Sherri Rose, Ph.D. Curriculum Vitae

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Education

2005	B.S.	Statistics	The George Washington University
2007	M.A.	Biostatistics	University of California, Berkeley
2011	Ph.D.	Biostatistics	University of California, Berkeley

Academic Appointments

2011-13	NSF Mathematical Sciences Postdoctoral Research Fellow	Johns Hopkins University
2013-16	Assistant Professor of Health Care Policy (Biostatistics)	Harvard Medical School
2016-20	Associate Professor of Health Care Policy (Biostatistics)	Harvard Medical School
2020-22	Associate Professor (with tenure)	Stanford University
2022-	Professor (with tenure)	Stanford University

Current Leadership Roles

2015-	Co-Director	Health Policy Data Science Lab, healthpolicydatascience.org
2020-	Founding Co-Director	Stanford Population Health Summer Research Program: Advancing Health Equity and Diversity (AHEaD), ahead.stanford.edu
2021-	Founding Chair	American Statistical Association, Annie T. Randall Innovator Award Committee
2021-	Co-Chair	Stanford Health Policy Justice, Equity, Diversity, and Inclusion (JEDI) Committee
2021-	Founding Organizer	Stanford Health Policy Health Equity Lecture Series
2023-	Co-Director	Stanford Data Science × Decision Science $[DS)^2$ Research Hub
2023-	Associate Director	AHRQ T32: Stanford Health Services Training Program, Department of Health Policy, Stanford University

Honors and Awards

2001-2005	Presidential Scholarship	The George Washington University
2001-2005	Alumni Scholarship	The George Washington University

2001-2005	Honors Program	The George Washington University	
2006-2011	Division of Biostatistics Scholarships	University of California, Berkeley, School of Public Health	
2007-2008	Scholarship	Casper Mills Scholarship Foundation	Meritorious achievement for disadvantaged students
2007-2011	Scholarship for Disadvantaged Students	U.S. Department of Health and Human Services & University of California, Berkeley, School of Public Health	Meritorious achievement for disadvantaged students
2009	Student Paper Travel Award	American Statistical Association, Statistics in Epidemiology Section	To attend the Joint Statistical Meetings
2009	Russell M. Grossman Endowment Award	University of California, Berkeley, School of Public Health	Doctoral candidates advanced to candidacy
2010	Young Investigator Award	American Statistical Association, Statistics in Epidemiology Section	
2010	Gertrude M. Cox Scholarship in Statistics	American Statistical Association	Honors exceptional female statistics students
2010-2011	Mayhew and Helen Derryberry Fellowship	University of California, Berkeley School of Public Health	Supports distinguished public health students
2011	Editor's Choice Article	*Environmental and Molecular Mutagenesis* Journal	
2011	Chin-Long Chiang Biostatistics Student of the Year	University of California, Berkeley, School of Public Health, Division of Biostatistics	Recognizes innovative research and contributions to the biostatistics program
2011	Evelyn Fix Memorial Medal	University of California, Berkeley, Department of Statistics	Awarded to the Ph.D. student with greatest promise in statistical research applications in biology and health
2011	Recent Alumni Achievement Award	The George Washington University	Honors alumni with notable accomplishments and future potential
2012	Delta Omega Scholarship	Johns Hopkins Bloomberg School of Public Health	Recognizes outstanding research

2012	Young Investigator Award	International Conference on Advances in Interdisciplinary Statistics and Combinatorics	
2013	Editor's Choice Article	*American Journal of Epidemiology*	
2014	Reviewer of the Year	*American Journal of Epidemiology*	
2014	Best Reviewer Award	*Pharmacoepidemiology and Drug Safety*	
2015	Certificate of Excellence in Tutoring	Harvard Medical School	Recognizes excellence in small-group teaching based on student evaluations
2015	Editor's Choice Article	*Gastrointestinal Endoscopy*	
2016	AcademyHealth New Investigator	AcademyHealth	Recognizes six new investigators for innovative research
2017-2022	NIH Director's New Innovator Award	National Institutes of Health	Supports exceptionally creative early career investigators who propose innovative high-impact projects ($2.5M total funding)
2017	Article of the Year	*American Journal of Epidemiology*	
2018	Bernie J. O'Brien New Investigator Award	International Society of Pharmacoeconomics and Outcomes Research	Recognizes exceptional promise in the awardee's emerging body of scholarly work in health economics and outcomes
2019	Excellence in Mentoring Young Mentor Award	Harvard Medical School	
2019	Finalist, Annual Health Care Research Award	National Institute for Health Care Management Foundation	
2020	CCI Mid-Career Award	Penn-Rutgers Center for Causal Inference (CCI)	Recognizes notable achievements in the development and

