlighting neighborhoods with greatest socioeconomic deprivation in site catchment areas (derived using principal components and factor analyses of neighborhood socioeconomic indicators)

Graduate Research Assistant   **May 2016 – January 2017**
PI: Todd Lee, PhD
University of Illinois at Chicago, **Dept of Pharmacy Systems, Outcomes, and Policy**, *Chicago, Illinois*
- Worked alongside PI and interdisciplinary team of researchers on a CDC *Prevention for States*-funded research project examining opioid use and mortality in the state of Illinois
- Developed evaluation measures and analyzed data from the IL Prescription Drug Monitoring Program (PDMP)
- Identified county, regional, and state-specific trends in opioid misuse, generated geospatial county rate maps, and interpreted findings graphically, spatially, and verbally in a final agency report

Undergraduate Research Assistant   **August 2014 – July 2015**
PI: Megan Roberts, PhD
The Ohio State University, **College of Public Health**, *Columbus, Ohio*
- Provided support with cross-cultural research study (through the Universität Bonn, Germany) examining the relationship between smoking cessation and spousal social support via survey distribution and data collection

Public Health-Pharmacy Intern   **May 2014 – August 2014**
Preceptor: Lauren Jonkman, PharmD, MPH
Birmingham Clinic (UPMC), *Pittsburgh, Pennsylvania*
- Compiled smoking cessation resources and PMAP record information to increase smoking cessation program adherence among patients, managed and organized pharmaceutical stock, and analyzed patient treatment regimens

Undergraduate Research Assistant   **January 2014**
Graduate Researcher: Ally Heydinger, PhD
The Ohio State University, **College of Public Health**, *Columbus, Ohio*
- Assisted with research examining the availability of nutritional options on campus after implementation of Ohio State's "Healthier Snacking Policy" via survey distribution and data collection

TEACHING EXPERIENCE

Graduate Teaching Assistant   **August 2021 – December 2021**
EPIDEM 2152: Workshop in Cardiovascular Disease Epidemiology
Course Instructor: Emma Barinas-Mitchell, PhD
University of Pittsburgh, **Department of Epidemiology**, *Pittsburgh, Pennsylvania*

Graduate Teaching Assistant   **January 2021 – May 2021**
EPIDEM 2150: Cardiovascular Disease Epidemiology
Course Instructor: Akira Sekikawa, MD, PhD
University of Pittsburgh, **Department of Epidemiology**, *Pittsburgh, Pennsylvania*

Mary Denise Schiff, MPH
Epidemiology Data Center, Suite 500, Pittsburgh, PA 15213
mds159@pitt.edu | https://orcid.org/0000-0002-7702-6677

Graduate Teaching Assistant   **August 2018 – December 2018**
EPIDEM 2260: Epidemiologic Basis of Disease Control
Course Instructors: Evelyn Talbott, DrPH and Thomas Songer, PhD
University of Pittsburgh, **Department of Epidemiology**, *Pittsburgh, Pennsylvania*

Graduate Teaching Assistant   **August 2018 – December 2018**
EPIDEM 2143: Social Epidemiology
Course Instructors: Anthony Fabio, PhD and Dara Mendez, PhD
University of Pittsburgh, **Department of Epidemiology**, *Pittsburgh, Pennsylvania*

Graduate Teaching Assistant   **January 2017 – May 2017**
EPID 404: Intermediate Epidemiologic Methods
Course Instructor: Kristin Rankin, PhD
University of Illinois at Chicago, **Epidemiology and Biostatistics Division**, *Chicago, Illinois*

PUBLICATIONS

Mendez DD, Fabio A, Robinson T, Bear TM, Keenan E, **Schiff MD**, Gary-Webb TL. "Green Grocer: Using Spatial Analysis to Identify Locations for a Mobile Food Market". *Progress in Community Health Partnerships: Research, Education, and Action.* 2020;14(1):109-115. doi:10.1353/cpr.2020.0013. PMID: 32280128.

Quinn TD, Wu F, Mody D, Bushover B, Mendez DD, **Schiff M**, Fabio A. "Associations Between Neighborhood Social Cohesion and Physical Activity in the United States, National Health Interview Survey, 2017". *Preventing Chronic Disease.* 2019 Dec 19;16:E163. doi:10.5888/pcd16.190085. PMID: 31858956; PMCID: PMC6936668.

