

# Corinne Aileen Riddell, MSc PhD

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🌐 [corinne-riddell.github.io/](https://corinne-riddell.github.io/)  
📁 code repository: [corinne-riddell](https://github.com/corinne-riddell)

## Current Positions

### Assistant Adjunct Professor

Divisions of Biostatistics and Epidemiology  
School of Public Health  
University of California, Berkeley  
2121 Berkeley Way West, Room 5404  
Berkeley, California, 94720  
United States

### Adjunct Professor

Division of Allergy, Pulmonary and Critical Care Medicine  
Department of Medicine  
Vanderbilt University School of Medicine  
Nashville, Tennessee  
United States

## Previous Position

### Postdoctoral Researcher

Department of Epidemiology, Biostatistics, and Occupational Health  
McGill University  
1020 Pine Avenue West, Purvis Hall  
Montréal, Quebec H3A 1A2  
Canada

**Area:** Inequalities in health between Black and White Americans

**Supervisor:** Dr. Jay Kaufman

## Education

- 2011 - 2016    **PhD, Epidemiology**, McGill University  
**Thesis:** Hospital variation and cesarean delivery: studies of contemporary practice patterns in Canada and the United States  
**Joint supervision:** Dr. Jay Kaufman and Dr. Jennifer Hutcheon
- 2009 - 2011    **MSc Statistics, Biostatistics Option**, University of British Columbia  
**Thesis:** An adaptive clinical trial design for a sensitive subgroup examined in the multiple sclerosis context  
**Joint supervision:** Dr. John Petkau and Dr. Yinshan Zhao  
Winner of the Marshall Prize for achieving great distinction in statistics
- 2004 - 2009    **BMath, Honours Statistics**, Co-operative Program, University of Waterloo  
Graduated with Distinction
- 2004 - 2009    **BBA, Honours Business Administration**, Wilfrid Laurier University

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## Honours & Awards

### Research Fellowships

- 2013 - 2015 Canadian Institutes of Health Research (CIHR) Doctoral Research Award \$70,000  
2013 Health Disparities: Inter-generational Dynamics and Empirical Assessment Strategies Studentship Award \$6000  
2011 McGill University Doctoral Fellowship \$6823  
2011 Natural Sciences and Engineering Research Council (NSERC) Doctoral Research Award \$35,000

### Merit-Based Awards

- 2016 RStudio Conference Diversity Award (RStudio) \$1100  
2015 Centre on Population Dynamics Student Travel Award (McGill) \$200  
2013 Graduate Research Enhancement and Travel Award (McGill) \$500  
2011 Killam Graduate Teaching Assistant Award (UBC) \$1000  
2011 Statistics Department Graduate Teaching Assistant Award (UBC) \$500  
2011 Statistics Department Marshall Prize Winner (UBC) \$500  
2010/11 European Committee for Treatment and Research in Multiple Sclerosis Travel Grants €1600

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## Publications

### Peer-Reviewed Journal Articles

30. Potter AL, Haridas C, Neumann K, Kiang MV, Fong ZV, **Riddell CA**, Pope HG, Yang CF. The Incidence, Risk, and Predictors of Suicide Among Patients Undergoing Surgery for Cancer in the U.S. *JAMA Oncology*. 2023. Published online ahead of print.
29. **Riddell CA**, Goin DE. Guide for comparing estimators of policy change effects on health [Letter to the Editor]. *Epidemiology*. 2023. Published online ahead of print.
28. Neumann K, Mason SM, Farkas K, Santaularia J, Ahern J, **Riddell CA\***. Harnessing Google Health Trends API Data for Epidemiologic Research. *American Journal of Epidemiology*. 2022. doi: 10.1093/aje/kwac171.
27. **Riddell CA**, Farkas K, Neumann K, Santaularia J, Ahern J, Mason SM. US shelter in place policies and child abuse Google search volume during the COVID-19 pandemic. *Preventive Medicine*. 2022; 163:107215. doi: 10.1016/j.ypmed.2022.107215.
26. **Riddell CA**, Neumann K, Santaularia J, Farkas K, Ahern J, Mason SM. Excess Google Searches for Child Abuse and Intimate Partner Violence During the Covid-19 Pandemic: An Infoveillance Approach. *Journal of Medical Internet Research*. 2022; 24(6):e36445. doi:10.2196/36445.
25. Michaels EK, Board C, Mujahid MS, **Riddell CA**, Chae DH, Johnson RC, Allen AM. Area-level Racial Prejudice and Health: a Systematic Review. *Health Psychology*. doi:10.1037/hea0001141.
24. **Riddell CA**, Goin DE, Morello-Frosch R, Apte JS, Glymour MM, Torres JM, Casey JA. Hyper-localized measures of air pollution and risk of preterm birth in Oakland and San Jose, California. *International Journal of Epidemiology*. 2021; 50(6): 1875-1885. doi:10.1093/ije/dyab097.
23. Hutcheon JA, **Riddell CA**, Himes KP. A new approach for classifying fetal growth restriction. *Epidemiology*. 2021; 32(6), 860-867. doi:10.1097/EDE.0000000000001399.
22. Goin DE, Sudat S, **Riddell CA**, Morello-Frosch R, Apte JS, Glymour MM, Casey JA. Hyper-localized air pollution and preeclampsia in Oakland, California. *Environmental Science & Technology*. 2021; 55(21), 14710-14719. doi: 10.1021/acs.est.1c02151.
21. Driscoll AJ, Ortiz JR, Hartert TV, **Riddell CA\***. Re-calibrating public health expectations of RSV illness prevention on

chronic respiratory disease [Letter to the Editor]. *Vaccine*. 39(37):5257-5258. doi: 10.1016/j.vaccine.2021.07.074.