			application of innovative causal inference methods
2020	HPSS Mid-Career Award	American Statistical Association, Health Policy Statistics Section (HPSS)	Recognizes leaders in health care policy and health services research who have made outstanding contributions through methodological or applied work
2020	Fellow	American Statistical Association	Recognizes an established reputation in the field and outstanding contributions to statistics; Fellow designation is limited to 1/3 of 1% of membership each year
2021	Gertrude M. Cox Award	Washington Statistical Society & RTI International	Recognizes mid-career statisticians who have made significant contributions to applied statistics
2021	Mortimer Spiegelman Award	American Public Health Association	Awarded to the statistician under age 40 who has made the most significant contributions to public health statistics
2022-2027	NIH Director's Pioneer Award	National Institutes of Health	Supports scientists with outstanding records of creativity pursuing new research directions to develop pioneering approaches to major challenges in biomedical, social science, and behavioral research ($5.5M total funding)
2023	President's Award for Excellence Through Diversity	Stanford University	Honors an individual (faculty or staff category) who has made exceptional contributions to enhancing and supporting diversity

Peer-Reviewed Journal Articles ^Trainee author +Senior author

1. Berger V, **Rose S**. Ensuring the comparability of comparison groups: is randomization enough. *Controlled Clinical Trials* 2004; 25(5):515-24.

2. Cokus S, **Rose S,** Haynor D, Gronbech-Jensen N, Pellegrini M. Modeling the network of cell cycle transcription factors in the years *Saccaromyces cerevisiae*. *BMC Bioinformatics* 2006; 7:381.

3. **Rose S,** van der Laan MJ. Simple optimal weighing of cases and controls in case-control studies. *International Journal of Biostatistics* 2008; 4(1):Article 19.

4. **Rose S,** van der Laan MJ. Why match? Investigating matched case-control study designs with causal effect estimation. *International Journal of Biostatistics* 2009; 5(1):Article 1.

5. Huen K, Barcellos L, Beckman K, **Rose S,** Eskenazi B, Holland N. Effects of PON polymorphisms and haplotypes on melcular phenotype in Mexican-American mothers and children. *Environmental and Molecular Mutagenesis* 2011; 52(2):105-16.

6. Li H, Grigoryan H, Funk W, Lu S, **Rose S,** William E., Rappaport S. Profiling Cys34 adducts of human serum albumin by fixed-step selected reaction monitoring. *Molecular & Cellular Proteomics* 2011; 10(3):M110.004606.

7. **Rose S,** van der Laan MJ. A targeted maximum likelihood estimator for two-stage designs. *International Journal of Biostatistics* 2011; 7(1):Article 17.

8. Snowden J, **Rose S**, Mortimer K. Implementation of G-Computation on a simulated data set: Demonstration of a causal inference technique. *American Journal of Epidemiology* 2011; 173(7):731-8.

9. Wang H, **Rose S**, van der Laan MJ. Finding quantitative trait loci genes with collaborative targeted maximum likelihood learning. *Statistics and Probability Letters* 2011; 81(7):792-6.

10. **Rose S**. Mortality risk score prediction in an elderly population using machine learning. *American Journal of Epidemiology* 2013; 177(5):443-52.

11. van Loo HM, Cai T, Gruber MJ, Li J, de Jonge P, Petukhova M, **Rose S**, Sampson NA, Schoevers RA, Wardenaar KJ, Wilcox MA, Al-Hamzawi AO, Andrade LH, Bromet EJ, Bunting B, Fayyad J, Florescu SE, Gureje O, Hu C, Huang Y, Levinson D, Medina-Mora ME, Nakane Y, Posada-Villa J, Scott KM, Xavier M, Zarkov Z, Kessler RC. Major depressive disorder subtypes to predict long-term course and severity. *Depression and Anxiety* 2014; 31(9):765-77.

