Chelsea Obrochta, PhD, MPH

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AREAS OF EXPERTISE

Cancer epidemiology; health disparities; rare disease epidemiology; prenatal epidemiology; geospatial epidemiology; integrative data analysis; electronic health records for research; epidemiologic methods (descriptive epidemiology, epidemiologic study design, confounding, selection and information biases, epidemiologic data analysis and applied regression modeling); causal inference theory and methods (potential outcomes framework, sufficient component causes framework, directed acyclic graphs, causal mediation analysis, propensity scores, G-methods); methods for missing data (multiple imputation, quantitative bias analysis); Monte Carlo simulation studies

EDUCATION

2021	**Doctor of Philosophy (PhD) in Epidemiology**
	University of California San Diego School of Medicine
2017	**Master of Public Health (MPH) in Epidemiology**
	San Diego State University School of Public Health
2015	**Bachelor of Science (BS) in Statistics**
	California Polytechnic State University San Luis Obispo

ACADEMIC APPOINTMENTS

2022 – present	**Epidemiology (Lecturer)**
	San Diego State University
2019 – 2021	**Tobacco Related-Disease Research Program Predoctoral Fellow**
	University of California Office of the President
2017 – 2019	**University Graduate Fellow, Epidemiology**
	San Diego State University Research Foundation
2018	**Epidemiology Methods (Teaching Assistant)**
	San Diego State University
2017	**Epidemiology of Communicable and Chronic Disease (Teaching Assistant)**
	San Diego State University

PROFESSIONAL CAREER

2021 – present	**Senior Manager, Epidemiology**, Alexion Pharmaceuticals, Inc.
	• High-level strategic and scientific role that involves developing, coordinating, and executing cutting-edge, effective, and impactful epidemiologic research for support of rare disease epidemiology at a global level.

- Accountability for epidemiology deliverables, including written reports and oral presentations, which characterize the incidence, prevalence, natural history, phenotype/genotype associations, and estimated population size of diseases.
- Represent the Epidemiology department in cross-functional teams, and work closely with Business Development, Corporate Strategy, Commercial, and Clinical Development team members.

2019 – 2021   **Biostatistician and Epidemiologist**, Progenity, Inc.
- Conduct literature reviews to identify and apply published information to research protocols.
- Determine which articles are most relevant to the project's objectives and those which provide evidence for its approach or methodology.
- Conduct systematic reviews and meta-analyses of published articles for internal use or scientific manuscripts.
- Explain the disease burden in the population and any unmet needs. Execute research on the disease burden and any unmet needs using literature, registries, government survey data, claims, chart reviews, and other resources.
- Identify the target populations for products
- Ensure FDA Study Data Standards are achieved
- Ensure the ICH E9 Statistical Principles for Clinical Trials are applied
- Contribute to research strategy within the product teams
- Contribute to the design, implement, and manage outcomes research projects.
- Determine the appropriateness of proposed study designs for clinical studies.
- Conduct sample size/power calculations for study protocols.
- Develop the statistical analysis plan for study protocols.
- Review case report forms to determine that variables of interest are collected and appropriately measured to accomplish the objectives describes in study protocols.
- Collaborate with the data management team to ensure accurate and high-quality data.
- Collaborate with data science team to align analytic approaches to meet study objectives.
- Communicate data availability and quality to internal stakeholders, including sociodemographic characteristics of the study population to ensure the participants are representative of the target study population.
- Select, blind, and randomize samples for use in verifications and validations.
- Adjudicate verification and validation test results.
- Prepare clinical reports summarizing data, analyses, and results for internal and external stakeholders.
- Create tables and figures, conduct statistical analyses, and interpret results for abstracts, posters, presentations, and manuscripts for peer-reviewed medical journals.
- Prepare and present abstracts, posters, and presentations for conferences, and prepare manuscripts for peer-reviewed medical journals.

2016 – 2019	**Data Manager**, Progenity, Inc.

- Oversight of all data management aspects for each clinical study, including study start-up, enrollment, follow-up, and study closure activities.
- Oversee all data management activities leading to the final delivery of a clean clinical database for the purpose of clinical study reports and publication.
- Develop vision and growth plan for data management function and capabilities, including Clinical Trial Management System (CTMS), Electronic Database Capturing (EDC), and other clinical system strategies.
- Ensure data management activities are aligned with business objectives and in compliance with FDA, GCP, and ICH requirements.
- Author and review applicable data management related documents including protocols, case report forms, data management plans, data transfer specification, coding standards, line listing review plans, data verification and validation plans, clinical study reports, and any other related documents.
- Author and review of statistical analysis plans.
- Author and maintain clinical data management SOPs.
- Serve as lead data manager on all clinical studies and provide guidance to clinical study team and bioinformatics team as applicable.
- Database designing, database validation, query resolution, and closing and locking of database.
- Lead company transition to EDC and CTMS platform.
- Produce clinical trial data summary tables and listing tables using SAS.
- Oversee CRO activities to ensure timely management and resolution data queries.
- Oversee and coordinate transfer of clinical data between all vendors in a clinical study.
- Lead and/or participate in project team meetings and conference calls to review progress of ongoing clinical trials, including key performance indicators and quality metrics.
- Adjudicate all bio specimen samples for final clinical diagnosis (ex. Aneuploidies, microdeletions, single gene disorders, preeclampsia etc.)