Gary-Webb TL, Bear TM, Mendez DD, **Schiff MD**, Keenan E, Fabio A. "Evaluation of a Mobile Farmer's Market Aimed at Increasing Fruit and Vegetable Consumption in Food Deserts: A Pilot Study to Determine Evaluation Feasibility". *Health Equity.* 2018 Dec 18;2(1):375-383. doi:10.1089/heq.2018.0003. PMID: 30582097; PMCID: PMC6301430.

Schiff MD, Mendez DD, Gary-Webb TL, Inman JJ, Fabio A. "A Decade of Drinking: Temporal Trends in Apparent Household Beer Intake and Standard Drink Consumption in the United States". *Substance Use & Misuse.* 2021;56(9):1363-1373. doi: 10.1080/10826084.2021.1928208. Epub 2021 Jun 4. PMID: 34085586.

PRESENTATIONS

Schiff MD. "The Google Earth Engine: A Primer With Applications to Public Health Research". Presented orally as featured guest lecturer in the *Cardiovascular Disease Epidemiology Workshop (Epidemiologic Methods Module)*, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, December 10, 2021.

Schiff MD, Fabio A, Gary-Webb TL, Mendez DD. "The Differential Impact of Residential Segregation on Gestational Hypertension Development among Minority Women". Presented poster and orally at the *American Heart Association Epi|Lifestyle 2021 Conference*, Chicago, IL, May 2021.
    (1) *Social Determinants of Health Poster Session* (May 20-21, 2021)
    (2) *NHLBI T-32 Trainee Oral Presentation Session* (May 20, 2021)

Schiff MD, Fabio A, Gary-Webb TL, Mendez DD. "The Differential Impact of Residential Segregation on Gestational Hypertension Development among Minority Women". Presented at two local poster competitions, University of Pittsburgh, Pittsburgh, PA, March-April 2021.
    (1) *Health Disparities and Social Justice Poster Competition* (March 25, 2021)
    (2) *Dean's Day Poster Competition* (April 6, 2021)

Mary Denise Schiff, MPH
Epidemiology Data Center, Suite 500, Pittsburgh, PA 15213
mds159@pitt.edu | https://orcid.org/0000-0002-7702-6677

Schiff MD. "Constructing Measures of Environmental Exposures Using Public-Use Data: An Application to Maternal and Child Health". Invited guest lecturer for *Secondary Data Analysis Course (Causal Inference Module: Health Disparities Research with Secondary Data)*, University of North Carolina at Chapel Hill, Chapel Hill, NC, September 9, 2020. *[course postponed]*

Schiff MD. "Neighborhood Structural Disadvantage and Cardiometabolic Risk Among Women Across the Life Course". Presented orally as guest lecturer in the *Epidemiology Seminar Lecture Series (Cardiovascular Epidemiology Session)*, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, September 3, 2020.

Napoleone J, **Schiff MD**, Miragaia AS. "Socioeconomic and Geographic Disparities in Unmet Mental Health Care Needs Among US Adults 18+, National Survey on Drug Use and Health (2002-2016)". Poster presented at *Dean's Day Competition*, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, April 3-5, 2019.

HONORS & AWARDS

NHLBI T-32 Cardiovascular Epidemiology Training Program (2019-present), University of Pittsburgh, Graduate School of Public Health, Department of Epidemiology, *Pittsburgh, Pennsylvania*

Epidemiology Departmental Doctoral Award ($100) – Dean's Day Poster Competition (April 2021), University of Pittsburgh, Graduate School of Public Health, *Pittsburgh, Pennsylvania*

First Place Doctoral Award ($100) – Health Disparities Poster Competition (March 2021), University of Pittsburgh, *Pittsburgh, Pennsylvania*

NHLBI T-32 Trainee Session Oral Presenter – AHA Epi|Lifestyle (May 2021), the *American Heart Association Epi|Lifestyle 2021 Conference*

Paul Levy Award (2017), University of Illinois at Chicago, School of Public Health, Epidemiology and Biostatistics Division, *Chicago, Illinois*

Dean's List (2011-2015), The Ohio State University, College of Public Health, *Columbus, Ohio*

National Buckeye Scholar (2011-2015), The Ohio State University, *Columbus, Ohio*

Provost Scholar (2011-2015), The Ohio State University, *Columbus, Ohio*

SERVICE & PROFESSIONAL DEVELOPMENT

Invited Journal Reviewer, *Health Equity* (year)

Cardiovascular Epidemiology Journal Club Coordinator, University of Pittsburgh (November 2019 – August 2020)