Pamela A. Shaw

March 25, 2023

1730 Minor Ave Suite 1600; Seattle WA, 98101 E-mail: Pamela.A.Shaw@kp.org

Research Interests

Measurement error, survival analysis, clinical trials, design of complex epidemiologic studies, cancer, nutritional and physical activity epidemiology, infectious diseases

Education

University of Washington, Seattle, Washington, Ph.D., Biostatistics, 2006

University of Washington, Seattle, Washington, M.S., Mathematics, 1994

Grinnell College, Grinnell, Iowa, B.A., French and Mathematics, 1990

Professional Positions

Senior Investigator, June 2021-Present, Biostatistics Unit, Kaiser Permanente, Washington Health Research Institute (KPWHRI), Seattle, WA

Associate Professor, July 2016–June 2021, Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Assistant Professor, July 2013–June 2016, Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Mathematical Statistician, October 2006–June 2013, Biostatistics Research Branch, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD

Statistical Research Associate, October 2005–September 2006, Women's Health Initiative, Fred Hutchinson Cancer Research Center, Seattle, Washington

Research Assistant, January–October 2005, June 2002–June 2004, Biostatistics, Fred Hutchinson Cancer Research Center, Seattle, Washington

*Teachin*g/Research *Assistant*, Winter 2003, Summer–Fall 2004, Department of Biostatistics, University of Washington, Seattle, Washington

*Statistica*l *Research Associate*, December 1998–July 2001, Cancer Prevention Research Program and Southwest Oncology Group Fred Hutchinson Cancer Research Center, Seattle, Washington

*Researc*h *Consultant*, September 1994–December 1998, Columbia Basin Research, University of Washington School of Fisheries Seattle, Washington

Statistics Instructor, September 1994–March 1995, University of Washington Extension, Seattle, Washington

*Researc*h/*Teachin*g *Assistant*, Autumn 1990–Spring 1994, Department of Mathematics, University of Washington, Seattle, Washington

Affiliate appointments

Adjunct Associate Professor, July 2021–present, Department of Biostatistics, Epidemiology and Informatics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Affiliate Faculty, 2018-present, Department of Biology and Wildlife, College of Natural Science and Mathematics, University of Alaska Fairbanks

Publications

Refereed Articles

1. Wu Y, Rosenberg DE, Greenwood-Hickman MA, McCurry SM, Proust-Lima C, Nelson JC, Crane PK, LaCroix AZ, Larson EB, **Shaw PA**. Analysis of the 24-Hour Activity Cycle: An illustration *examining the association with cognitive function in the Adult Changes in Thought (ACT) Study. Frontiers* Psycology, In press 2023.

2. Teitelman AM, Hong-Van T, Chittamuru D, **Shaw PA**, Nandi V, Davis A, Lipsky R, Darlington CK, Fiore D, Koblin BA. A Randomized Controlled Pilot Study of Just4Us, a Counseling and Navigation Intervention to Promote Oral HIV Prophylaxis Uptake Among PrEP-Eligible Cisgender Women. *AIDS and Behavior*, In press 2023.

3. Lotspeich SC, Amorim GG, **Shaw PA**, Tao R, Shepherd BE. Optimal Multi-Wave Validation of Secondary Use Data with Outcome and Exposure Misclassification. *Canadian Journal of Statistics,* In press 2022. Preprint arXiv . arXiv preprint arXiv:2108.13263.

4. Mossavar-Rahmani Y, **Shaw PA**, Hakun JG, Katz MJ, Wylie- Rosett J, Sliwinski MJ. Multicultural healthy diet to reduce cognitive decline & Alzheimer's disease risk: Study protocol for a pilot randomized controlled trial. *Contemporary Clinical Trials*, in press 2022.

5. Herman JD, Wang C, Burke JS, Zur Y, Compere H, Kang J, Macvicar R, Taylor S, Shin S, Frank I, Siegel D, Tebas P, Choi GH, **Shaw PA**, Yoon H, Pirofski L, Juelg B, Bar KJ, Lauffenburger D, Alter G. A role for Nucleocapsid-specific antibody function in Covid-19 Convalescent plasma therapy. *Cell Reports Medicine,* in press 2022*.*

6. Boe L, Mossavar-Rahmani Y, Sotres-Alvarez D, Durazo-Arvizu R, Kaplan R, **Shaw PA**. Nutritional blood concentration biomarkers in the Hispanic Community Health Study/Study of Latinos: Measurement characteristics and power. *American Journal of Epidemiology*, in press 2022.

7. Mitchell CM, Oxtoby LE, **Shaw PA**, Budge SM, Wooller MJ, Cabeza de Baca T, Krakoff J, Votruba S, O'Brien DM. Carbon isotope ratios of plasma and RBC fatty acids identify meat consumers in a 12-week inpatient feeding study of 32 men. *Journal of Nutrition*, in press 2022.

8. Shepherd BE, Han K, Chen T, Bian A, Pugh S, Duda SN, Lumley T, Heerman WJ, **Shaw PA**. Multiwave validation sampling for error-prone electronic health records. *Biometrics,* Online ahead of Print, July 2022. https://doi.org/10.1111/biom.13713.

9. Johnson JJ. **Shaw PA**, Wooller MJ, Krakoff J, Votruba SB, O'Brien DM. Amino acid nitrogen isotope ratios respond to fish and meat intake in a 12-week inpatient feeding study of adult men. *Journal of Nutrition*, 2022 Sep; 152(9):2031–2038.

10. Li Y, Hwang WT, Maude SL, Teachey DT, Frey NV, Myers RM, Leahy AB, Liu H, Porter DL, Grupp SA, **Shaw PA**. Statistical considerations for analyses of time-to-event endpoints in oncology clinical trials:

Illustrations with CAR-T immunotherapy studies. *Clinical Cancer Research,* 2022 Sep 15; 28(18):3940-3949.

11. Daniell H, Nair SK, Shi Y, Wang P, Montone KT, **Shaw PA**, Choi GH, Ghani D, Weaver J, Rader DJ, Margulies KB, Collman RG, Laudanski K, Bar KJ. Decrease in angiotensin-converting enzyme 2 activity but not concentration in plasma/lungs in COVID-19 patients offers clues for diagnosis/treatment. *Molecular Therapy Methods & Clinical Development*, 2022 Sep 8;26:266-78.

12. Ellenberg SE and **Shaw PA**. Early termination of clinical trials for futility: Considerations for a Data Safety Monitoring Board. *NEJM Evidence*, 2022 June; 1 (7) :EVIDctw2100020.

13. Mehta SJ, Mallozzi C, **Shaw PA**, Reitz C, McDonald C, Vandertuyn M, Balachandran M, Kopinsky M, Sevinc C, Johnson A, Ward R, Park SH, Snider CK, Rosin R, Asch DA, Text Messaging and Behavioral Interventions for COVID-19 Vaccination Outreach: A Randomized Clinical Trial, JAMA Network Open, 2022 June;5(6):e2216649.

14. **Shaw PA**, Yang JB, Mowery DL, Schriver ER, Mahoney KB, Bar KJ, Ellenberg SS. Determinants of hospital outcomes for COVID-19 infections in a large Pennsylvania Health System. PLoS ONE, 2022 May 19; 17(5): e0268528.

15. Watson DL, **Shaw PA**, Petsis DT, Pickel J, Bauermeister JA, Frank I, Wood SK, and Gross R. A retrospective study of HIV pre-exposure prophylaxis counseling among non-Hispanic Black youth diagnosed with bacterial sexually transmitted infections in the United States, 2014-2019. *Journal of the International AIDS Society,* 2022 Feb;25(2):e25867.

16. Troxel, Andrea B., Eva Petkova, Keith Goldfeld, Mengling Liu, Thaddeus Tarpey, Yinxiang Wu, Danni Wu et al. "Association of Convalescent Plasma Treatment With Clinical Status in Patients Hospitalized With COVID-19: A Meta-analysis." JAMA Network Open, 2022: 5(1): e2147331-e2147331.

17. Han K, **Shaw PA**, Lumley T. Combining multiple imputation with raking of weights in the setting of nearly-true models. *Statistics in Medicine*, 2021 Sep. Early view DOI: 10.1002/sim.9210

18. Lotspeich SC, Shepherd BE, Amorim GGC, **Shaw PA**, Tau R. Efficient odds ratio estimation using error-prone data from a multi-national HIV research cohort. 2021, June; Early view DOI: 10.1111/biom.13512

19. Bar KJ, **Shaw PA**, Choi GH, Aqui N, Fesnak A, Yang J, HaSoto-Calderon H, Grajales L, Starr J, Andronov M, Mastellone M, Amonu C, Feret G, DeMarshall M, Buchanan M, Caturla M, Gordon J, Wanicur A, Monroy MA, Mampe F, Lindemuth E, Gouma S, Mullin A, Barilla H, Pronina A, Irwin L, Thomas R, Eichinger R, Demuth F, Luning Prak ET, Pascual JL, Short W, Elovitz M, Baron J, Meyer N, Degnan K, Frank I, Hensley SE, Siegel DL, and Tebas P. A randomized controlled study of convalescent plasma for individuals hospitalized with COVID-19. *Journal of Clinical Investigation,* 2021 Dec 15;131(24).

20. Amorim G, Tau R, Lotspeich SC, **Shaw PA**, Lumley T, Shepherd BE. Two-Phase Sampling Designs for Data Validation in Settings with Covariate Measurement Error and Continuous Outcome. *Journal of the Royal Statistical Society, Series A*. 2021 Oct;184(4):1368-1389.