20. Harper S, **Riddell CA**, King NB. Declining Life Expectancy in the United States: Missing the Trees for the Forest. Invited Submission at *Annual Reviews of Public Health*. 2021; 42:16.1-16.23.

19. Eisen EA, Chen KT, Elser HC, Picciotto S, **Riddell CA**, Combs MA, Dufault SM, Goldman-Mellor S, Cohen J. Suicide, overdose, and worker exit in a cohort of Michigan autoworkers. *Journal of Epidemiology and Community Health*. 2020; 74:907-912. doi:10.1136/jech-2020-214117.

18. **Riddell CA**, Kaufman JS, Torres JM, Harper S. Using change in a seat belt law to study racially-biased policing in South Carolina. *Preventive Medicine*. 2020; 130:105884.

17. Kaufman JS, **Riddell CA**, Harper S. Black and white life expectancy differences in 4 US states, 1969-2013. *Public Health Reports*. 2019; 134(6):634-42.

16. Smits DW, Gorter JW, Rosenbaum P, Palisano R, Hanna S, **Riddell CA**, Voorman J, Van Wely, Ketelaar M. Mobility and self-care trajectories for individuals with cerebral palsy (aged 1–21 years): a joint longitudinal analysis of cohort data from the Netherlands and Canada. *The Lancet Child & Adolescent Health*. 2019; 3:548-57. doi: 10.1016/S2352-4642(19)30122-1.

15. **Riddell CA**, Bhat N, Bont LJ, Dupont WD, Feikin DR, Fell DB, Gebretsadik T, Hartert TV, Hutcheon JA, Karron RA, Nair H, Reiner RC, Shi T, Sly PD, Stein RT, Wu P, Zar HJ, Ortiz J. Informing randomized control trials of respiratory syncytial virus vaccination during pregnancy to prevent recurrent childhood wheezing: a sample size analysis. *Vaccine*. 2018; 36(52):8100-8109.

14. **Riddell CA**, Morrison KT, Kaufman JS, Harper S. Trends in the contribution of major causes of death to the black-white life expectancy gap by US state. *Health and Place*. 2018; 52:85-100. doi: 10.1016/j.healthplace.2018.04.003.

13. Mathur MB, Ding P, **Riddell CA**, VanderWeele TJ. Website and R package for computing e-values [Research Letter]. *Epidemiology*. 2018; 29(5):e45-e47.

12. **Riddell CA**, Harper S, Cerdá M, Kaufman JS. Comparison of rates of firearm and nonfirearm homicide and suicide in black and white non-Hispanic men, by U.S. state. *Annals of Internal Medicine*. 2018; 168(10):712-720. doi: 10.7326/M17-2976

11. **Riddell CA**, Hutcheon JA, Strumpf EC, Abenhaim HA, Kaufman JS. Inter-institutional variation in use of cesarean delivery for labour dystocia. *Journal of Obstetrics and Gynaecology Canada*. 2017; 39(11):988-95.

10. **Riddell CA**, Kaufman JS, Harper S. Trends in differences in US mortality rates between black and white infants [Research Letter]. *JAMA Pediatrics*. 2017; 171(9):911-13.

9. **Riddell CA**, Platt RW, Bodnar LM, Hutcheon JA. Classifying gestational weight gain trajectories using the SITAR growth model. *Paediatric and Perinatal Epidemiology*. 2017; 31(2):116-25.

8. Hutcheon JA, **Riddell CA**, Strumpf EC, Lee L, Harper S. Safety of labour and delivery following obstetrical services closures in small community hospitals in British Columbia, Canada. *Canadian Medical Association Journal*. 2017; 189(11):E431-36.

7. **Riddell CA**, Kaufman JS, Strumpf EC, Abenhaim HA, Hutcheon JA. Cervical dilation at time of cesarean delivery in nulliparous women: a population-based cohort study. *British Journal of Obstetrics and Gynaecology*. 2017; 124(11):1753-61.

6. **Riddell CA**, Hutcheon JA, Dahlgren LS. Differences in obstetric care among nulliparous First Nations and non-First Nations women in British Columbia, Canada. *Canadian Medical Association Journal*. 2015; 188(2): E36-43.

5. **Riddell CA**, Kaufman JS, Hutcheon JA, Strumpf EC, Teunissen PW, Abenhaim HA. Effect of uterine rupture on a hospital's future rate of vaginal birth after cesarean delivery. *Obstetrics & Gynecology*. 2014; 124(6): 1175-81.

4. Shrier I, Steele RJ, Verhagen E, Herbert R, **Riddell CA**, Kaufman JS. Beyond Intention-to-Treat: what is the right question? *Clinical Trials*. 2014; 11(1): 28-37.

3. **Riddell CA**, Zhao Y, Petkau J. An adaptive clinical trial design for a sensitive subgroup examined in the multiple sclerosis context. *Statistical Methods in Medical Research*. 2016; 25(4): 1330-45.
2. Walter SD, **Riddell CA**, Rabachini T, Villa LL, Franco EL. Accuracy of *p53* Codon 72 Polymorphism Status Determined by Multiple Laboratory Methods: A Latent Class Model Analysis. *PLoS One*. 2013; 8(2): e56430.
1. **Riddell CA**, Zhao Y, Li DK, Petkau J, Riddehough A, Cutter GR, Traboulsee A. Evaluation of safety monitoring guidelines based on MRI lesion activity in multiple sclerosis. *Neurology*. 2011; 77(24): 2089-96.