2016 – 2017	**Clinical Research Coordinator**, UCSD Moores Cancer Center and Altman Clinical and Translational Research Institute

- Complete cancer-related epidemiological research projects
- Assist with maintaining data in cancer clinical trials through the Clinical Trials Office
- Contribute to ongoing studies and publications
- Conduct statistical analyses for research and papers prepared through UCSD School of Medicine

2015 – 2016	**Clinical Trials Intern**, Progenity, Inc.

- Review and help develop protocols, informed consent forms, case report forms, laboratory requisition forms, and all regulatory binder documents
- Distribute required supplies to all participating investigators
- Review billing accuracy and process payments to all investigators for subject enrollment and samples

2015	**Statistical Consultant**, California Polytechnic State University San Luis Obispo

- Convene with client(s) to determine objectives
- Follow-up with client(s) to discuss the work completed by my team
- Act as consultant on various projects including but not limited to, designing experiments, analyzing data, interpreting data, and preparing deliverables for professional use

HONORS AND AWARDS

2021	**Cancer Health Disparities Special Interest Group Poster Award**
	American Society of Preventive Oncology
2019	**Scholar-in-Training Award for Cancer Health Disparities**
	American Association for Cancer Research
2018 – 2019	**John O. and Mary L. Anderson Memorial Endowed Scholarship**
	San Diego State University
2018	**American Public Health Association Student Stipend**
	San Diego State University
2018	**Graduate Student Affairs Travel Grant**
	University of California, San Diego
2018	**Best Poster**
	Society of Epidemiologic Research Meeting 2018
2018	**Early Career Cancer Health Disparities Research Scholarship**
	GMaP Region 3, UNM Comprehensive Cancer Center
2017	**American Public Health Association Student Stipend**
	San Diego State University
2017	**1st Place and Best Teamwork**
	Big Data Hackathon San Diego

OTHER PROFESSIONAL ACTIVITIES

2017 – 2021	SDSU/UCSD Cancer Partnership Scholars Program Mentor
2016 – 2017	San Diego State University School of Public Health in Epidemiology Mentor

PUBLICATIONS

Journal Articles

1. **Obrochta CA**, Murphy JD, Tsou MH, Thompson CA (2021). Disentangling Racial, Ethnic and Socioeconomic Disparities in Treatment for Colorectal Cancer. Cancer Epidemiology, Biomarkers & Prevention. 2021 Jun 9. DOI: 10.1158/1055-9965.EPI-20-1728.
2. Hill L, Baird S, Torres Katy, **Obrochta C**, Jain P (2021). A Survey of Distracted Driving and Electronic Use Among App-Based and Taxi Drivers. Traffic Injury Prevention. DOI: 10.1080/15389588.2021.1935905
3. **Obrochta CA**, Chambers T, Bandoli G (2020). Psychological distress in pregnancy and postpartum. Women and Birth. Nov;33(6):583-591. DOI: 10.1016/j.wombi.2020.01.009

Abstracts

1. **Obrochta CA,** Nara A, Murphy J, Thompson CA (2020). Sociodemographic and geographic disparities in treatment for early-stage non-small cell lung cancer (NSCLC) patients in California. Cancer Epidemiology Biomarkers and Prevention. Jun; 29(6 Suppl_2):D077.
2. **Obrochta CA**, Murphy JD, Nara A, Thompson CA (2019). Disparities in receipt of guideline-concordant treatment for early stage non-small cell lung cancer patients in California. Journal of Clinical Oncology. Sep;37(27_Suppl):160.

PAPERS UNDER REVISION, UNDER REVIEW, OR IN PREPARATION

1. **Obrochta CA**, Thompson CA. Neighborhood Disparities in Timeliness of Treatment for Early Stage Lung Cancer Patients. *In preparation.*
2. **Obrochta CA**, Thompson CA. Travel Time to Treatment Facilities and Racial/Ethnic and Sociodemographic Disparities in Treatment for Early Stage Non-Small Cell Lung Cancer (NSCLC) Patients in California. *In preparation.*