21. Boe LA, Tinker LF, **Shaw PA**: An Approximate Quasi-Likelihood Approach for Error-Prone Failure Time Outcomes and Exposures. *Statistics in Medicine,* 2021; 40 (23): 5006-5024.

22. Oh E, Shepherd BE, Lumley T, **Shaw PA**: Improved Generalized Raking Estimators to Address Dependent Covariate and Failure-Time Outcome Error. *Biometrical Journal*, 2021;63(5):1006-27.

23. Baldoni P, Sotres-Alvarez D, Lumley TS, **Shaw PA**. On the use of Regression Calibration in a Complex Sampling Design with Application to the Hispanic Community Health Study/Study of Latinos. *American Journal of Epidemiology,* 2021; 190(7): 1366–1376.

24. **Shaw PA**, He J, and Shepherd B. Regression calibration to correct correlated errors in outcome and exposure. *Statistics in Medicine*, 2021; 40(2): 271-286.

25. Han K, Lumley T, Shepherd BE, **Shaw PA**: Two-phase analysis and study design for survival models with error-prone exposures. *Statistical Methods in Medical Research*, 2021, Vol. 30(3) 857–874

26. Oh EJ, Shepherd BE, Lumley T, **Shaw PA**. Raking and regression calibration: Methods to address bias from correlated covariate and time-to-event error. *Statistics in Medicine*. 2021;40(3):631–649.

27. Tao R, Lotspeich SC, **Shaw PA**, Shepherd BE. Efficient semiparametric inference for two-phase studies with outcome and covariate measurement errors. *Statistics in Medicine*, 2021; 40(3):725–738.

28. Lou C, Habes M, Illenberger NA, Ezzati A, Lipton RB, **Shaw PA**, Stephens-Shields AJ, Akbari H, Doshi J, Davatzikos C, Shinohara RT. Leveraging machine learning predictive biomarkers to augment the statistical power of clinical trials with baseline magnetic resonance imaging. Brain communications. 2021;3(4):fcab264.

29. Hanna DB, Hua S, Gonzalez F, Kershaw KN, Rundle AG, Van Horn LV, Wylie-Rosett J, Gellman MD, Lovasi GS, Kaplan RC, Mossavar-Rahmani Y, **Shaw PA**. Neighborhood Population Density is associated with lower potassium intake in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *International Journal of Environmental Research and Public Health Special Issue: Neighborhoods and Cardiovascular Risk,* 2021*;* 18(20):10716.

30. Yadav A, Kossenkov AV, Showe LC, Ratcliffe SJ, Choi GH, Montaner LJ, Tebas P, **Shaw PA**, Collman RG. Lack of Atorvastatin Effect on Monocyte Gene Expression and Inflammatory Markers in HIV-1-infected ART-suppressed Individuals at Risk of non-AIDS Comorbidities. *Pathogens and Immunity*. 2021; 6(2):1-26.

31. Glanz K, **Shaw PA**, Kwong PL, Chung A, Zhu J, Huang Q, Hoffer K, Volpp KG. Effect of financial incentives and environmental strategies on weight loss in The Healthy Weigh Study: A Randomized Controlled Trial. *JAMA Network Open*. 2021;4(9):e2124132.

32. Mehta SJ, Day SC, Norris AH, Sung J, Reitz C, Wollack C, Snider CK, **Shaw PA**, Asch DA.: Behavioral interventions to improve population health outreach for hepatitis C screening: randomized clinical trial. *British Medical Journal*. 2021 May 18;373.

33. Johnson JJ, **Shaw PA**, Oh EJ, Wooller MW, Merriman S, Yun HY, Larsen T, Krakoff J, Votruba SB, O'Brien DM. The carbon isotope ratios of nonessential amino acids identify sugar-sweetened beverage consumers in a 12-week clinical feeding study with varying SSB and meat exposures. American *Journal of Clinical Nutrition* 2021 May;113(5):1256-64.

34. Tebas P, Jadlowsky JK**, Shaw PA**, Tian L, Esparza E, Brennan A, Kim S, Naing SY, Richardson MW, Vogel AN, Maldini C, Kong H, Liu X, Lacey SF, Bauer AB, Mampe F, Richman LP, Lee G, Ando D, Levine BL, Porter DL, Zhao Y, Siegel DL, Bar KJ, June CH, and Riley JL.: CCR5-edited CD4 T cells augment HIV-specific immunity to enable post rebound control of HIV replication. *The Journal of Clinical Investigation*. 2021 Apr 1;131(7).

35. Wasserman D. Alameh MG, de Silva T, Collini P, Hornsby H, Brown R, LaBranche CC, Edwards RJ, Sutherland L, Santra S, Mansouri K, Gobeil S, McDanal C, Pardi N, Hengartner N, Lin PJC, Tam Y, **Shaw PA** Lewis MG, Boesler C, Şahin U, Acharya P, Haynes BF, Korber B, Montefiori DC. D614G Spike

Mutation Increases SARS CoV-2 Susceptibility to Neutralization. *Cell Host & Microbe*; 2021 Jan 13; v29: 23–31.

36. Bien-Gund CH, Choi GH, Mashas A, **Shaw PA**, Miller M, Gross R, and Brady KA. Persistent disparities in smoking rates among PLWH compared to the general population in Philadelphia, 2009-2014 *AIDS and Behavior*, 2020 Jun 26; v25: 148-153.

37. Selig K, **Shaw PA**, Ankerst DP. Bayesian information criterion approximations for model selection in multivariate logistic regression with application to electronic medical records. *The International Journal of Biostatistics*, 2020; pp. 20200045. https://doi.org/10.1515/ijb-2020-0045

38. Shepherd BE, **Shaw PA**. Errors in multiple variables in HIV cohort and electronic health record data: statistical challenges and opportunities. *Statistical Communications in Infectious Disease*, 2020; 12 (s1), https://doi.org/10.1515/scid-2019-0015.

39. Proschan MA, **Shaw PA**. Diagnosing Fraudulent Baseline Data in Clinical Trials. *PLoS ONE* 2020;15(9):e0239121.

40. Illenberger N, Small DS, and **Shaw PA**. Understanding regression to the mean in the context of synthetic controls and other matched difference in difference methods. *Epidemiology* 2020; 31(6):815-22.

41. Giganti MJ, **Shaw PA**, Chen G, Bebawy SS, Turner MM, Sterling TR, Shepherd BE: Accounting for dependent errors in predictors and time-to-event outcomes using validation samples and multiple imputation *Annals of Applied Statistics* 2020;14(2):1045-61.

42. Keogh RH, **Shaw PA**, Gustafson P, Carroll RJ, Deffner V, Dodd KW, Küchenhoff H, Tooze JA, Wallace MP, Kipnis V, Freedman LS. STRATOS guidance document on measurement error and misclassification of variables in observational epidemiology: Part I – basic theory, validation studies and simple methods of adjustment. *Statistics in Medicine* 2020 Jul 20;39(16):2197-2231.

43. **Shaw PA**, Gustafson P, Carroll RJ, Deffner V, Dodd KW, Keogh RH, Kipnis V, Tooze JA, Wallace MP, Küchenhoff H, Freedman LS. STRATOS guidance document on measurement error and misclassification of variables in observational epidemiology: Part II –more complex methods of adjustment and advanced topics. *Statistics in Medicine* 2020 Jul 20;39(16):2232-2263.

44. Diorio C*, **Shaw PA***, Orlenka A, Pequignot E, Chen F, Aplenc R, Barrett DM, Bassiri H, Berg RA, Behrens E, Burukpadee C, Callahan C, Finkelstein J, Fitzgerald JC, Frey N, Gonzalez VE, Levine BL, Maude SL, Meyer NJ, Nazimuddin F, Rheingold SR, Rose-John S, White JC, Wertheim G, Zheng Z, June CH, Grupp SA, Melenhorst JJ, Lacey SF, Weiss SL, Teachey DT. Diagnostic Biomarkers to Differentiate Sepsis from Cytokine Release Syndrome in Critically Ill Children. *Blood Advances* 2020; 4(20): 5174–5183. *Equally contributed.

45. Hosgood DH, Slavkovich V, Hua S, Klugman M, Grau-Perez M, Graziano J**, Shaw PA**, Kaplan R, Navas-Acien A, Mossavar-Rahman Yi.: Urinary Arsenic Species are Detectable in Urban Underserved Hispanic Populations. *International Journal of Environmental Research and Public Health*. 2020 Mar 27;17(7):2247.

46. Frey NV, **Shaw PA**, Hexner EO, Pequignot E, Gill S, Luger SM, Mangan JK, Gilmore J, Loren AW, Perl AE, Maude SL, Grupp SA, Shah NN, Lacey SF, Melenhorst JJ, Levine BL, June CH, Porter DL. Optimizing Chimeric Antigen Receptor T-Cell Therapy for Adults With Acute Lymphoblastic Leukemia. *Journal of Clinical Oncology*, 2020 Feb 10;38(5):415-422.

47. Greenberg JM, Poindexter BB, **Shaw PA**, Bellamy SL, Keller RL, Moore PE, McPherson C, and Ryan RM, on behalf of the PROP Investigators. Respiratory Medication Use in Extremely Premature (<29 week)

Infants During Initial NICU Hospitalization: Results from the Prematurity and Respiratory Outcomes Program. *Pediatric Pulmonology*, 2020 Feb;55(2):360-368.

48. Votruba SB**, Shaw PA**, Oh EJ, Venti CA, Bonfiglio S, Bogardus C, Krakoff J, O'Brien DM. Associations of plasma, red blood cell and hair carbon and nitrogen isotope ratios with fish, meat and SSB intake in a 12-week inpatient feeding study. *American Journal of Clinical Nutrition,* 2019 Dec*;* 110(6): 1306-1315.