### Accepted

Goin DE, **Riddell CA**. Comparing two-way fixed effects and new estimators for differences-in-differences: A simulation study and empirical example. Accepted at *Epidemiology*.

### Under Review

Colbeth H, Goldman-Mellor S, Eisen EA, Neumann K, **Riddell CA\***. Time-series analyses of suicidality-related Google searches and emergency department visits in California and Arizona, 2007-2015. Under review at: *PLoS One*.

Hailu EM, **Riddell CA**, Tucker C, Ahern J, Bradshaw P, Carmichael SL, Mujahid MS. Neighborhood-level Fatal Police Violence and Severe Maternal Morbidity in California. Under review at: *American Journal of Epidemiology*.

### Submitted

Snyder BM, **Riddell CA**, Gebretsadik T, Ding T, Lee RL, Dupont WD, Ortiz JR, Braciale TJ, Wu P, Hartert TV. Leukotriene modifying agent chemoprophylaxis for severe influenza among Medicaid and Department of Defense Military Healthcare System populations. Submitted to: *Journal of the American Medical Association*.

Lam-Hine T, Bradshaw PT, Allen A, Omi M, **Riddell CA**. A hypothetical intervention to reduce inequities in anxiety for Multiracial people: simulating an intervention on childhood adversity. Submitted to: *American Journal of Epidemiology*.

Mckenzie-Sampson S, Karasek DA, Torres JM, Baer RJ, **Riddell CA**, Jelliffe-Pawłowski LL, Blebu B. Structural racism, nativity, and risk of adverse obstetric outcomes among Black pregnant people in California. Submitted to: *Obstetrics & Gynecology*.

### Clinical Guidelines

Lee L, Dy J, Azzam H, Clinical Practice Obstetrics Committee, **Special Contributors**. Society of Obstetricians and Gynaecologists of Canada Clinical Practice Guideline No. 336. Management of Labour at Term in Healthy Women. *Journal of Obstetrics and Gynaecology Canada*. 2016; 38(9):843-64.

## Presentations

### Invited Presentations

Invited talk. Child abuse surveillance during the Covid-19 pandemic: Challenges and opportunities of using Google searches to measure the effects of the pandemic on abuse. Presented to the Forensic Grand Rounds at Alberta Hospital Edmonton/University of Alberta. Canadian remote zoom meeting. October 19, 2022.

Invited talk and panelist. Hyper-localized measures of Traffic-Related Air Pollution and Preterm Birth in the Bay Area, California. Presented to the Committee on Earth Observation Satellites (CEOS) Atmospheric Composition Virtual Constellation 'Science serving Society' session. International remote zoom meeting. March 18, 2022.

Invited talk. Quantitative social and perinatal epidemiology: Applied case studies on racial and ethnic disparities in health. Presented to the UCLA Fielding School of Public Health Epidemiology Student Association and Epidemiology Department. Remote zoom meeting. March 8, 2022.

Invited talk. Quantitative social and perinatal epidemiology: Applied case studies on racial and ethnic disparities in health. Presented at the Dalla Lana School of Public Health, University of Toronto. Toronto, Canada. September 29, 2020.

Invited speaker. How do states vary in their progress towards achieving health equity between Black and White Americans? An examination of variation in Black-White health inequality across US states over four decades. Presented at Sutter Health's Center for Health Systems Research. Berkeley, United States. May 22, 2020.

Invited panelist. A Conversation with Nancy Krieger on Structural Racism, Social Justice and COVID-19. Presented at the Research Talk Series. School of Public Health. Berkeley, United States. May 1, 2020.

Invited panelist. Competing Risks in Perinatal Epidemiology. Presented at the Canadian National Perinatal Research Meeting. Banff, Canada. February 12, 2020.

Invited talk. How do states vary in their progress towards achieving health equity between Black and White Americans? An examination of variation in Black-White health inequality across US states over four decades. Presented at the Department of Public Health, University of California, Merced. Merced, California. February 4, 2020.

Invited talk. Variation in Black-White health inequality across US states. Presented at the School of Public Health, University of California, Berkeley. Berkeley, California. March 12, 2018.

Invited panelist. Science and Skepticism: Critiquing Bad Research in an Anti-Science Era. Biomedical Ethics Unit, McGill University. March 19, 2018.

Fell D, Ortiz J, **Riddell CA**. Sample size estimation for RSV vaccine prevention of asthma/recurrent wheeze. Presented at the World Health Organization's RSV Technical Advisory Group Meeting, Málaga, Spain. November 28, 2017.

**Riddell CA**. Inequalities in violent death among men, by state, race, and firearms use. Manuscript presented at the Violence Prevention Research Program "Research in Progress" Meeting, University of California, Davis. November 3, 2017.

## Conference Presentations

Goin DE, **Riddell CA**. The problems with two-way fixed effects: Identifying target parameters and estimating bias. Presented at the *Annual Meeting of the Society for Epidemiologic Research*. Chicago, IL. June 2022.

**Riddell CA**, Farkas K, Neumann K, Santalauria J, Ahern J, Mason SM. The effect of US shelter-in-place policies on child abuse during the COVID-19 pandemic. Presented at the *Annual Meeting of the Society for Perinatal and Pediatric Epidemiologic Research (SPER)*. Virtual Conference. May 26, 2021.