12. Wardnaar K, van Loo H, Cai T, Fava M, Gruber M, Li J, de Jonge P, Nierenberg A, Petukhova M, **Rose S**, Sampson N, Schoevers R, Wilcox M, Alonso J, Bromet E, Bunting M, Florescu S, Fukao A, Gureje O, Hu C, Huang Y, Karam A, Levinson D, Medina Mora M, Posada-Villa J, Scott K, Taib N, Viana M, Xavier M, Zarkov Z, Kessler RC. The effects of comorbidity in defining major depression subtypes associated with long-term course and severity. *Psychological Medicine* 2014; 44(15):3289-302.

13. Kessler RC, **Rose S**, Koenen K, Karam E, Stang P, Stein D, Heeringa S, Hill E, Liberzon I, McLaughlin K, McLean S, Pennell B, Petukhova M, Rosellini A, Ruscio A, Shahly V, Shalev A, Silove

D, van Ommeren M, Zaslavsky A, Angermeyer M, Bromet E, Caldas de Almeida J, de Girolamo G, de Jonge P, Demyttenaere K, Florescu S, Gureje O, Haro J, Hinkov H, Kawakami N, Kovess-Masfety V, Lee S, Medina-Mora M, Murphy S, Navarro-Mateu F, Piazza M, Posada-Villa J, Scott K, Torres Y, Viana M. How well can post-traumatic stress disorder be predicted from pre-trauma risk factors? An exploratory study in the WHO World Mental Health Surveys. *World Psychiatry* 2014; 13(3):265-74.

14. Wang H, Zhang Z, **Rose S**, van der Laan M. A novel targeted learning method for quantitative trait loci mapping. *Genetics* 2014; 198(4):1369-76.

15. **Rose S**, van der Laan MJ. A double robust approach to causal effects in case-control studies. *American Journal of Epidemiology* 2014; 179(6):663-9.

16. Song Z, **Rose S**, Gelb Safran D, Landon BE, Chernew ME. Changes in health care spending and quality 4 years into global payment. *New England Journal of Medicine* 2014; 371(18):1704-14.

17. Kessler RC, Warner C, Ivany C, Petukhova M, **Rose S**, Bromet E, Brown M, Cai T, Colpe L, Cox K, Fullerton C, Gilman S, Gruber M, Heeringa S, Lewandowski-Romps L, Li J, Millikan-Bell A, Naifeh J, Nock M, Rosellini A, Sampson N, Schoenbaum M, Stein B, Wessely S, Zaslavsky A, Ursano R. Predicting suicides after psychiatric hospitalizations in US Army soldiers. *JAMA Psychiatry* 2015; 72(1):49-57.

18. Marcondes F, Dean K, Schoen R, Leffler D, **Rose S**, Morris M, Mehrotra A. The impact of exclusion criteria on a physician's adenoma detection rate. *Gastrointestinal Endoscopy* 2015; 82(4):668-75.

19. Abdul-Baki H, Schoen R, Dean K, **Rose S**, Leffler D, Kuganeswaran E, Morris M, Carrell D, Mehrotra A. Public reporting of colonoscopy quality is associated with an increase in endoscopist adenoma detection rate. *Gastrointestinal Endoscopy* 2015; 82(4):676-82.

20. **Rose S**, Shi J, McGuire TG, Normand SL. Matching and imputation methods for risk adjustment in the Health Insurance Marketplaces. *Statistics in Biosciences* 2015; Advance online publication. doi:10.1007/s12561-015-9135-7.

21. **Rose S**. Targeted learning for pre-analysis plans in public health and health policy research. *Observational Studies* 2015; 1:294-306.

22. **Rose S**. A machine learning framework for plan payment risk adjustment. *Health Services Research* 2016; 51(6):2358-74.

23. **Rose S**, Zaslavsky A, McWilliams JM. Variation in accountable care organization spending and sensitivity to risk adjustment: Implications for benchmarking. *Health Affairs* 2016; 35(3):440-8.

24. Mirelman A^, **Rose S**, Khan J, Ahmed S, Peters D, Niessen L, A. Trujillo. The relationship between noncommunicable disease occurrence and poverty: Evidence from demographic surveillance in Matlab, Bangladesh. *Health Policy and Planning* 2016; 31(6):785-92.

25. Montz E, Layton T, Busch A, Ellis R, **Rose S**, McGuire T. Risk-adjustment simulation: Plans may have incentives to distort mental health and substance use coverage. *Health Affairs* 2016; 35(6):1022-28.

26. Spertus J, Normand SL, Rolf R, Cioffi M, Lovett A, **Rose S+**. Assessing hospital performance following percutaneous coronary intervention with big data. *Circulation: Cardiovascular Quality and Outcomes* 2016; 9:659-69.