49. Yancy W, **Shaw PA**, Reale C, Hilbert V, Yan J, Zhu J, Troxel AB, Foster GD, Volpp KG. Effect of Escalating Financial Incentive Rewards on Maintenance of Weight Loss: A Randomized Clinical Trial. *JAMA Network Open*, 2019 Nov 1;2(11):e1914393.

50. Xu R, Mehrotra D, **Shaw PA**. Hazard ratio inference in stratified clinical trials with time-to-event endpoints and limited sample size. *Pharmaceutical Statistics*, 2019 May; 8(3):366-376. doi: 10.1002/pst.1928. doi: 10.1002/pst.1928.

51. Fernandez HE, Doyle A, **Shaw PA**, Bloom R, Mariano M, Potluri A, Baluarte J, Furth S, Amaral S. The Effect of Transfer to Adult Transplant Care on Kidney Function and Immunosuppressant Drug Level Variability in Pediatric Kidney Transplant Recipients. *Pediatric Transplantation.* 2019 Jun 17:e13527.

52. Gopalan A, **Shaw PA**, Lim R, Paramanund J, Patel D, Zhu J, Volpp KG, Buttenheim AM. Use of financial incentives and text message feedback to increase healthy food purchases in a grocery store cash back program: a randomized controlled trial. *BMC Public Health*, 2019 May;19(1):674.

53. Ryan RM, Keller RL, Poindexter B, D'Angio CT, **Shaw PA**, Bellamy, Moore P, McPherson C, Greenberg JM. Respiratory Medications in Infants <29 Weeks during the First Year Post Discharge: The PROP Consortium. The *Journal of Pediatrics*, 2019 May; 208: 148-155.e3

54. Glanz K, **Shaw PA**, Hoffer K, Chung A, Zhu J, Wu R, Huang Q, Choi J, Volpp K.: The Healthy Weigh Study of Lottery-based Incentives and Environmental Strategies for Weight Loss: Design and Baseline Characteristics. *Contemporary Clinical Trials,* 2019 Jan; 76: 24-30.

55. Ryan RM, Feng R, Bazacliu C, Ferkol TW, Ren CL, Mariani TJ, Poindexter BB, Wang F, Moore PE, Chougnet, C, Greenberg JM, Hardie W, Jobe AH, McDowell K, Hamvas A, Holland MR, Kemp J, Levy PT, McPherson C, Tarr P, Singh GK, Warner B, Ballard PL, Ballard RA, Durand DJ, Eichenwald EC, Khan AM, Lusk L, Merrill JD, Nielson DW, Rogers EE, Aschner J, Fike C, Guthrie S, Hartert T, Maitre N, Summar M, D'Angio CT, Kumar V, Pryhuber G, Reynolds AM, Scheible K, Stevens T, Cotten CM, Fisher K, Sharp J, Voynow JA, Davis S, Bellamy SA, Ellenberg J, Fernando M, Panitch H, **Shaw PA**, Schmidt B,Taussig LM, Blaisdell CJ: Black Race Is Associated with a Lower Risk of Bronchopulmonary Dysplasia. *The Journal of Pediatrics* 207: 130-135, Apr 2019 Notes: DOI: 10.1016/j.jpeds.2018.11.025. Epub 2019 Jan 4.

56. Jusko TA, van den Dries MA, Pronk A, **Shaw PA**, Guxens M, Spaan S, Jaddoe VW, Tiemeier H, and Longnecker MP: Organophosphate Pesticide Metabolite Concentrations in Urine during Pregnancy and Offspring Nonverbal IQ at Age 6 Years. *Environmental Health Perspectives* 127(1), Jan 2019; https://doi.org/10.1289/EHP3024.

57. **Shaw PA**, McMurray RG, Butte N, Sotres-Alvarez D, Sun H, Stoutenberg M, Evenson KR, Wong WW, Moncrieft AE, Sanchez-Johnsen LAP, Carnethon M, Arrendo EM, Mathews CE, Mossavar-Rahmani Y.: Calibration of accelerometer and self-reported measures of physical activity in the Hispanic Community Health Study/Study of Latinos. *Journal of Science and Medicine and Sport* 2019 Mar; 22(3), pp.300-306.

58. Kannan L, **Shaw P**, Morley M, Brandimarto J, Fang J, Sweitzer N, Cappola T, and Cappola A. Thyroid Dysfunction in Heart Failure and Cardiovascular Outcomes. *Circulation: Heart Failure*, 2018 Dec; 11(12):e005266.

59. **Shaw PA,** Deffner V, Dodd KW, Freedman LS, Keogh RH, Kipnis V, Kuechenhoff H, and Tooze JA for the Measurement Error and Misclassification Topic Group (TG4) of the STRATOS Initiative: Epidemiologic analyses with error-prone exposures: Review of current practice and recommendations. *Annals of Epidemiology,* 2018; 28(11): 821-828.

60. **Shaw PA**. Use of composite outcomes to assess risk-benefit in clinical trials. *Clinical Trials*, 2018;15(4):352-8.

61. Xu R, Mehrotra D, **Shaw PA**. Incorporating baseline measurement into the analysis of crossover trials with time-to-event endpoints. *Statistics in Medicine*, 2018 Oct; 37 (23): 3280-3292.

62. Oyama M, **Shaw PA,** and Ellenberg S.: Considerations for analysis of time-to-event outcomes subject to competing risks in veterinary clinical studies. *Journal of Veterinary Cardiology,* 2018 Jun; 20(3): 143-153.

63. Oh E, Shepherd B, Lumley T, **Shaw PA**. Considerations for analysis of time-to-event outcomes Measured with Error: Bias and correction with SIMEX. *Statistics in Medicine*, 2018 Apr; 37(8): 1276-1289.

64. Xu R, **Shaw PA**, Mehrotra DV: Hazard ratio estimation in small samples. *Statistics in Biopharmaceutical Research* 2018; 10(2): 139-149.

65. Gofshteyn J, **Shaw PA**, Teachey D, Grupp S, Maude S, Banwell B, Chen F, Lacey SF, Melenhorst JJ, Edmonson MJ, Panzer J, Barrett DM and McGuire, J. Neurotoxicity after CTL019 in a Pediatric and Young Adult Cohort. *Annals of Neurology*, 2018; 84(4): 537-546.

66. Yancy W, **Shaw PA**, Wesby L, Hilbert V, Yang Y, Troxel A, Huffman D, Foster GD, Volpp K. : Financial incentive strategies for maintenance of weight loss: Results from an internet-based randomized controlled trial. *Nutrition and Diabetes,* 8(1): 33, May 2018.

67. Kushner T, **Shaw PA**, Kalra A, Magaldi L, Monpara P, Bedi G, Krok K, Centkowski S, Dalldorf K, D'souza J, Halegoua-De Marzio D, Goldberg DS, Trooskin S, Levine LD, Srinivas SK, Lewis JD, Forde KA, Lo Re V 3rd: Incidence, determinants and outcomes of pregnancy-associated hepatitis B flares: A regional hospital-based cohort study. *Liver International* 38(5): 813-20, May 2018.

68. Elfassy T, Mossavar-Rahmani Y, Van Horn L, Gellman M, Sotres-Alvarez D, Schneiderman N, Daviglus M, Beasley JM, Liabre MM, **Shaw PA**, Prado G, Florez H, Al Hazzouri, AZ: Associations of Sodium and Potassium with Obesity Measures Among Diverse US Hispanic/Latino Adults: Results from the Hispanic Community Health Study/Study of Latinos. *Obesity*. 26(2): 442-450, Feb 2018.

69. Keller RL, Feng R, DeMauro S, Ferkol T, Hardie B, Rogers EE, Stevens TP, Voynow JA, Bellamy SL, **Shaw PA**, Moore PE: Bronchopulmonary Dysplasia and Perinatal Characteristics Predict One-Year Respiratory Outcomes in Newborns at Extremely Low Gestational Age: A Prospective Cohort Study. *Journal of Pediatrics* 2017 Aug;187:89-97.

70. Oyama MA, Ellenberg SS, **Shaw PA**. Clinical trials in veterinary medicine: A new era brings new challenges. *Journal of Veterinary Internal Medicine* 2017 Jul;31(4):970-978.

71. Mossavar-Rahmani Y, Sotres-Alvarez D, Wong W, Loria C, Gellman M, Van Horn L, Alderman M, Beasley J, Lora C, Siega-Riz AM, Kaplan R, **Shaw PA**. Applying recovery biomarkers to calibrate self-report measures of sodium and potassium in the Hispanic Community Health Study/Study of Latinos *Journal of Human Hypertension*, 2017; 31(7): 462-473, Jul 2017.

72. Steytler J, **Shaw PA**, Pau AK, Khabo P, Joshi G, Oelofse P, and Phidisa 2 Study Team. Analysis of Site Heterogeneity and HIV Outcomes Across Rural and Urban Study Sites in Phidisa II - A Multi-site

Randomized Controlled Antiretroviral Treatment Trial in a South African Military Cohort. *Current HIV Research* 2017 May;15(3):178-187.

73. Rastogi D, Jung M, Strizich G, **Shaw PA**, Davis SM, Klein OL, Penedo FJ, Reis AL, Daviglus ML, Moreiras JJ, MA Salathe M, Celedón CC, Isasi CR, Kaplan RC. Association of systemic inflammation, adiposity, and metabolic dysregulation with asthma burden among Hispanic adults. *Respiratory Medicine*, 2017 Apr;125:72-81.