Michaels EK, Board CA, Mujahid MS, **Riddell CA**, Johnson RC, Allen AM. Area-Level Racial Prejudice and Health: A Systematic Review. Presented at the *American Public Health Association (APHA)*. Virtual Conference. October 2020.

Goin DE, Sudat S, **Riddell CA**, Morello-Frosch R, Apte J, Glymour MG, Casey JA. Hyper-localized air pollution and preeclampsia in Oakland, CA. Presented at the International Society for Environmental Epidemiology (ISEE). Virtual Conference. August 2020.

Gorter JW, Smits DW, **Riddell CA**, Voorman J, Rosenbaum P, Palisano R, Walter S, Hanna S, van Wely L, Ketelaar M. Developmental trajectories of capability in mobility and in self-care of children and adolescents with cerebral palsy. Presented at the *American Academy for Cerebral Palsy and Developmental Medicine (AACPD)*. Anaheim, California. September 2019.

**Riddell CA**, Harper S, Cerdá M, Kaufman JS. Comparison of rates of firearm and non-firearm homicide and suicide in black and white non-Hispanic men by US state. Paper presented at the *Annual Meeting of the Population Association of America (PAA)*. Denver, Colorado. April 2018.

**Riddell CA**, Morrison KT, Harper S, Kaufman JS. Exploring how changes in cause of deaths have narrowed the black-white life expectancy gap in the United States. Working paper presented at the *4th Human Mortality Database Symposium 'Similarities and peculiarities on the way to longer life'*. Berlin, Germany. May 2017.

**Riddell CA**, Morrison KT, Harper S, Kaufman JS. An interactive exploration of how changes in cause of death have narrowed the black-white life expectancy gap in the United States. Keynote student speaker at the *McGill University Department of Epidemiology, Biostatistics, and Occupational Health Research Day*. Montreal, QC. April 2017.

**Riddell CA**, Kaufman JS, Strumpf E, Abenheim HA, Hutcheon JA. The effect of uterine rupture on obstetrical management in U.S. hospitals. Paper presented at the *47th Annual Meeting of the Society for Epidemiologic Research*. Seattle, WA. June 2014.

Walter SD, Jiang H, **Riddell CA**. 100 years on: a new look at survivorship on the Titanic. Presentation at the *International Biometric Society: Eastern North American Region Annual Meeting*. Washington DC. April 2012.

**Riddell CA**, Zhao Y, Petkau AJ. An adaptive clinical trial design for a sensitive subgroup examined in the multiple sclerosis context. *Multiple Sclerosis*. October 2011; 17 (Suppl 10); p S35.

### Conference Posters

Colbeth HL, Goldman-Mellor S, Eisen E, Neumann K\*, Catalano R, **Riddell CA**. Time-series analyses of suicidality-related Google searches and emergency department visits in California and Arizona, 2007-2015. Presented at the *55th Annual Meeting of the Society for Epidemiologic Research*. Chicago, Illinois. June 2022.

Neumann K\*, Mason SM, Farkas K, Santaularia NJ, Ahern J, **Riddell CA**. Harnessing Google Health Trends API Data for Epidemiologic Research: A Methodological Approach. Presented at the *Interdisciplinary Association for Population Health Science*. Virtual Conference. October 2021. **Poster prize winner**.

Colbeth HL, Neumann K\*, **Riddell CA**, Eisen E, Goldman-Mellor S. Monitoring Self-Harm and Suicidal Ideation Hospitalization Risk Using Google Trends. Presented at the *54th Annual Meeting of the Society for Epidemiologic Research*. Virtual Conference. June 2021.

Michaels EK, Board CA, Mujahid MS, **Riddell CA**, Johnson RC, Chae DH, Allen AM. Collective Racial Bias and Health: A Systematic Review. University of Michigan Racism Lab and Interdisciplinary Association for Population Health Sciences Toxic Equilibrium: Structural Racism & Population Health Inequities Virtual Symposium. February 2021.

Michaels EK, Board CA, Mujahid MS, **Riddell CA**, Johnson RC, Allen AM. Area-Level Racial Prejudice and Health: A Systematic Review. Presented at the *Interdisciplinary Association for Population Health Sciences*. Virtual Conference. October 2020.

**Riddell CA**, Hutcheon JA, Dahlgren LS. Differences in the use of obstetrical interventions and procedures by First Nations status in British Columbia. Poster presented at the *48th Annual Meeting of the Society for Epidemiologic Research*. Denver, CO. June 2015.

**Riddell CA**, Hutcheon JA, Kaufman JS. Variation in hospital-level management of labour dystocia across three Canadian provinces. Poster presented at the *28th Annual Meeting of the Society for Perinatal and Pediatric Epidemiologic Research*. Denver, CO. June 2015.

**Riddell CA**, Hutcheon JA, Dahlgren LS. Differences in the use of obstetrical interventions and procedures by First Nations status in British Columbia. Poster presented at the *3rd Annual Canadian National Perinatal Research Meeting*. Montebello, QC. Feb 2015.

**Riddell CA**, Kaufman JS, Strumpf E, Abenheim HA, Hutcheon JA. The effect of uterine rupture on obstetrical management in U.S. hospitals. Poster presented at the *2nd Annual Canadian National Perinatal Research Meeting*. Banff, Alberta. February 2014.