27. Schuler M^, **Rose S+**. Targeted maximum likelihood estimation for causal inference in observational studies. *American Journal of Epidemiology* 2017; 185(1):65-73.

28. **Rose S**, Bergquist S^, Layton T. Computational health economics for identification of unprofitable health care enrollees. *Biostatistics* 2017; 18(4):682-94.

29. Song Z, **Rose S**, Chernew M, Gelb Safran D. Lower versus higher income populations in the Alternative Quality Contract: Improved quality and similar spending. *Health Affairs* 2017; 36(1):74-82.

30. Carrell D, Schoen R, Leffler D, Morris M, **Rose S**, Baer A, Crockett S, Gourevitch R, Dean K, Mehrotra A. Challenges in adapting existing clinical natural language processing systems to multiple, diverse healthcare settings. *Journal of the American Medical Informatics Association* 2017; 25(5):986-91.

31. Mehrotra A, Huskamp H, Souza J, Uscher-Pines L, **Rose S**, Landon B, Jena A, Busch A. Rapid growth in mental health telemedicine use among rural Medicare beneficiaries, wide variation across states. *Health Affairs* 2017; 36(5):909-17.

32. Barnett M, Song Z, **Rose S**, Bitton A, Chernew M, Landon B. Insurance transitions and changes in physician and emergency department utilization: An observational study. *Journal of General Internal Medicine* 2017; 32(10):1146-55.

33. Bergquist S^, Brooks G, Keating N, Landrum MB, **Rose S+**. Classifying lung cancer severity with ensemble machine learning in health care claims data. *Proceedings of Machine Learning Research* 2017; 68:25-38.

34. Sinaiko A, Layton T, **Rose S**, McGuire T. Implications of family risk pooling for individual health insurance markets. *Health Services and Outcomes Research Methodology* 2017; 17(3):219-36.

35. Shrestha A^, Bergquist S^, Montz E, **Rose S+**. Mental health risk adjustment formulas with clinical categories and machine learning. *Health Services Research* 2018; 53(S1):3189-3206.

36. Rosellini AJ^, Dussaillant F, Zubizarreta J, Kessler R, **Rose S+**. Predicting posttraumatic stress disorder following a natural disaster. *Journal of Psychiatric Research* 2018; 96:15-22.

37. Lee C, Haneuse S, Wang H, **Rose S**, Spellman S, Verneris M, Hsu K, Fleischhauser K, Lee S, Abdi R. Prediction of acute graft-versus-host disease following hematopoietic cell transplantation. *PLoS ONE* 2018; 13(1):e0190610.

38. Mateen F, McKenzie E, **Rose S+**. Medical schools in fragile states: Implications for delivery of care. *Health Services Research* 2018; 53(3):1335-1348.

39. Mehrotra A, Morris M, Gourevitch R, Carrell D, Leffler D, **Rose S**, Greer J, Crockett S, Baer A, Schoen R. Physician characteristics associated with higher adenoma detection rate. *Gastrointestinal Endoscopy* 2018; 87(3):778-86.

40. Gourevitch R, **Rose S**, Crockett S, Morris M, Carrell D, Greer J, Pai R, Schoen R, Mehrotra A. Variation in pathologist classification of colorectal adenomas and serrated polyps. *American Journal of Gastroenterology* 2018; 113:431-39.

41. Crockett S, Gourevitch R, Morris M, Carrell D, **Rose S**, Greer J, Schoen R, Mehrotra A. Endoscopist factors that influence serrated polyp detection: A multi-center study. *Endoscopy* 2018; 50(10):984-92.

42. **Rose S**. Robust machine learning variable importance analyses of medical conditions for health care spending. *Health Services Research* 2018; 53(5):3836-54.

43. Carroll C^, Chernew M, Fendrick AM, Thompson JW, **Rose S+**. Effects of episode-based payment on health care spending and utilization: Evidence from perinatal care in Arkansas. *Journal of Health Economics* 2018; 61:47-62.

44. Gilstrap L, Mehrotra A, Bai B, **Rose S**, Blair R, Chernew M. National rates of timely initiation and intensification of antidiabetic therapy among patients with commercial insurance. *Diabetes Care* 2018; 41(8):1776-82.