74. **Shaw PA**, Yancy W, Wesby L, Ulrich V, Troxel A, Huffman D, Foster GD, Volpp K. The design and conduct of Keep It Off: An online randomized trial of financial incentives for weight-loss maintenance. *Clinical Trials*, 2017 Feb; 14(1):29-36.

75. Mossavar-Rahmani Y, J, Wang R, **Shaw PS**, Jung M, Sotres-Alvarez D, Castañeda SF, Gallo LC, Gellman MD, Qi Q, Ramos MD AR, Reid KJ, Van Horn PhD L, Patel SR. Actigraphic sleep measures and diet quality in the Hispanic Community Health Study/Study of Latinos Sueño ancillary study. *Journal of Sleep*, 2017; 26(6): 739-746.

76. Fitzgerald JC, Weiss SL, Maude SL, Barrett DM, Lacey S, Melenhorst J, **Shaw PA**, Berg RA, June CH, Porter D, Frey NV, Grupp SA, Teachey DT. Cytokine Release Syndrome After Chimeric Antigen Receptor T Cell Therapy for Acute Lymphoblastic Leukemia. *Critical Care Medicine*, 2017 Feb; 45(2), e124–e131.

77. Jancel T, **Shaw PA**, Hallahan CW, Kim T, Freeman AF, Holland SM, Penzak SR. Therapeutic drug monitoring of posaconazole oral suspension in paediatric patients younger than 13 years of age: a retrospective analysis and literature review. *Journal of Clinical Pharmacy and Therapeutics*, 2017 Feb 1;42(1):75-9.

78. Beasley JM, Jung M, Tasevska N, Wong WW, Siega-Riz AM, Sotres-Alvarez D, Gellman MD, Kizer JR, **Shaw PA**, Stamler J; Stoutenberg M, Van Horn L, Wylie-Rosett J. Mossavar-Rahmani Y. Biomarker-predicted sugars intake compared with self-reported measures in US Hispanics/Latinos: Results from the HCHS/SOL SOLNAS Study. *Public Health Nutrition*, 2016 Dec;19(18):3256-3264.

79. Gopalan A, Paramanund J, **Shaw PA**, Patel D, Friedman J, Brophy C, Buttenheim AM, Troxel AB, Asch DA, Volpp KG. Randomised controlled trial of alternative messages to increase enrolment in a healthy food programme among individuals with diabetes. BMJ *Open*, 2016 Nov; 1;6(11):e012009.

80. Gowda C, Coppock D, Brickman C, **Shaw PA**, Gross R.: Determinants of HIV Transmission Risk Among HIV-Infected Persons Engaged in Care. *AIDS Education and Prevention,* 2016 Oct; 28(5):440-452.

81. Gowda C, Brown T, Compher C, Forde K, Kostman J, **Shaw PA**, Tien P, Lo Re V: Prevalence and predictors of low muscle mass in HIV/viral hepatitis coinfection. AIDS, 2016 Oct 23; 30(16):2519-2528.

82. Anderson GL, Burns CJ, Larsen J, **Shaw PA**. Use of administrative data to increase the practicality of clinical trials: Insights from the Women's Health Initiative. *Clinical Trials*, 2016 Oct; 13(5):519-26.

83. **Shaw PA**, Fay MP: A rank test for bivariate event time outcomes when one event is a surrogate. *Statistics in Medicine,* 2016 Aug 30; 35(19):3413-23.

84. Wang GJ, **Shaw PA**, Townsend RR, Anderson AH, Xie D, Wang X, Nessel LC, Mohler ER, Sozio SM, Jaar BG, Chen J, Wright J, Taliercio JJ, Ojo A, Ricardo AC, Lustigova E, Fairman RM, Feldman HI, Ky B, and the CRIC Study Investigators: The associations between peripheral artery disease (PAD) and physical outcome measures in men and women with chronic kidney disease (CKD). *Annals of Vascular Surgery,* 2016 Aug; 35:111-20.

85. Teachey DT*, Lacey S*, **Shaw PA***, Melenhorst J*, Frey N, Barrett D, Chen F, Fitzgerald J, Gonzalez V, Maude S, Pequignot E, Weiss S, June C, Porter D, and Grupp S: Characterization of Cytokine Release Syndrome associated with CT019L therapy for Acute Lymphoblastic Leukemia. *Cancer Discovery*, 2016 Jun; 6(6):664-79. *co-first authors.

86. Fleshner M, Olivier KN, **Shaw PA**, Adjemian J, Strollo S, Claypool RJ, Folio L, Zelazny A, Holland SM Prevots DR.: Mortality among Patients with Pulmonary Nontuberculous Mycobacterial Disease. *International Journal of TB and Lung Disease,* 2016 May; 20(5): 582-587.

87. Memoli MJ, **Shaw PA**, Han A, Czajkowski L, Reed S, Athota R, Bristol T, Fargis S, Risos K, Powers JH, Davey RT, Taubenberger JK. : Evaluation of Anti-Hemagglutinin and Anti-Neuraminidase Antibodies as Correlates of Protection in an Influenza A/H1N1 Virus Healthy Human Challenge Model. *mBio* April 2016; 7(2) doi: 10.1128/mBio.00417-16.

88. Wang L, **Shaw PA**, Mathelier HM, Kimmel SE, French B. Evaluating risk-prediction models using data from electronic health records. *Annals of Applied Statistics,* 2016 Mar;10(1):286-304.

89. Wang GJ, **Shaw PA**, PhD, Townsend RR, Anderson AH, Xie D, Wang X, Nessel LC, , Mohler ER, Sozio SM, Jaar4 BG, Chen J, Wright J, Taliercio JJ, Akinlolu Do, Ricardo AC, Lustigova E, Fairman RM, Feldman HI, Ky B, and the CRIC Study Investigators. Sex Differences in the Incidence of Peripheral Artery Disease (PAD) in the Chronic Renal Insufficiency Cohort (CRIC). *Circulation: Cardiovascular Quality and Outcomes*, 2016 Jan; 9(1): S86-93.

90. Porter DL, Lacey S Grupp S, Hwang W-T, **Shaw PA**, Frey N, Melenhorst J, Chew A, Gonzalez V, Kalos M, Marcucci K, Maude S, Teachey D, Litchman M, Shen A, Wood P, Levine BL, June CH. Chimeric Antigen Receptor (CAR) T Cell Therapy for Relapsed/Refractory CLL. *Science Translational Medicine,* 2015 Sep; 7(303): 303ra139.

91. Poindexter B, Feng R, Schmidt B, Aschner JL, Ballard RA, Hamvas A, Reynolds AM, **Shaw PA**, Jobe A. Comparisons and Limitations of Current Definitions of Bronchopulmonary Dysplasia for the Prematurity and Respiratory Outcomes Program. *Annals of the American Thoracic Society*, 2015; *12*(12), 1822-1830.

92. Wang GJ, **Shaw PA**, Mohler ER, Durinka JB, Layne AJ, Etherington MS, Sehgal CM, Fairman R, Ky B. The Role of Femoral Artery Ultrasound Measurements in Predicting Restenosis Following Endovascular Intervention. *Journal for Vascular Ultrasound*, 2015; 39(3): 127-132.

93. Mossavar-Rahmani Y, **Shaw PA**, Wong WW, Sotres-Alvarez D, Gellman MD, Van Horn L, Stoutenberg M, Daviglus ML, Wylie-Rosett J, Siega-Riz AM, Ou F, Prentice RL. Applying recovery biomarkers to calibrate self-report measures of energy and protein in the Hispanic Community Health Study/Study of Latinos. *American Journal of Epidemiology*, 2015; 181(12): 996-1007.

94. Spaan S, Pronk A, Koch HM, Jusko TA, Jaddoe VW, **Shaw PA**, Tiemeier HM, Hofman A, Pierik FH, Longnecker MP. Reliability of concentrations of organophosphate pesticide metabolites in serial urine specimens from pregnancy in the Generation R study. *Journal of Exposure Sciences and Environmental Epidemiology*, 2015; *25(3): 286-294.*

95. Pryhuber GS, Maitre NL, Ballard RA, Cifelli D, Davis SD, Ellenberg JH, Greenberg JM, Kemp J, Mariani TJ, Panitch H, Ren C, Schmidt B, **Shaw PA**, Blaisdell C, Taussig L, Hamvas A. Prematurity and Respiratory Outcome Program (PROP): Study protocol of a prospective multicenter study of respiratory outcomes of premature infants in the United States. *BMC Pediatrics,* 2015; 15(37), doi:10.1186/s12887-015-0346-3.

96. Memoli JJ, Czajkowski L, Reed S, Bristol T, Proudfoot K, Fargis S, Stein M, Dunfee RL, **Shaw PA**, Taubenberger JK. Validation of a Wild-Type Influenza A Human Challenge Model: H1N1pdMIST, An

A(H1N1)pdm09 Dose Finding IND Study. *Clinical Infectious Diseases*, 2015; 60(5): 693-702.

97. Maude SL, Frey N, **Shaw PA**, Aplenc R, Barrett DM, Bunin NJ, Chew A, Gonzalez VE, Zheng Z, Lacey SF, Mahnke YD, Melenhorst JJ, Rheingold SR, Shen A, Teachey DT, Levine BL, June CH, Porter DL, Grupp SA. Chimeric antigen receptor T cells for sustained remissions in leukemia. *New England Journal of Medicine*, 2014; 371: 1507-17.