Auclair MH, Gagnon R, Snyder J, Basso O, Shrim A, **Riddell CA**. Relationship between maternal RBC folate levels and fetal growth. *JOGC*. May 2014; 36(5): p S28.

Zhao Y, **Riddell CA**, Li D, Petkau AJ, Riddehough A, Cutter G, Traboulsee A. Evaluation of safety monitoring rules based on monthly contrast enhancing lesion activity in secondary progressive multiple sclerosis. *Multiple Sclerosis*. October 2010; 16 (Suppl 10); p S261.

**Riddell CA**, Zhao Y, Li D, Petkau AJ, Riddehough A, Cutter G, Traboulsee A. Predicting the occurrence of relapse in SPMS patients — are rules based on CEL counts effective? *Multiple Sclerosis*. October 2010; 16 (Suppl 10); p S111.

EJ Cormier, Y Liang, **CA Riddell**. Metabolism Contribution of bradykinin and des-Arg<sup>9</sup>-BK on angioedema pathophysiology. Poster presented at the *Annual Meeting of the Statistical Society of Canada*. Quebec, QC. May 2010.

Gorter JW, Riddell CA, Walter SD, Bartlett D, Russell D. Mobility and self-care in adolescents with cerebral palsy: parent and adolescent perspectives. *Developmental Medicine and Child Neurology*. September 2009; 51 (Suppl 5); p 35.

## Other Presentations

Invited presenter. Biomedical Big Data Seminar Series. Graduate Group in Biostatistics, University of California, Berkeley. September 10, 2018.

## Teaching

### Instruction

**Instructor, PH290/292 (UC Berkeley): Master's biostatistics seminar focused on thesis development and practical skills for biostatisticians. Spring 2019-2020, 2022-2023. 7-11 students.**

I developed this seminar course for the MA biostatistics students. The focus on this course is academic writing of thesis and peer-reviewed manuscripts for a statistical audience. This seminar focused on developing academic writing skills, and the peer review process including manuscript submission and review. Guest lectures were also invited to speak on literature reviews and statistical jobs in non-academic settings to prepare these students for the job market. Lectures, guest lectures, and student presentations.

**Co-Instructor, PH252 (UC Berkeley): Epidemiologic Analysis. Fall 2022. 36 students.**

This course has two 1.5 hour lectures each week, taught by myself or Dr. Patrick Bradshaw, my co-Instructor.

**Instructor, PHW241R (UC Berkeley): Categorical Data Analysis. Spring 2021. 107 students.**

This course follows the flipped classroom model, with pre-recorded lectures and live discussion and lab sections. Both in residence and online Master's of Public Health students are enrolled. I developed the discussion material for this course.

**Instructor, PH142 (UC Berkeley): Introduction to probability and statistics in biology and public health. Fall 2018, Fall 2019, Fall 2020, Fall 2021. 245-345 students.**

I re-developed this course in July and August 2018, and its first offering was in Fall 2018. This course is taken by all Master's of Public Health students and serves as their foundation in statistics. I modified the previous offering to thoroughly incorporate statistical programming and data science tools, with a focus on data manipulation and data visualization. This course interweaves classical statistical concepts with modern data science tools, so that students gain competencies exploring, visualizing, and analysis real public-health datasets in R. 3 lectures per week with 2-hr weekly lab meetings.

**Co-Instructor, PH142 (UC Berkeley): Introduction to probability and statistics in biology and public health. Summer 2019. 145 students.**

This is the third offering of the course I developed (see the above description), that was first offered in Fall 2018. I instructed the first two of the six weeks of this summer intensive version. The academic year version of the course had to be modified to fit the summer format (long lectures, more frequent discussion sections).

### Guest Lectures

**Guest Seminar Speaker**, D43 Faculty Seminar Series for the STREaM Trauma Training Grant. December 1, 2022. Project Workflow.

**Guest Lecturer**, Data Visualization Online MPH Course. October 2022. Publication-ready plots with ggplot.

**Guest Lecturer**, Social Epidemiology. March 3, 2021. Causality and social determinants in health.

**Guest Lecture**, Epidemiology/Biostatistics Master's capstone seminar. October 7, 2020. Presented a hands-on workshop on using R to make data visualizations for epidemiology.

**Guest Lecturer**, Managing the COVID-19 Pandemic: A Comprehensive Crash Course for Everyone. Berkeley SPH Massive Open Online Course (MOOC). Lecture 15: US racial disparities during COVID-19. [Course link](#). June 2020.

**Guest Lecturer**, Social Epidemiology. March 2, 2020.  
Presented on Causality and social determinants in health.



**Guest Lecturer**, Epidemiology Doctoral Seminar. April 4, 2019.

Presented a hands-on workshop on using R to make data visualizations for epidemiology.

**Guest Lecturer**, School of Public Health "Brown Bag Lunch" Series. April 2, 2019.

Presented on differences in obstetrical care in First Nations and Non-First Nations women in British Columbia, Canada.

**Guest Lecturer**, Biomedical Big Data Seminar. September 10, 2018.

Presented on trends in differences in life expectancy between Black and White Americans by US state.

**Guest Lecturer**, EPIB767 (McGill): Mathematical Modeling of Infectious Diseases: 1 3-hour Workshop on Integrating Git and GitHub into a Data Analysis Workflow. February 22, 2018.

**Head Teaching Assistant**, PopDataViz2017 (McGill): Data Visualization Workshop with Kieran Healy to the Centre for Population Dynamics. December 13-15, 2017.