45. Barnett M, Song Z, Bitton A, **Rose S**, Landon B. Gatekeeping and patterns of outpatient care post-health care reform. *American Journal of Managed Care* 2018; 24(10):e312-18.

46. Bergquist S^, McGuire T, Layton T, **Rose S+**. Sample selection for Medicare risk adjustment due to systematically missing data. *Health Services Research* 2018; 53(6):4204-23.

47. Huskamp H, Busch A, Souza J, Uscher-Pines L, **Rose S**, Wilcock A, Landon B, Mehrotra A. How is telemedicine being used for opioid and other substance use disorder treatment? *Health Affairs* 2018; 37(12):1940-47.

48. **Rose S**, Normand SL. Double robust estimation for multiple unordered treatments and clustered observations: Evaluating drug-eluting coronary artery stents. *Biometrics* 2019; 75(1):289-96.

49. **Rose S**, McGuire T. Limitations of p-values and R-squared for stepwise regression building: A fairness demonstration in health policy risk adjustment. *The American Statistician* 2019; 73(S1):152-6.

50. Nakamura M, Toomey S, Zaslavsky A, Petty C, Lin C, Savova G, **Rose S**, Brittan M, Lin J, Bryant M, Ashrafzadeh S, Schuster M. Potential impact of clinical data on adjustment of pediatric readmission rates. *Academic Pediatrics* 2019; 19(5):589-98.

51. Ezaz G, Leffler D, Beach S, Schoen R, Crockett S, Gourevitch R, **Rose S**, Morris M, Carrell D, Greer J, Mehrotra A. Association between endoscopy personality and rate of adenoma detection. *Clinical Gastroenterology and Hepatology* 2019; 17(8):1571-79.

52. Brooks G, Bergquist S^, Landrum M, **Rose S**, Keating N. Classifying stage IV lung cancer from health care claims: A comparison of multiple analytic approaches. *JCO Clinical Cancer Informatics* 2019; Advance online publication. doi:10.1200/CCI.18.00156.

53. Bergquist S^, Layton T, McGuire T, **Rose S+**. Data transformations to improve the performance of health plan payment methods. *Journal of Health Economics* 2019; 66:195-207.

54. Wilcock A, **Rose S**, Busch A, Huskamp H, Uscher-Pines L, Landon B, Mehrotra A. Association between broadband internet availability and telemedicine use. *JAMA Internal Medicine* 2019; 179(11):1580-2.

55. McDowell A^, Progovac A, Cook B, **Rose S+**. Estimating the health status of privately insured gender minority children and adults. *LGBT Health* 2019; 6(6):289-96.

56. Blakely T, Lynch J, Simons K, Bentley R, **Rose S+**. Reflection on modern methods: When worlds collide – prediction, machine learning and causal inference. *International Journal of Epidemiology* 2020; 49(6): 2058-64.

57. Adhikari S^, **Rose S**, Normand SL. Nonparametric Bayesian instrumental variable analysis: Evaluating heterogeneous treatment effects of arterial access sites for opening blocked blood vessels. *Journal of the American Statistical Association* 2020; 115(532):1635-44.

58. Zink A^, **Rose S+**. Fair regression for health care spending. *Biometrics* 2020; 76(3):973-82.

59. Chen J, Chernew M, Fendrick AM, Thompson J, **Rose S**. Impact of an episode-based payment initiative by commercial payers in Arkansas on procedure volume: An observational study. *Journal of General Internal Medicine* 2020; 35(2):578-85.

60. **Rose S**. Intersections of machine learning and epidemiological methods for health services research. *International Journal of Epidemiology* 2020; 49(6): 1763-70.

61. McDowell A^, Raifman J, Progovac A, **Rose S+**. Association of nondiscrimination policies with mental health among gender minority individuals. *JAMA Psychiatry* 2020; 77(9):952-58.

62. Chen I, Pierson E, **Rose S**, Joshi S, Ferryman K, Ghassemi M. Ethical machine learning in health care. *Annual Review of Biomedical Data Science* 2021; 4:123-44.

63. McDowell A^, Huskamp H, Busch A, Mehrotra A, **Rose S+**. Patterns of mental health care before initiation of telemental health services. *Medical Care* 2021; 59(7):572-8.

64. McGuire T, Zink A^, **Rose S+**. Improving the performance of risk adjustment systems: constrained regressions, reinsurance, and variable selection. *American Journal of Health Economics* 2021; 7(4):497-521.