98. Jusko TA, **Shaw PA**, Snijder CA, Pierik FH, Koch HM, Hauser R, Jaddoe VW, Burdof A, Hofman A, Tiemeier H, Longnecker MP. Reproducibility of urinary bisphenol A concentrations measured during pregnancy in the Generation R. *Journal of Exposure Sciences and Environmental Epidemiology*, 2014; 24(5):532-6.

99. Price S, **Shaw PA**, Seitz A, Joshi G, Davis J, Niemela JE, Perkins K, Hornung RL, Folio L, Rosenberg PS, Puck JM, Hsu AP, Lo B, Pittaluga S, Jaffe ES, Fleisher TA, Rao VK, and Lenardo MJ. Natural history of Autoimmune Lymphoproliferative Syndrome associated with FAS gene mutations. *Blood, 2014; 123(13): 1989-1999*.

100. Olivier KN, **Shaw PA**, Glaser TS, Bhattacharyya D, Fleshner M, Brewer CC, Zalewski CK, Folio LR, Seigelman JR, Shallom S, Park IK, Sampaio EP Zelazny AM, Holland SM, Prevots DR. Inhaled amikacin for treatment refractory pulmonary nontuberculous mycobacterial disease. *Annals of the American Thoracic Society*, 2014 Jan; 11(1):30-5.

101. Marques A, Telford SR, Turk S, Chung E, Williams C, Dardick K, Krause P, Brandeburg C, Crowder CD, Carolan HE, Eshoo MW, **Shaw PA**, Hu LT. Xenodiagnosis to detect *Borrelia burgdorferi* infection: A first-in-human study. *Clinical Infectious Diseases, 2014:* 58(7), 937-945.

102. Sowerwine KJ, **Shaw PA**, Gu W, Ling JC, Collins MT, Darnell DN, Anderson VL, Davis J, Hsu A, Welch P, Puck JM, Holland SM, Freeman AF. Bone Density and Fractures in Autosomal Dominant Hyper IgE Syndrome. *Journal of Clinical Immunology,* 2014 Feb;34(2):260-4.

103. Spinner MA, Sanchez LA, Hsu AP, **Shaw PA**, Zerbe CS, Calvo KR, Arthur DC, Gu W, Gould CM, Brewer CC, Cowen EW, Freeman AF, Olivier KN, Uzel G, Zelazny AM, Daub JR, Spalding CD, Claypool RJ, Giri NK, Alter BP, Mace EM, Orange JS, Cuellar-Rodriguez J, Hickstein DD, Holland SM. GATA2 Deficiency: A Protean Disorder of Hematopoiesis, Lymphatics and Immunity. *Blood*, 2014 Feb 6;123(6):809-21.

104. **Shaw PA** and Proschan MA. Null but not void: Considerations for hypothesis testing. *Statistics in Medicine,* 2013, 32(2): 196-205.

105. Shepherd B, **Shaw PA** and Dodd L. Using audit Information to adjust parameter estimates for data errors in clinical trials. *Clinical Trials*, 2012 Dec; 9(6): 721-729.

106. **Shaw PA**, Prentice, RL. Hazard ratio estimation for biomarker-calibrated dietary exposures. *Biometrics*, 2012 Jun; 68(2): 397-407.

107. Lee M, Lee J, Carroll MW, Choi H, Min S, Song T, Via LE, Goldfeder LC, Kang E, Jin B, Park H, Kwak H, Kim H, Heon HS, Jeong I, Joh JS, Chen RY, Olivier KN, **Shaw PA**, Follmann D, Song SD, Lee JK, Lee DH, Kim CT, Dartois V, Park SK, Cho SN, Barry CE. Linezolid for Treatment of Chronic Extensively Drug-Resistant Tuberculosis. *New England Journal of Medicine*, 2012 Oct 18; 367(16):1508-1518.

108. Greenberg DE, Shoffner AR, Marshall-Batty KR, Arora K, Zhao M, Martin R, Ding L, Hammer CH, **Shaw PA**, Kuhns DB, Malech HL, Gallin JI, Zaramber KA, Holland SM. Serologic Reactivity to the Emerging Pathogen Granulibacter bethesdensis. *Journal of Infectious Diseases.* 2012 Sep 15;206(6):943-51.

109. Browne SK, Burbelo PD, Chetchotisakd P, Suputtamongkol Y, Kiertiburanakul S, **Shaw PA**, Kirk JL,

Jutivorakool K, Zaman R, Ding L, Hsu AP, Patel SY, Olivier KN, Lulitanond V, Mootskikapun P, Anunnatsiri, S, Angkasekwinai N, Sathapatayavongs B, Hsueh P, Shieh C, Brown MR, Thongnoppakhun W, Claypool R, Sampaio EP, Thepthai C, Waywa D, Dacombe C, Reizes Y, Zelazny AM, Saleeb P, Rosen L, Allen M, Iadarola M, Holland SM. Adult onset immunodeficiency in Thailand and Taiwan. *New England Journal of Medicine*, 2012 Aug 23;367(8):725-34.

110.   Carroll MW, Lee M, Cai Y, Hallahan CW, **Shaw PA**, Min JH, Goldfeder LC, Alekseyev V, Grinkrug S, Kang HS, Hwang S, Park HM, Kang E, Lee SY, Jin B, Park HE, Min S, Park SK, Jeon DS, Via LE, Barry CE 3rd. Frequency of Adverse Reactions to First- and Second-line Anti-tuberculosis Chemotherapy in a Korean cohort. *The International Journal of Tuberculosis and Lung Disease*, 2012 Jul;16(7):961-6.

111.   Zarember KA, Marshall-Batty KR, Cruz AR, Chu J, Fenster ME, Shoffner AR, Rogge LS, Whitney AR, Czapiga M, Song HH, **Shaw PA**, Nagashima K, Malech HL, DeLeo FR, Holland SM, Gallin JI, Greenberg DE. Innate immunity against *Granulibacter bethesdensis*, an emerging Gram-negative bacterial pathogen, *Infection and Immunity*, 2012 Mar; 80 (3) 975-981.

112.   Hsu AP, Dowdel KC, Davis J, Niemela JE, Anderson SM**, Shaw PA**, Rao VK, Puck JM. Autoimmune Lymphoproliferative Syndrome due to FAS mutations outside the signal transducing death domain: Molecular mechanisms and clinical penetrance. *Genetics in Medicine*. 2012 Jan; 14(1) 81-89.

113.   Lumley T, **Shaw PA,** Dai JY. Connections between survey calibration estimators and semiparametric models for incomplete data. *International Statistical Review*, 2011, 79 (2): 200–220.

114.   Proschan MA, **Shaw PA**. Asymptotics of Bonferroni for dependent normal test statistics. *Statistics and Probability Letters,* 2011 Jul; 81: 739-748.

115.   Freeman AF, Mannino EA, **Shaw PA**, Davis J, Hsu AP, Welch P, Matta JR, Hadigan C, Pettigrew RI, Holland SM, Gharib AM. Coronary artery abnormalities in hyper IgE syndrome. *Journal of Clinical Immunology*, 2011 Jun; 31: 338-45.

116.   Heimall J, Davis, J, **Shaw PA**, Hsu A, Gu W, Welch P, Holland SM, Freeman AF. Paucity of genotype-phenotype correlations in STAT3 mutation positive hyper IgE syndrome. *Clinical Immunology*, 2011 Apr; 139:75-84.

117.   Prevots DR, **Shaw PA** Strickland D, Jackson LA, Raebel MA, Blosky MA, Montes de Oca R, Shea YR, Seltz AE, Holland SM Olivier KN. Nontuberculous mycobacterial lung disease prevalence at four integrated health care delivery systems. *American Journal of Respiratory Critical Care Medicine* 2010 Oct 1; 182 (7): 970-6.

118.   Fay MP, **Shaw PA.** Exact and asymptotic weighted logrank tests for interval censored data: the interval R package. *Journal of Statistical Software*, 2010 Aug; 36 (2): 1-34.

119.   Komati S, **Shaw PA**, Stubbs N, Mathibedi MJ, Malan L, Metcalf JA, Masur H, Hassim S. Tuberculosis risk factors and mortality for HIV infected persons receiving antiretroviral therapy in South Africa. *AIDS*, 2010 Jul 31; 24 (12): 1849-55.

120.   Greenberg DE, Marshall-Batty KR, Brinster LR, Zarember KA, **Shaw PA,** Mellbye BL, Iversen PL, Holland SM, and Geller BL. Antisense phosphorodiamidate morpholino oligomers targeted to an essential gene inhibit Burkholderia cepacia complex. *Journal of Infectious Diseases,* 2010 Jun; 201 (12): 1822-30.

121.   Hassim S, **Shaw PA**, Sangweni P, Malan L, Ntshani E, Mathibedi MJ, Stubbs N, Metcalf JA, Eckes R, Masur H, Komati S. Detection of a substantial rate of multidrug-resistant tuberculosis in an HIV-infected population in South Africa by active monitoring of sputum samples. *Clinical Infectious Diseases,* 2010 Apr 1; 50(7): 1053-9.

122. **Shaw PA**, Pepe MS, Alonzo TA, Etzioni R. Methods for assessing improvement in specificity when a biomarker is combined with a standard screening test. *Statistics of Biopharmaceutical Research*, 2009 Feb 1; 1 (1): 18-25.

123. Prentice RL, **Shaw PA**, Bingham S A, Beresford SA, Caan B, Neuhouser ML, Patterson RE, Stefanick ML, Satterfield S, Thomson CA, Snetselaar L, Thomas A, Tinker LF. Biomarker-calibrated energy and protein consumption and increased cancer risk among postmenopausal women. *American Journal of Epidemiology*, 2009 Apr 15;169(8):977-89.