**Guest Lecturer**, EPIB602 (McGill): Foundations of Population Health: 1 Lecture on Data Manipulation and Data Visualization in R. Fall 2017.

**Guest Lecturer**, EPIB704 (McGill): Epidemiologic Analysis: 1 Lecture on Measures of Effect/Association. Fall 2013–2017.

**Guest Lecturer**, EPIB604 (McGill): Epidemiologic Analysis: 1 Lecture on Dose Response and Trend Analysis. Fall 2012–2017.

**Guest Lecturer**, EPIB704 (McGill): Epidemiologic Analysis: 1 Lecture on Measures of Occurrence. Fall 2013–2016.

**Guest Lecturer**, EPIB604 (McGill): Epidemiologic Analysis: 1 Lecture on Bootstrap and Simulation Studies. Fall 2016.

**Guest Lecturer**, EPIB609 (McGill): Seminar on Advanced Methods in Epidemiology: 1 Lecture on Multiple Imputation using Chained Equations. Fall 2014.

**Guest Lecturer**, Royal Victoria Hospital Residents teaching block: Limitations to before-and-after studies and ways forward. May 2014.

**Guest Lecturer**, EPIB672 (McGill): Estimating Causal Effects of Social Policy: An applied example of instrumental variable analysis. Spring 2013.

**Course Module Instructor**, STAT100 (University of British Columbia): Statistical Thinking: Instructor of the Probability Module. Winter 2011.

**Teaching Assistant**, STAT200 (University of British Columbia): Elementary Statistics for Applications. Fall 2009 & Winter 2010.

**Teaching Assistant**, MATH128 (University of Waterloo): Calculus for the Sciences. Fall 2005.

## Research Activities

### Current

**Common and Distinct Influences of Prenatal and Postnatal Early-Life Adversity on Epigenomic Trajectories in Mexican American Children (Cardenas/Deardorff)**

Role on Project: Co-Investigator

Dates: July 2022-June 2027

Funding Agency: NIH/NIMHD 1R01MD016595-01

Description: This research will establish the biological embedment of early-life adversity at the individual, household and community level on epigenetic marks, with the goal of developing early-life biomarkers of risk.

**The effectiveness of RSV immunoprophylaxis on the short- and long- term respiratory morbidity in children with Down syndrome (Wu)**

Role on Project: Co-investigator, senior biostatistician

Dates: February 2019-January 2025



Funding Agency: NIH/NIAID R01 AI143710

Description: Children with Down syndrome are at increased risk of respiratory syncytial virus (RSV) lower respiratory tract infection, and may benefit from the administration of RSV immunoprophylaxis. This study assesses the short term effectiveness of RSV immunoprophylaxis on RSV related morbidity and long term respiratory morbidity by 6 years of age. The related cost effectiveness of RSV immunoprophylaxis will be assessed.

**Leukotriene modifying agents in the prevention of excess morbidity and mortality from influenza (Hartert/Braciale)**

Role on Project: Co-investigator, senior biostatistician

Dates: August 2018-July 2023

Funding Agency: NIH/NIAID R01 AI136526

Description: This study explores a novel hypothesis, extending evidence from animal studies and ecological data, that available and safe oral leukotriene modifying agents may decrease influenza-related morbidity and mortality and to corroborate the action in human lungs.

**Strengthening California's public health workforce to improve decision making and health equity through advanced training and academic partnership (Riddell)**

Role on Project: Principal Investigator

Dates: October 2022-June 2024

Funding Agency: California Department of Public Health (CDPH)

Total funds awarded: \$927,927

Description: Partnership between University of California, Berkeley Public Health and CDPH to develop and deliver subject matter training and practical frameworks on decision intelligence and the establishment of a Center of Excellence.

**Pending**

**The Contra Costa Climate, Air Pollution, and Pregnancy Study**

Role on Project: Co-Investigator

Dates: June 2022-May 2025

Total funds awarded: \$1,350,000

Funding Agency: Environmental Protection Agency (EPA)

**Investigating the Impact of COVID-19 Relief and Recovery Policies on Food Insecurity Disparities Among Families with Children in California**

Role on Project: Principal Investigator

Dates: July 2022-June 2024

Total funds requested: \$96,666

Funding Agency: University of California, San Francisco CPR3 initiative

**Completed**

**Impact of COVID-19 Shelter-in-Place on Household Violence (Riddell)**

Role on Project: Principal Investigator

Dates: December 2020-December 2021

Funding Agency: Berkeley Population Center

Funding: \$20,000

Description: Econometric analysis of the effect of shelter-in-place on child and intimate partner abuse

**Child Abuse Surveillance During the COVID-19 Pandemic (Mason)**

Role on Project: Co-Investigator

Dates: June 2020-June 2021

Funding Agency: Minnesota Population Center

Funding: \$10,000

Description: Assessment of using Google Health Trends to measure child abuse with linkages to shelter-in-place policies and unemployment rates

**A New Approach for Classifying Fetal Growth Restriction (Hutcheon)**

Role on Project: Consultant

Dates: May 2020-September 2020

Funding Agency: Canadian Institutes of Health Research

Funding: \$4,400

Description: Use latent profile analysis to classify fetuses as growth restricted and compare to traditional approach based on small for gestational age percentiles

### **Sample Size Calculations to Inform Studies of Maternal RSV Vaccination (Ortiz)**

Role on Project: Epidemiologist (Contractor)

Dates: August 2017

Funding Agency: The Initiative for Vaccine Research, World Health Organization

Funding: \$7,500

Description: Calculated sample sizes required to detect effects on important public health outcomes for vaccines currently undergoing clinical efficacy trials to be used during pregnancy.