CONFERENCE ACTIVITY / PARTICIPATION

Oral

1. Offor P, **Obrochta CA**, Schumacher B, Thompson CA (2021). Evidence of Stage Shift in US Lung Cancer Diagnosis, 2009-2016. Society of Epidemiologic Research.
2. **Obrochta CA,** Chambers T, Bandoli G (2019). Psychological distress in pregnancy and postpartum. Epidemiology Research Exchange: Describing, Decomposing and Understanding the Causes of Health Disparities. San Diego, CA.
3. **Obrochta CA,** Thompson CA (2017). Addressing Missingness in the California Cancer Registry in the Form of Incomplete Dates." Society for Epidemiologic Research Digital Conference.
4. **Obrochta CA,** Murphy J, Tsou MH, Thompson CA (2017). Ethnic and geographic disparities in the receipt of guideline concordant treatment in colorectal cancer patients. Epidemiology Research Exchange: Emerging Public Health Issues in Vulnerable Population. San Diego, CA.
5. **Obrochta CA,** Murphy J, Thompson CA (2017). Ethnic and geographic inequities in the receipt of guideline concordant treatment in colorectal cancer patients. Graduate School of Public Health Research Symposium. San Diego, CA.

Poster

1. **Obrochta CA**, Nara A, Murphy J, Thompson C (2021). Travel Time to Treatment Facilities and Socioeconomic Disparities in Treatment for Early Stage Lung Cancer in California. Society of Epidemiologic Research.
2. Paglia M, Cooper M, Oberoi P, Mazloom A, **Obrochta CA**, Singh S, Stiegler P, Wapner R, Rosen T, Saffer C, McIlveen P, Schwartz D, Bombard A (2021). Performance of a novel multi-biomarker rule out preeclampsia test in a prospective verification study. American College of Obstetricians and Gynecologists Annual Clinical and Scientific Meeting.
3. Offor P, **Obrochta CA**, Schumacher B, Thompson CA (2021). Evidence of Stage Shift in US Lung Cancer Diagnosis, 2009-2016. American Society of Preventative Oncology.
4. *Obrochta CA*, Gibbons J, Thompson CA (2020). Neighborhood Disparities in Timeliness of Treatment for Early Stage Lung Cancer Patients. The American Association for Cancer Research's Science of Cancer Health Disparities Virtual Conference.

5. Offor P, **Obrochta CA**, Schumacher B, Thompson CA (2020). Trends in stage at diagnosis for lung cancer in the U.S., 2009-2016. The American Association for Cancer Research's Science of Cancer Health Disparities Virtual Conference.
6. **Obrochta CA**, Murphy J, Nara A, Thompson CA (2020). Proximity to Healthcare Facilities and Racial/Ethnic Disparities in Timeliness of Treatment for Lung Cancer Patients. The International Conference on Health Policy Statistics. San Diego, CA
7. **Obrochta CA**, Murphy J, Nara A, Thompson CA (2019). Sociodemographic and Geographic Disparities in Treatment for Early Stage Non-Small Cell Lung Cancer (NSCLC) Patients in California. The 12th American Association on Cancer Research Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. San Francisco, CA
8. Offor P, **Obrochta CA**, Schumacher B, Thompson CA (2019). Investigating Racial Differences in Stage Shift for Lung Cancer After the Introduction of Screening Guidelines. The Southern California Conferences for Undergraduates.
9. **Obrochta CA**, Murphy J, Nara A, Thompson CA (2019). Disparities in Receipt of Guideline Concordant Treatment for Early Stage Non-Small Cell Lung Cancer (NSCLC) Patients in California. The American Society of Clinical Oncology Quality of Care Symposium. San Diego, CA
10. **Obrochta CA**, Murphy J, Thompson CA (2018). Ethnic disparities in the receipt of guideline concordant treatment in colorectal cancer patients, with causal mediation analysis. The American Public Health Association Conference 2018. San Diego, CA

11. **Obrochta CA**, Murphy J, Thompson CA (2017). Ethnic disparities in the receipt of guideline concordant treatment in colorectal cancer patients, with causal mediation analysis. The Society of Epidemiologic Research (SER) Meeting 2018. Baltimore, MD
12. **Obrochta CA**, Murphy J, Thompson CA (2017). Ethnic and geographic disparities in the receipt of guideline concordant treatment in colorectal cancer patients. SDSU/UCSD Cancer Partnership's 2017 Program Steering Committee Meeting. San Diego, CA
13. Ilango S, Torres K, Doshi V, **Obrochta CA**, Tsou MH, Nara A, Gibbons J, Han S, Gomez S, Thompson CA (2017). A systematic review of research utilizing geospatial analytic approaches to describe and understand the burden of screening-detectable cancers in the United States. SDSU/UCSD Cancer Partnership's 2017 Program Steering Committee Meeting. San Diego, CA
14. Ilango S, Torres K, Doshi V, **Obrochta C**, Tsou MH, Nara A, Gibbons J, Han S, Gomez S, Thompson CA (2016). A systematic review of research utilizing geospatial analytic approaches to describe and understand the burden of screening-detectable cancers in the United States. The National Cancer Institute Conference on Geospatial Approaches to Cancer Control and Population Sciences. Bethesda, MD.