124. Zonios DI, Falloon J, Bennett, JE, **Shaw PA**, Chaitt D, Baseler MW, Adelsberger JW, Metcalf JA, Polis MA, Kovacs SJ, Kovacs JA, Davey RT, Lane HC, Masur H, and Sereti I. Idiopathic CD4+ lymphocytopenia: natural history and prognostic factors. *Blood*, 2008 Jul 15; 112 (2): 287-94.

125. Neuhouser ML, Tinker L, **Shaw PA**, Schoeller D, Bingham SA, Van Horn L, Beresford SA, Caan B, Thomson C, Satterfield S, Kuller L, Heiss G, Smit E, Sarto G, Ockene J, Stefanick ML, Assaf A, Runswick S and Prentice RL. Use of recovery biomarkers to calibrate nutrient consumption self-reports in the Women's Health Initiative. *American Journal of Epidemiology*, 2008 May 15; 167 (10): 1247-59.

126. Jewett MW, Lawrence K, Bestor AC, Tilly K, Grimm D, **Shaw PA**, VanRaden M, Gherardini F, Rosa P A. The critical role of linear plasmid lp36 in the infection cycle of borrelia burgdorferi. *Molecular Microbiology* 2007 Jun; 64 (5):1358-74.

127. Etzioni R, Howlader N, **Shaw PA**, Ankerst DP, Penson DF, Goodman PJ, Thompson IM. Long-term effects of finasteride on PSA Levels: results from the Prostate Cancer Prevention Trial. *Journal of Urology* 2005 Sep; 174(3):877–81.

128. **Shaw PA**, Etzioni R, Zeliadt S, Mariotto A, Karnofski K, Penson D, Weiss N, Feuer E. Ecologic study of PSA screening and prostate cancer mortality in nine geographic areas of the US. *American Journal of Epidemiology* 2004; 160(11):1059–1069.

129. Etzioni R, Berry KM, Legler JM, **Shaw PA**. Prostate-specific antigen testing in black and white men: an analysis of Medicare claims from 1991-1998. *Urology* 2002 Feb; 59(2):251–5.

130. Zabel R, Anderson J, **Shaw P**. A multiple reach model to describe the migratory behavior of Snake River yearling chinook salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 1998; 55(3): 658–667.

Pre-Prints

Boe LA, Lumley T, **Shaw PA**. Practical considerations for sandwich variance estimation in two-stage regression settings. arXiv preprint arXiv:2209.10061. 2022 Sep 21.

Heng S, **Shaw PA**. A Model-Free and Finite-Population-Exact Framework for Randomized Experiments Subject to Outcome Misclassification via Integer Programming. arXiv preprint arXiv:2201.03111. 2022 Jan 9.

Boe L, **Shaw PA**. An Augmented Likelihood Approach for the Discrete Proportional Hazards Model Using Auxiliary and Validated Outcome Data--with Application to HCHS/SOL Study. arXiv preprint arXiv:2111.12760. 2021 Nov 24.

Yang JB, Shepherd BE, Lumley T, **Shaw PA**. Optimum Allocation for Adaptive Multi-Wave Sampling in R: The R Package optimall. Preprint arXiv:2106.09494. 2021 Jun 17.

Duan R, Liang CJ, **Shaw PA**, Tang CY, Chen Y: Missing at Random or Not: A Semiparametric Testing Approach. Submitted. Pre-print, arXiv:2003.11181.

Xu D, **Shaw P**, Barnett I. Novel Non-Negative Variance Estimator for (Modified) Within-Cluster Resampling. Submitted. Pre-print, arXiv:1911.12882 [stat.ME].

Editorials and commentaries

Shaw PA. Analyses of Physical Activity and Health—Are Our Methods Too Sedentary? JAMA Network Open. 2019 Oct 2;2(10):e1914085.

Freedman LS and **Shaw PA**.: On the formation and use of calibration equations in nutritional epidemiology- Discussion of the Paper by R. L. Prentice and Y. Huang. *Statistical Theory and Related Fields*, 2018; 2(1): 11-13.

Shaw PA Combination versus monotherapy for septic shock patients [Commentary]. *Critical Care Medicine* 2010; Sep; 38 (9): 1905-6.

Marques A, **Shaw P**, Schmid CH, Steere A, Kaplan RF, Hassett A, Shapiro E, Wormser GP. Re: A randomized, placebo-controlled trial of repeated IV antibiotic therapy for Lyme encephalopathy. Prolonged Lyme disease treatment: enough is enough [Commentary]. *Neurology*; 2009 Jan 27;72 (4):383-4.

Books

Proschan MA and **Shaw PA**. *Essentials of Probability Theory for Statisticians*. Chapman & Hall/CRC Texts in Statistical Science, March 2016.

Book Chapters

Shaw PA. Regression calibration for covariate measurement error. Chapter in: *Handbook of Measurement Error Models,* Editors: Grace Yi, Aurore Delaigle, Paul Gustafson. Chapman and Hall/CRC, 2021.

Shaw PA and Proschan. Estimation and Hypothesis Testing. Chapter In: *Principles and Practice of Clinical Trials*, Editors: Steven Piantadosi and Curtis Meinert. Springer, ePub online August 2020. Doi: https://doi.org/10.1007/978-3-319-52677-5.

Wakim PG and **Shaw PA**. Data and Safety Monitoring. Chapter 10 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research,* 4th Edition. Elsevier Inc.: Academic Press, 2018.

Shaw PA, Lee Johnson L, Borkowf CB. Issues in Randomization. Chapter 23 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research,* 4th Edition. Elsevier Inc.: Academic Press, 2018.

Lee Johnson L, Borkowf CB, **Shaw PA**. Hypothesis Testing. Chapter 24 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research,* 4th Edition. Elsevier Inc.: Academic Press, 2018.

Shaw PA, Lee Johnson L, Proschan MA. Intermediate Topics in Biostatistics. Chapter 27 In: Gallin JI, Ognibene FP. *Principles and Practice of Clinical Research,* 4th Edition. Elsevier Inc.: Academic Press, 2018.

Mossavar-Rahmani Y, Tinker LF, Neuhouser ML, Huang Y, **Shaw P**, Beasley JM, Di C, Zheng C, Li W, Johnson K, and Prentice RL. Women's Health Initiative Dietary Modification Trial: Update and Application of Biomarker Calibration to Self-Report Measures of Diet and Physical Activity In: N. Balakrishnan*, ed., Methods and Applications of Statistics in Clinical Trials, Volume 1: Concepts, Principles, Trials, and Designs*. John Wiley and Sons; 2013.

Other non-Refereed Scholarly Publications

Shaw PA and Hendriek Boshuizen on behalf of STRATOS TG4**.** STRengthening Analytical Thinking for Observational Studies (STRATOS): Updates from the Measurement Error and Misclassification Topic Group (TG4). *International Biometric Society Biometric Bulletin*, 2021, v38 (1): 8-9.

Shaw PA. The appropriate use of statistics in biological sciences. *The American Association of Immunologists Newsletter*, 2010, March/April.

Anderson J, Hayes J, **Shaw P**, Zabel R. *Columbi*a *Rive*r *Salmo*n *Passag*e *Model*. *CRiSP1.*5 *Theory*, *Calibratio*n *an*d *Validatio*n *Manual*. Columbia Basin Research, Seattle, WA, 1996.

Shaw P. *Ga*s *saturatio*n *an*d *sensitivity usin*g *CRiSP*. *Dissolve*d *Ga*s *Abatemen*t *Stud*y *Phas*e *I*, Army Corps of Engineers Technical Report, Portland, Oregon, 1996.

Presentations (Last five years)

"Flexible design-based estimators to address error prone data", Biostatistics Seminar, Columbia University Mailman School of Public Health, New York, NY, November 10, 2022.

"Addressing uncertainty in risk regression models adjusted for an error-prone exposure ", National Council on Radiation Protection and Measurement SC 1-28 Workshop: Recommendations on Statistical Approaches to Account for Dose Uncertainties in Radiation Epidemiologic Risk Models, Hybrid Meeting/Bethesda, MD, September 22, 2022.

"Advantages of Multi-Wave, Multi-Frame Sampling Designs for Analysis of Error-Prone Data from Electronic Health Records", American Statistical Association Joint Statistical Meeting, Washington DC, August 2022.

"Cautionary notes for regression analyses that use predicted values as an outcome or exposure", International Biostatistics Conference, Riga, Latvia, July 14, 2022.

"Trial Design Considerations, Including Dose-finding and Confirmatory Studies", Session Panelist, FDA-American College of Rheumatology Summit, Virtual meeting, May 18, 2022.

"Flexible design-based estimators to address error prone data", Biostatistics Seminar, Division of Biostatistics, University of California, Davis, May 10, 2022.

"Considerations for improved efficiency of design-based estimators to address error prone data", Biostatistics: Foundations and the Era of Data Science Conference, University of Waterloo, Virtual Meeting, April 28, 2022.

"Flexible design-based estimators to address error prone data", Department of Biostatistics Seminar, University of Washington, Seattle, WA, March 3, 2022.

"Open Science". STRATOS Inititative Virtual Meeting, Dec 14, 2021.

"Understanding and adjusting for Berkson error arising from prediction equations: Examples from the Hispanic Community Health Study ", World Trade Center Registry, Virtual Rountable Seminar, October 7, 2021.

"Statistical challenges of launching a randomized controlled trial of a COVID19 therapeutic at the start of the pandemic ", American Statistical Association Joint Statistical Meeting, Virtual Meeting, August 2021.