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## **Academic Service**

### **Faculty Advisor for epidemiology Doctoral student (University of California, Berkeley)**

Krista Neumann (September 2020-current)

### **Faculty Advisor for epidemiology/biostatistics Master of Public Health Capstone Project (University of California, Berkeley)**

Pooja Iyer (planned capstone submission in April, 2022)

Anna Barcellos (submitted capstone in April, 2021)

### **Co-Chair of Biostatistics Master's Thesis Committee (University of California, Berkeley)**

Asem Berkalieva (submitted thesis in May, 2020)

### **Member of Biostatistics Master's Thesis Committee (University of California, Berkeley)**

Cameron Adams (submitted thesis in April, 2022)

### **Epidemiology Member of Qualifying Examination Committee (University of California, Berkeley)**

Mary Combs (Van der Laan, Supervisor; Oral qualifying examination passed on January 25, 2019). Chair of Committee.

### **Biostatistics Member of Qualifying Examination Committee (University of California, Berkeley)**

Kriszta Farkas, Epidemiology PhD student (Ahern, Supervisor; Oral qualifying examination passed on November 13, 2020)

Elleni Hailu, Epidemiology PhD student (Mujahid, Supervisor; Oral qualifying examination passed on March 30, 2021)

### **Biostatistics Member of Qualifying Examination Committee (University of California, San Francisco)**

Safyer McKenzie-Sampson, Epidemiology and Translational Science PhD student (Torres, Committee Chair; Written qualifying examination passed on March 2, 2022)

Kevin Chen, Environmental Health Sciences PhD student (Eisen, Committee Chair)

### **"Third Area" Member of Qualifying Examination Committee (University of California, Berkeley)**

Tracy Lam-Hine, DrPH student (Nuru-Jeter, Supervisor; Oral qualifying examination passed on April 26, 2021)

### **Member of Epidemiology Dissertation Committee (University of California, Berkeley)**

Eli K. Michaels (Epidemiology PhD; Amani Allen, Supervisor)

Kriszta Farkas (Epidemiology PhD; Jennifer Ahern, Supervisor)

Elleni Hailu (Epidemiology PhD; Mahasin Mujahid, Supervisor)

Tracy Lam-Hine (DrPH; Amani Allen, Supervisor)

Kevin Chen (Environmental Health Sciences; Ellen Eisen, Supervisor)

### **2020-2022 Equity Advisor for the Division of Biostatistics (University of California, Berkeley)**

### **Member of the 2020 SPH Fall Instructional Taskforce Committee (University of California, Berkeley)**

### **Member of the 2019 PhD and MA Biostatistics Admissions Committee (University of California, Berkeley)**

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## Research Experience

- Aug 2017      **Contractor**, The Initiative for Vaccine Research, World Health Organization
- Calculated sample sizes required to detect effects on important public health outcomes for vaccines currently undergoing clinical efficacy trials to be used during pregnancy.
  - Created an online sample size calculator to be used by researchers to visualize the effect of maternal vaccination on distal childhood outcomes through intermediate reduction of infection during infancy.
- Mar 2016 - Jun 2016      **Research Assistant**, Department of Obstetrics & Gynaecology (UBC).
- Investigated differences in care between First Nations women and the general population within British Columbia (published in *CMAJ*, first author).
  - Applied novel methods to examine trajectories of maternal weight gain during pregnancy (published in *Paediatric and Perinatal Epidemiology*, first author).
- Feb 2010 - May 2011      **Research Assistant**, MS/MRI Research Group (UBC).
- Investigated safety rules and clinical trial design in multiple sclerosis.
  - Work based on this research is published in *Neurology* and *Statistical Methods for Medical Research* (both first author).
- Sep 2008 - Dec 2008      **Research Assistant Intern**, Clinical Epidemiology and Biostatistics (McMaster University).
- Performed a latent class analysis to estimate a patient's true genotype using the results of several genotyping methods (published in *PLoS ONE*, second author).
  - Used hierarchical models to explore changes in perception of mobility of children with cerebral palsy.
- Jan 2007 - Apr 2007      **Junior Statistician Intern**, Statistics Canada.
- Performed sample size calculations, determined sample allocation, and examined repeatability of measurements across multiple survey tools.

### Short-term consulting

- Drafted summaries of studies and assessed measurement bias for a WHO task force evaluating burden of influenza disease during pregnancy. Winter 2014.
- Performed statistical analysis for a Maternal Fetal Medicine resident on her research project. Winter 2014.
- Assisted a physician/epidemiologist with R code development and substantial manuscript revision on a project using causal inference techniques. Aug 2012 - Aug 2013.
- Provided statistical consulting services to UBC graduate students as part of the Statistics Department Short Term Consulting Service. Jun 2010 - May 2011.