65. Patel S, **Rose S,** Barnett ML, Huskamp H, Uscher-Pines L, Mehrotra A. Community factors associated with greater telemedicine use during the COVID-19 pandemic. *JAMA Network Open* 2021; 4(5):e2110330.

66. Majumder M^, **Rose S+**. A generalizable data assembly algorithm for infectious disease outbreaks. *JAMIA Open* 2021; 4(3):ooab058.

67. Adhikari S^, Normand SL, Bloom J, Shahian D, **Rose S+**. Revisiting performance metrics for prediction with rare outcomes. *Statistical Methods in Medical Research* 2021; 30(10):2352-66.

68. Zink A^, **Rose S+**. Identifying undercompensated groups defined by multiple attributes in risk adjustment. *BMJ Health & Care Informatics* 2021; 28(1):100414.

69. Busch A, Huskamp H, Raja P, **Rose S**, Mehrotra A. Disruptions in care for Medicare beneficiaries with severe mental illness during the COVID-19 pandemic. *JAMA Network Open* 2022; 5(1): e2145677.

70. Wang B, Huskamp H, **Rose S**, Busch A, Uscher-Pines L, Raja P, Mehrotra A. Association between telemedicine use in the county and quality of care received by Medicare beneficiaries with serious mental illness. *JAMA Network Open* 2022; 5(6):e2218730.

71. Bergquist S^, Brooks G, Landrum M, Keating N, **Rose S+**. Uncertainty in lung cancer stage for survival estimation via set-valued classification. *Statistics in Medicine* 2022; 41(19):3772-88.

72. Chapfuwa P^, **Rose S**, Carin L, Meeds E, Henao R. Capturing actionable dynamics with structured latent ordinary differential equations. *Proceedings of the 38th Conference on Uncertainty in Artificial Intelligence* 2022; 180:286-95.

73. Degtiar I^, **Rose S+**. A review of generalizability and transportability. *Annual Review of Statistics and Its Application* 2023; 10:501-524.

74. Busch A, Mehrotra A, Greenfield S, Uscher-Pines L, **Rose S**, Huskamp H. A cohort study examining changes in treatment patterns for alcohol use disorder among commercially insured adults in the United States during the COVID-19 pandemic. *Journal of Substance Abuse Treatment* 2023;144:108920.

75. Uscher-Pines L, Riedel L, Mehrotra A, **Rose S**, Busch A, Huskamp H. Many clinicians implement digital equity strategies to treat opioid use disorder. *Health Affairs* 2023;42(2):182-6.

76. Majumder M⊕, Cusick M^⊕, **Rose S+**. Measuring concordance of data sources used for infectious disease research in the US: A retrospective data analysis. *BMJ Open* 2023; 13:e065751. ⊕*Co-first authors*

77. Huskamp H, Riedel L, Busch A, **Rose S**, Mehrotra A, Uscher-Pines L. Long-term prospects for telemedicine in opioid use disorder (OUD) treatment: Results from a longitudinal survey of OUD clinicians. *Journal of General Internal Medicine* 2023; Advance online publication. doi:10.1007/s11606-023-08165-9.

78. Degtiar I^, Layton T, Wallace J, **Rose S+**. Conditional cross-design synthesis estimators for generalizability in Medicaid. *Biometrics*. 2023; Advance online publication. doi:10.1111/biom.13863.

Editorials and Commentaries

1. **Rose S**, Snowden J, Mortimer K. Rose et al. respond to "G-computation and standardization in epidemiology." *American Journal of Epidemiology* 2011; 173(7):743-4.

2. **Rose S**, van der Laan MJ. Rose et al. respond to "Some advantages of RERI – towards better estimators of additive interaction." *American Journal of Epidemiology* 2014; 179(6):672-3.

3. **Rose S**. Machine learning for prediction in electronic health data. *JAMA Network Open* 2018; 1(4):e181404.

4. **Rose S**. Considerations for outcome-dependent biased sampling in health databases. *Statistics in Medicine* 2019; 38(22):4213-5.

5. **Rose S**, Rizopoulos D. Machine learning for causal inference in Biostatistics. *Biostatistics* 2020; 21(2):336-8.

6. **Rose S**. Discussion on "Approval policies for modifications to machine learning-based software as a medical device: A study of bio-creep" by Jean Feng, Scott Emerson, and Noah Simon. *Biometrics* 2021; 77(1):49-51.