"On the use of predicted values in nutritional epidemiology: Example from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) ", Society for Epidemiologic Research Annual Meeting, Virtual Meeting, June 23, 2021.

"Efficient multi-wave validation sampling to address data errors in electronic health records", International Biometrics Society, Eastern North American Region (ENAR), Virtual Meeting, March 2021

"Determinants of hospital outcomes for COVID-19 infections in a large Pennsylvania Health System ", Converence on Retroviruses and Opportunistic Infections (CROI), Virtual Meeting, March 2021

"Error-prone failure time outcomes in electronic health records data: Methods for analysis and study design" Survival, Longitudinal And Multivariate data (SLAM) Working Group Seminar, John Hopkins University, February 19, 2021

"Calibration of Amino Acid Stable Carbon Isotope Ratios As Biomarkers of Human Diet " International Conference on Diet and Activity Monitoring (ICDAM), February 11, 2021

"Error-prone failure time outcomes in electronic health records data: Methods for analysis and study design" Kaiser Permanente Washington Health Research Institute, Seattle, WA January 26, 2021

"Understanding and tackling measurement error: A review of modern practical methods", Full-day short course, International Society of Clinical Biostatistics (ISCB), Virtual Meeting, August 2020

"Methods to address correlated covariate and time-to-event error in electronic health records", Invited presentation, International Society of Clinical Biostatistics (ISCB), Virtual Meeting, August 2020

"Understanding and adjusting for Berkson error arising from prediction equations", International Biometrics Society, Eastern North American Region (ENAR), Virtual Meeting, March 2020

"Methods to address correlated exposure and outcome error for failure time outcomes", International Chinese Statistical Association, Hangzhou, China; December 2019

"Error-Prone Failure Time Data in Electronic Health Records (EHR) Data: Methods for Analysis and Study Design", Biostatistics Seminar, McGill University, Montreal, Canada October 16, 2019

"Introduction to Penn CFAR/PDH Collaborative", Data Science and Research Opportunities with the Penn CFAR/PDPH Collaborative Workshop, University of Pennsylvania, September 6, 2019.

 "Considerations for study design and analysis of error-prone electronic health records (EHR) data", Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania Seminar, September 5, 2019.

"Understanding and tackling measurement error: a whistle stop tour of modern practical methods", Invited Short course, American Statistical Association Joint Statistical Meeting, Denver, CO, August 2019

"Methods to address correlated covariate and time-to-event measurement error ", Invited Presentation, International Biometric Society, WNAR, Annual Meeting, Portland, OR. June 2019.

"Use and misuse of predicted values in epidemiologic data analyses: Examples from the Hispanic Community Health Study ", Meeting of the STRATOS initiative, Banff, Canada. June 4-7, 2019

"Assessing efficacy for an interval-censored bivariate failure time outcome when one event is a surrogate." 2019 Conference on Lifetime Data Science: Foundations and Frontiers, Pittsburgh, PA, May 31, 2019

"Considerations for association analyses of error prone outcomes and exposures: An example using electronic health records data", University of Pennsylvania Center for AIDS Research (CFAR) Symposium, Philadelphia, PA May 14, 2019

"Estimation methods to address correlated covariate and time-to-event error", University of Waterloo Statistics and Biostatistics Seminar, Waterloo, Canada, April 4, 2019.

"Estimation methods to address correlated covariate and time-to-event error", 5th Conference of the Deutsche Arbeitsgemeinschaft Statistik (DAGStat 2019), Munich, Germany March 20, 2019.

"Raking and regression calibration: methods to address bias induced from correlated covariate and time-to-event error", National Cancer Institute Biostatistics Branch Seminar, Rockville, MD November 7, 2018.

"Methods to address measurement error in time-to-event outcomes in observational studies" National Cancer Institute Workshop: Methodological Issues in Measurement Error, Rockville, MD November 5, 2018.

"Calibration of Isotope ratio data " ISOECOL 2018 Workshop: Approaches to improve the reproducibility of amino acid stable isotope analyses, Vina del Mar, Chile. August 4, 2018.

"On the use of raking to improve regression calibration: a flexible method to address error-induced bias efficiently", American Statistical Association Joint Statistical Meeting, Vancouver, BC, July 31, 2018.

"Considerations for Analysis of Time-to-Event Outcomes Measured with Error", Laurence Freedman Seminar Symposium on Clinical Trials and Measurement Error, Gertner Institute for Epidemiology and Health Policy Research, Tel Hashomer, Israel. February 13, 2018.

Teaching Experience

- Co-Instructor, "Design and Analysis of Clinical Trials", University of Washington Seattle Summer Institutes, July 20-22, 2022
- Guest Lecturer, "Missing data ", BIOST 524 Design of Medical Studies, Department of Biostatistics, University of Washington, May 12, 2022
- Student Seminar Speaker, "Biostatistics Research Opportunities at Kaiser Permanente Washington Health Research Institute", Department of Biostatistics, University of Washington, April 27, 2022
- Course Director, BSTA 620 Probability, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, Fall 2015-2017, 2020
- Co-Instructor, Biostatistics for Epidemiologic Methods II, Biostatistics for Epidemiologic Methods University of Pennsylvania School of Medicine Winter 2014, 2015, 2020
- Guest Lecturer, "Competing Risks" for EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, Dec 2019
- Guest Lecturer, "Strategies to address missing data in healthcare databases" for EPID 656 Clinical Database Research Methodology, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, December 2019
- Guest Lecturer, "Missing data and Intent to Treat", EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman School of Medicine, Feb 6, 2019
- Guest Lecturer, "Competing Risks" for EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, November 27 2018
- Guest Lecturer, "Missing data and Intent to Treat", EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman School of Medicine, Feb 21, 2018

- Guest Lecturer, "Tables and Figures", BSTA 511 Biostatistics in Practice, Department of Biostatistics, Epidemiology and Informatics, University of Pennsylvania Perelman School of Medicine, Jan 31, 2018
- Guest Lecturer, "Missing Data" for EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, February 1, 2017
- Guest Lecturer, "Missing Data" for EPID 640 Advanced Topics in Epidemiology, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, December 2, 2016
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, January 5, 2016
- Discussion Leader, Radiation Oncology Residents Journal Club, University of Pennsylvania Perelman School of Medicine January 23, 2015
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, January 13, 2015
- Guest Lecturer, EPID 638 Advanced Topics in Clinical Trials, Department of Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine, December 2, 2014
- Instructor, Independent Study-Selected Topics in Survival Analysis, University of Pennsylvania Perelman School of Medicine, Spring 2015
- Instructor, Independent Study-Propensity Score Analysis, University of Pennsylvania Perelman School of Medicine, Fall 2014
- Discussion leader, Penn Reading Project, University of Pennsylvania, August 25, 2014.
- Co-Instructor, Clinical Translational Research, Study Design Module, NIH, July 2013
- Lecturer, "Data Safety Monitoring", Introduction to the Principles and Practices of Clinical Research, NIH Clinical Center, February 26, 2013
- Guest Lecturer, "Randomization", Stat 6289 Clinical Trials, George Washington University, Feb 7, 2013
- Co-Instructor, Introduction to the Principles and Practices of Clinical Research, NIH/India Ministry of Science and Technology in New Delhi, India October 2012
- Co-Instructor, Clinical Translational Research, Study Design Module, NIH, July 2012
- Co-Instructor, Introduction to Probability Theory, Informal reading course with NIH Intramural Research Trainee, Fall 2010-Winter 2011
- Guest Lecturer, "Methods for Measurement Error in Survival Analysis", Biost 578 Measurement Error and Misclassification, Department of Biostatistics, University of Washington, Spring 2006
- Teaching Assistant, Department of Biostatistics, University of Washington, 2002-2005
    - Biost 511 Medical Biometry I
    - Biost 537 Survival Analysis in Epidemiology
    - Biost 570 Advanced Generalized Linear Models I
- Instructor, University of Washington Extension 1994-1995
    - Stat 220 Basic Statistics
    - Stat 311 Elements of Statistical Methods
- Instructor, Department of Mathematics, University of Washington
  Summer 1991-1994, Fall 1993
    - Math 124-125 Calculus with Analytic Geometry I,II
    - Math 308 Matrix Algebra with Applications
- Teaching Assistant, Department of Mathematics, University of Washington,
    - Fall 1990-Spring 1994
    - Math 120 Precalculus
    - Math 124-126 Calculus with Analytic Geometry I,II,II
    - Math 554 Linear Analysis

Mentoring

Research Advisor, Yinxiang Wu, Departement of Biostatistics, University of Washington, 2021-

Research Advisor, Siyu Heng, PhD, Department of Applied Mathematics, University of Pennsylvania, 2021-

2022

Dissertation Committee Member, Jill Schnall, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2021-present

PhD Dissertation Committee Chair, Hailey Richardson, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2020-

PhD Disseration Committee Member, Jessica Johnson, Biological Sciences, University of Alaska, Fairbanks

Biostatistics Lab Rotation Research Advisor for Amelia Schroeder, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2020

Biostatistics Lab Rotation Research Advisor for Jenny Shen, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2020

PhD Dissertation Committee Chair, Jiaxin Fan, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2019-2020

MSCE Thesis Committee Member for Cedric Bien-Gund, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2019-present

PhD Dissertation Committee Chair for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2019-present

Academic Advisor for Eunyoung Park, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2019-present

Biostatistics Lab Rotation Research Advisor for Eunyoung Park, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2019

PhD Dissertation Advisor for Lilian Boe, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-2022

PhD Dissertation Committee Member for Lu Huang, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-2020