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## Press

- CNN: <https://www.cnn.com/2018/04/23/health/gun-deaths-in-men-by-state-study/index.html>
- The Economist: <https://www.economist.com/blogs/graphicdetail/2017/07/daily-chart-5>
- The Washington Post: [https://www.washingtonpost.com/news/in-theory/wp/2017/07/06/were-ceding-ground-in-the-war-against-infant-mortality/?utm\\_term=.abddf5474145](https://www.washingtonpost.com/news/in-theory/wp/2017/07/06/were-ceding-ground-in-the-war-against-infant-mortality/?utm_term=.abddf5474145)
- The Washington Times: [http://www.washingtontimes.com/news/2017/jul/3/black-infant-mortality-rates-are-increasing-compar/?utm\\_source=RSS\\_Feed&utm\\_medium=RSS](http://www.washingtontimes.com/news/2017/jul/3/black-infant-mortality-rates-are-increasing-compar/?utm_source=RSS_Feed&utm_medium=RSS) Washington
- The LA Times: <http://www.latimes.com/science/sciencenow/la-sci-sn-infant-mortality-race-20170703-story.html>
- The Boston Globe's STAT News: [https://www.statnews.com/2017/07/03/infant-mortality-black/?s\\_campaign=stat:rss](https://www.statnews.com/2017/07/03/infant-mortality-black/?s_campaign=stat:rss)
- La Presse (Canada): <http://www.lapresse.ca/actualites/sante/201511/02/01-4916357-soins-obstetriques-moins-de-services-pour-les-femmes-autochtones.php>
- Global News (Canada): <https://globalnews.ca/news/2313389/first-nations-women-in-bc-do-not-receive->

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## Technical Skills

### Software and Programming

**Proficient** R, R markdown, R shiny apps, Stata  
**Competent** Git, GitHub,  $\text{\LaTeX}$ , QGIS  
**Familiar** HTML, CSS, SAS

### Analysis and Theory

- Epidemiological study design and theory, causal inference theory
- Linear models, generalized linear models, multi-level models
- Econometric approaches to causal inference (fixed effects regression, difference-in-differences designs)
- Data wrangling (`dplyr`), data visualization (`ggplot2`), interactive web applications (`shiny`)
- Miscellaneous skills: data linkage, multiple imputation, bootstrapping, statistical simulations

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## Professional Activities

### Peer Review

<i>Journal of Health and Social Behavior</i> (2022)	<i>Annals of Internal Medicine</i> (2018)
<i>Environmental Health Perspectives</i> (2022)	<i>Public Health</i> (2018)
<i>Addiction</i> (2021)	<i>American Journal of Epidemiology</i> (2018)
<i>American Journal of Epidemiology</i> (2021)	<i>BMJ Open</i> (2017, 2022)
<i>Epidemiology</i> (2015–2020)	<i>PLOS One</i> (2017)
<i>Paediatric and Perinatal Epidemiology</i> (2019–2020)	<i>Canadian Medical Association Journal</i> (2016, 2017, 2019)
<i>Journal of Health &amp; Place</i> (2019)	<i>Paediatric &amp; Perinatal Epidemiology</i> (2016)
<i>American Journal of Perinatology</i> (2019)	<i>BMC Health Services Research</i> (2016)
<i>Preventive Medicine</i> (2018)	<i>Journal of Clinical Epidemiology</i> (2014)
<i>Social Sciences &amp; Medicine</i> (2018)	<i>Canadian Journal of Public Health</i> (2014)
	<i>Medical Care</i> (2013)

### National Conferences

Society for Epidemiologic Research, Oral Speed Session Chair, “Health Disparities” June 2022. Chicago, IL.

### National Workshops

Society for Epidemiologic Research, Workshop Co-Instructor, “Data manipulation, visualization, and reproducible documents with R and the Tidyverse.” May 7, 2021. Online.

Society for Epidemiologic Research, Workshop Co-Instructor, “Data manipulation, visualization, and reproducible documents with R and the Tidyverse.” November 19, 2020. Online.

Society for Epidemiologic Research, Workshop Co-Instructor, “Data manipulation, visualization, and reproducible documents with R and the Tidyverse.” June 2019. Minneapolis, MN.

## Workshops attended

**Anti-Racist Pedagogy and Racial Justice Praxis Workshop**, UC Berkeley SPH. Berkeley. September 11, 2020.

**Intermediate Shiny Workshop**, RStudio Conference. Orlando. January 11-12, 2017.

**Applied Spatial Analysis in Perinatal and Pediatric Epidemiology and Analyzing Multiple Exposures**, SPER Advanced Methods Workshop. Denver. Jun 15, 2015.

**Indigenous Health and Human Rights Conference**, McGill University. Montréal. Feb 21, 2015.

**Instrumental Variables**, Statistical Horizons. Philadelphia. Nov 7-8, 2014.

**Simulation Methods and Prediction Modeling**, SPER Advanced Methods Workshop. Seattle. Jun 23, 2014.

**Honouring Partnership: Promoting Engagement & Sensitivity in Aboriginal Health Research**, McGill University. Montréal. Oct 4, 2013.

**Biomarker Measurement Error and Propensity Scores**, SPER Advanced Methods Workshop. Boston. Jun 17, 2013.

**Bayesian Adaptive Methods for Clinical Trials**, Joint Statistical Meeting. Vancouver. Aug 3, 2010.

## — Past Service

Chapter co-founder and past organizer: R-Ladies Montreal: A chapter of a worldwide organization to promote gender diversity in the R community.

Workshop on When, Where, and Why to do a PhD/Post-Doc (McGill): Nov 2016

Coordinator for the Causal Reading Group (McGill): Coordinator: Sept 2013 - Mar 2014

Workshop on how to choose your supervisor (McGill): Nov 2013

Student Comprehensive Examination Representative (McGill): Sept 2012 - June 2013

Web archivist for Internal Introductory Statistics Meetings (UBC): 2011

Course monitor for Bayesian Inference for Surveys (Joint Statistical Meeting): Aug 2010

Assistant TA Trainer (UBC): Fall 2010