7. Eloyan A, **Rose S**. Considerations across three cultures: Parametric regressions, interpretable algorithms, and complex algorithms. *Observational Studies* 2021; 7(1):191-6.

8. Sounderajah V, Ashrafian H, **Rose S**, Shah N, Ghassemi M, Golub R, Kahn C, Esteva A, Karthikesalingam A, Mateen B, Webster D, Milea D, Ting D, Treanor D, Cushnan D, King D, McPherson D, Glocker B, Greaves F, Harling L, Ordish J, Cohen J, Deeks J, Leeflang M, Diamond M, McInnes M, McCradden M, Abràmoff M, Normahani P, Marker S, Chang S, Liu X, Mallett S, Shetty S, Denniston A, Collins G, Moher D, Whiting P, Bossuyt P, Darzi A. A quality assessment tool for artificial intelligence centered diagnostic test accuracy studies: QUADAS-AI. *Nature Medicine* 2021; 27:1663-5.

9. Yang Z, Silcox C, Sendak M, **Rose S**, Rehkopf D, Phillips R. Peterson L, Marino M, Maier J, Lin S, Liaw W, Kakadiaris I, Heintzman J, Chu I, Bazemore A. Advancing primary care with artificial intelligence and machine learning. *Healthcare* 2022; 10(1):100594.

10. Sounderajah V⊕, McCradden M⊕, Liu X⊕, **Rose S**⊕, Ashrafian H, Collins G, Anderson J Bossuyt P, Moher D, Darzi A. Ethics methods are required as part of reporting guidelines for artificial intelligence in healthcare. *Nature Machine Intelligence* 2022; 4:316-7. ⊕*Co-first authors*

11. McElfresh D^, Chen L^, Oliva E, Joyce V, **Rose S**, Tamang S. A call for better validation of opioid overdose risk algorithms. *Journal of the American Medical Informatics Association* 2023; in press.

12. Muralidharan V, Burgart A, Daneshjou R+, **Rose S+**. ACCEPT-AI: Key recommendations for the ethical use of pediatric data in artificial intelligence and machine learning research. *npj Digital Medicine* 2023; in press.

Articles Not Peer-Reviewed

1. van der Laan MJ, **Rose S**. Statistics ready for a revolution: Next generation of statisticians must build tools for massive data sets. *Amstat News* 2010; 399:38-39.

2. **Rose S**. Big data and the future. *Significance* 2012; 9(4):47-48.

3. **Rose S**. Statisticians' place in big data. *Amstat News* 2013; 428:28.

4. Rudin C, Dunson D, Irizarry R, Ji H, Laber E, Leek J, McCormick T, **Rose S**, Schafer C, van der Laan MJ, Wasserman L, Xue L; A Working Group of the American Statistical Association. *Discovery with Data: Leveraging Statistics and Computer Science to Transform Science and Society.* American Statistical Association Report for White House Big Data Research and Development Initiative, 2014.

5. **Rose S**. Machine learning for clinical decision-making: pay attention to what you don't see. *STAT*, 2019. https://www.statnews.com/2019/12/12/machine-learning-clinical-decision-making-limitations/

6. Majumder M, **Rose S**+. Health care claims data may be useful for COVID-19 research despite significant limitations. *Health Affairs Blog* 2020, doi:10.1377/hblog20201001.977332.

Book Chapters
1. **Rose S**. Targeted learning for variable importance. In Buhlman, Drineas, Kane, van der Laan, eds. *Handbook of Big Data*. Chapman & Hall, 2016.

2. Kunz L, **Rose S**, Spiegelman D, Normand SL. An overview of approaches for causal inference. In Gatsonis, Morton, eds. *Methods in Comparative Effectiveness Research*. Chapman & Hall, 2017.

3. Ellis R, Martins B, **Rose S**. Risk adjustment for health plan payment. In McGuire, van Kleef, eds. *Risk Adjustment, Risk Sharing and Premium Regulation in Health Insurance Markets: Theory and Practice*. Elsevier Publishing, 2018.

4. Kessler R, **Rose S**, Stang P, Zaslavsky A. Data mining to predict PTSD onset in the wake of trauma exposure. In Koenen, Stein, Karam, eds. *Trauma and Posttraumatic Stress Disorder: Global Perspectives from the WHO Mental Health Surveys*. Cambridge University Press, 2018.