MSCE Thesis Committee Member for Dovie Watson, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-2020

Academic Advisor for Francesca Mandel, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2018-2020

Post-doctoral mentor Kyunghee Han, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018- 2020

Master's Thesis Advisor for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2018-2019

Biostatistics Lab Rotation Research Advisor for Lilian Boe, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2017-2018

PhD Dissertation Committee Member for Le Wang, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

Academic Advisor for Lilian Boe, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2017-2018

Master's Thesis Advisor for Mackenzie Edmondson, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

Master's Thesis Advisor for Raul Torres Allende, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2018

PhD Dissertation Advisor for Eric Oh, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2017-2020

Biostatistics Lab Rotation Research mentor for Nicholas Illenberger, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, Fall 2017

Biostatistics Lab Rotation Research mentor for Joanna Milton, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, Spring 2017

MSCE Thesis Committee Member for Refilwe Senyatso, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2016-present

Biostatistics Research mentor for Eric Oh, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2015-2017

PhD Dissertation co-Advisor for Emily Xu, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2017

MSCE Thesis Committee Member for Tatyana Kushner, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2016

MSCE Thesis Committee Member for Erwin Calgua Guerra, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2016

MSCE Thesis Committee Member for Grace Wang, MD, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2014-2015

Biostatistics Advisor for Victoria Ulrich, MPH student, Graduate Program in Public Health, University of Pennsylvania Perelman School of Medicine, 2014

Research Assistant Mentor for Jiwei He, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

MSCE Thesis Committee Member for Hilda Fernandez, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

MSCE Thesis Committee Member for Caritha Gowda, Department of Biostatistics and Epidemiology, University of Pennsylvania School of Medicine, 2013-2014

Local Committee Membership

Committee on Appointments and Promotions (COAP), Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania Perelman School of Medicine, 2018-2020

Data and Safety Monitoring Board, Wellth Trial, University of Pennsylvania (S. Kimmel, PI) (Member), 2017-2019

Admissions Committee, Division of Biostatistics, University of Pennsylvania Perelman School of Medicine, Chair 2019-present; co-Chair 2017-2018; Member 2016-present

Academic Advising Committee, Division of Biostatistics, University of Pennsylvania, 2016-present

Data and Safety Monitoring Board, Reducing Proviral HIV DNA With Interferon-a (BEAT-HIV), L. Montaner, PI), Wistar Institute, 2014-2018

Data and Safety Monitoring Board, University of Pennsylvania Cancer Center (UPCC) 31213 (CART-meso in mesothelin expressing cancers; A. Haas, PI) (Member) 2014-2018

Service Center Committee, Center for Clinical Epidemiology and Biostatistics, Perelman School of Medicine, University of Pennsylvania, 2014-present

Computing Committee, Division of Biostatistics, University of Pennsylvania, Co- Chair 2016-2017; member 2013-present

National and International Committee Membership

Data and Safety Monitoring Board, National Institute of Neurologic Disease and Stroke (NINDS) Immunotherapy for Parkinson's Disease, member 2023-

Program Chair-Elect, Lifetime Data Science Section of the American Statistical Association, 2023.

Diversity, Equity and Inclusion Committee, Eastern North American Region International Biometric Society, Member 2022- present

National Cancer Institute (NCI) Biostatistics Branch Site Visit Team, 2022

Data and Safety Monitoring Board, Center for International Blood and Marrow Transplant Resource for Clinical Investigation in Blood and Marrow Transplantation (CIBMTR RCI BMT), Member 2021-

Regional Committee, Eastern North American Region International Biometric Society, Member 2020-present

Data and Safety Monitoring Board, NIH/NICHD Study, Mobile WACh-NEO: Mobile Solutions for Neonatal Health and Maternal Support , Chair 2020-present

Chair-Elect/Chair/Past-Chair, Biometrics Section of the American Statistical Association, 2020-2022.

The International Biometric Conference (IBC) Young Statisticians Showcase Award, Committee Chair 2018, 2020

Bone, Reproductive, and Urologic Drugs Advisory Committee (BRUDAC), US Food and Drug Administration (FDA), Member 2017-present

Data and Safety Monitoring Board, VA Cooperative Study, CSP 594: Comparative Effectiveness in Gout: Allopurinol vs. Febuxostat, Member 2017-2021

Data and Safety Monitoring Board, PCORI funded Study, I-STOP-AFib, UCSF (PI Gregory M Marcus), Member 2017-2020

Representative to the Council of Sections, Biometrics Section of the American Statistical Association,

2017-2020

Data and Safety Monitoring Board, National Institute of Allergy and Infectious Diseases (NIAID) Transplant Standing DSMB, Member 2015-present

Strategic Thinking in Observational Studies Initiative, Measurement Error and Missclassification Topic Group Chair 2022- present, Member 2015-present

Innovation in Palliative Care (IPC) Grant Review Committee, Cystic Fibrosis Foundation, 2013- present

Therapeutics Clinical Research Grant Review Committee, Cystic Fibrosis Foundation, 2011- present

Laboratory of Infectious Diseases Scientific Review Committee, NIAID, NIH, 2011-2013

Institutional Review Board, Alternate member, NIAID, NIH, 2011-2013

Division of AIDS Prevention Science Review Committee, NIAID, NIH, 2007- 2013

Laboratory of Clinical Infectious Diseases Scientific Review Committee, NIAID, NIH, 2007-2013

Organizing roles in Scientific Meetings

Conference Organizer for University of Pennsylvania Center for Clinical Epidemiology and Biostatistics Annual Conference on Statistical Issues in Clinical Trials, 2014- present

Organizing Committee Member, Radiation Effects Research Foundation Conference on Measurement error in Radiation Epidemiology: Current methodology and future opportunities, Hiroshima, Japan Intended timing March 3, 2020, postponed due to COVID19

Organizing Committee Member, Data Science and Research Opportunities with the Penn CFAR/PDPH Collaborative Workshop, University of Pennsylvania, 2019

Program Chair, Eastern North American Region International Biometric Society, Philadelphia, PA, March 2019

Organizing Committee Member, Statistical Challenges and Opportunities in HIV/AIDS Research in the Era of Getting-to-Zero HIV Infection Conference, Philadelphia, March 2019

Organizing Committee Member, NCI Workshop on Methodological Issues in Measurement Error, NCI, Bethesda, MD November 4-5, 2018

Organizer, Invited Session 215173, American Statistical Association Joint Statistical Meeting Vancouver, Canada July 2018

Program Committee, Society for Clinical Trials Annual meeting, 2015

Organizer, Topic Contributed Session 71, "Challenges in Time-to-Event Outcome Assessments: Issues and Methods of Analysis," ASA Joint Statistical Meeting August 2013

Workshop Organizer for Strengthening Biostatistics Resources in sub-Saharan Africa, Gaborone, Botswana 2011

Editorial Service

Associate Editor, Statistics in Medicine, 2019-present
Associate Editor, Trials, 2018-2021
Standing Statistical Reviewer, JAMA Network Open, 2017-present
Editorial Board, Statistical Communications in Infectious Diseases, 2015-present

Reviewer, Statistics in Biopharmaceutical Research, 2007-2009
Reviewer, Biometrics, 2007-present
Reviewer, Critical Care Medicine, 2008-present
Reviewer, Statistics in Medicine, 2009 - present
Reviewer, American Journal of Epidemiology, 2010 - present
Reviewer, Lifetime Data Analysis, 2010- present
Reviewer, Biostatistics, 2011- present
Reviewer, PLOS One, 2011- present
Reviewer, Biomed Central, 2012
Reviewer, Biometrical Journal, 2013 - 2017
Reviewer, Nature Biotechnology, 2013 - present
Reviewer, Epidemiology, 2014 - 2015
Reviewer, International Journal of Biostatistics, 2016
Reviewer, Annals of Statistics, 2016
Reviewer, Nature Medicine, 2016-2017
Reviewer, Clinical Trials, 2017 - present
Reviewer, Statistical Methods in Medical Research, 2017-present
Reviewer, Annals of Applied Statistics, 2018-present
Reviewer, American Journal of Clinical Nutrition, 2018-present
Reviewer, Pharmaceutical Statistics, 2018-present
Reviewer, Nature Communications, 2019-present
Reviewer, Journal of the American Statistical Association, 2019-present

Professional Memberships

American Statistical Association (Member 2004-Present, Biometrics Section Representative to Council of Sections 2017-2019, Biometrics Section Chair-Elect/Chair/Past-Chair 2020-2022, Byar Award Committee 2020-Present; Lifetime Data Science Program Chair-Elect 2022)

International Biometric Society(Eastern North American Region (ENAR) Member 2010-present; Young Statisticians Showcase Award Committee Chair 2018, 2020)

Society for Clinical Trials (Member 2010-2019)

Academic Awards and Honors

Fellow, American Statistical Association, 2020

Distinguished Faculty Award, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania, 2019

Sandy Norman Teaching Award, Department of Biostatistics and Epidemiology, University of Pennsylvania, 2014

Blood Plenary Paper. Natural history of autoimmune lymphoproliferative syndrome associated with FAS gene mutations. Blood 123(13): 1989-1999, 2014

Blood Plenary Paper. GATA2 deficiency: a protean disorder of hematopoiesis, lymphatics, and immunity. Blood 123(6): 809-821, 2014

NIH Merit Award, National Institute of Allergy and Infectious Diseases, 2013-2014

Senior Student Award, Department of Biostatistics, University of Washington, 2006

Graduation with Honors, French and Mathematics, Grinnell College, 1990

Phi Beta Kappa, 1989

Grinnell College Trustee Merit Scholarship