5. van der Laan M, **Rose S**. Why machine learning can't ignore maximum likelihood estimation. In Zubizarreta, Stuart, Small, Rosenbaum, eds. *Handbook of Matching and Weighting Adjustments for Causal Inference.* Chapman & Hall, 2023.

Books
1. van der Laan MJ, **Rose S**. *Targeted Learning: Causal Inference for Observational and Experimental Data*. New York, Springer, 2011.

2. van der Laan MJ, **Rose S**. *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. New York, Springer, 2018.

Research Publications without Named Authorship
1. Lewandowski-Romps L, Peterson C, Berglund P, Collins S, Cox K, Hauret K, Jones B, Kessler R, Mitchell C, Park N, Schoenbaum M, Stein M, Ursano R, Heeringa S, Army STARRS Collaborators*. Risk factors for accident death in the U.S. Army, 2004-2009. *American Journal of Preventive Medicine* 2014; 47(6):745-53. **Member of the investigative team cited in the appendix of the manuscript.*

2. Street A, Gilman S, Rosellini A, Stein M, Bromet E, Cox K, Colpe L, Fullerton C, Gruber M, Heeringa S, Lewandowski-Romps L, Little R, Naifeh J, Nock M, Sampson N, Schoenbaum M, Ursano R, Zaslavsky A, Kessler R, Army STARRS Collaborators*. Understanding the elevated suicide risk of female soldiers during deployments. *Psychological Medicine* 2015; 45(4):717-26. **Member of the investigative team cited in the appendix of the manuscript.*

Grants
Current Funding

9/2022-7/2027 A Framework for the Social Impact of Algorithms in Health Care
NIH/DP1LM014278
Principal Investigator (Rose)
This NIH Director's Pioneer Award will support the PI in building a framework for evaluating the social impact of algorithms in health care before they are deployed to avoid such harms using mathematical decision science modeling. Developing this

open-source framework will have the potential for broad impact in reducing health care disparities with a flexible design to allow adaptation to many health settings.

8/2022-5/2026 Novel Algorithmic Fairness Tools for Reducing Health Disparities in Primary Care
NIH/NLM/R01LM013989
Principal Investigator (Rose)
Disparities in the health care system are substantial, leading to worse health outcomes and quality of care for marginalized groups. The proposed research builds a framework for reducing health disparities by creating fairer algorithms and removing societal bias from health care data for multiple marginalized groups with rigorous testing in a high impact chronic kidney disease study. The broad applicability of the framework and creation of reusable computational tools will facilitate deployment in many practical settings.

6/2022-5/2024 Improving Efficiency and Fairness in Medicare Risk Adjustment
Laura and John Arnold Foundation
Principal Investigator (Rose)
This proposal aims to study the potential for efficiency and fairness gains in Medicare plan payment risk adjustment formulas through the use of constrained regression and machine learning techniques. The specific goal is to improve the undercompensation of minoritized racial and ethnic groups.

6/2022-5/2024 Increasing Fairness in Decision-Making for Health Equity
Stanford Impact Labs Start-Up Impact Lab Grant
Co-Principal Investigators (Rose/Chan)
The major goal is the development of a new partnership between Stanford Health Policy and Stanford Health Care to form an Impact Lab. The Health Care Fairness Impact Lab will collaborate in two areas where data-driven decision-making has the potential to improve health equity: admission decisions in the emergency department and referral decisions in chronic kidney disease.

4/2023-1/2028 Population Health Aging Research – Advancing Health Equity and Diversity
NIH/NIA/R25AG081164
Steering Committee / Co-Director / Co-Investigator (Odden/Rehkopf)
The Stanford Population Health Aging Research – Advancing Health Equity and Diversity (PHAR-AHEaD) summer program is a 7-week training and research experience for college students from underrepresented and historically excluded groups in the health sciences. Our goal is to support scholars from diverse backgrounds to graduate education and research in aging and population health.

9/2022-8/2023 EAE Scores: A Framework for Explainable, Actionable and Equitable Risk Scores for Healthcare Decisions
Stanford HAI Hoffman-Yee Research Grant
Co-Principal Investigators
(Guestrin/Fox/Johari/Maahs/Prahalad/Rose/Scheinker/Carter)
In the proposed work, we will create EAE Scores, a framework for developing explainable, actionable, and equitable risk scores for healthcare decisions. EAE Scores will both produce new forms of introspection through explainability, and enable

providers to close-the-loop between their knowledge of the intervention decisions and the AI's inferences. Furthermore, EAE Scores will provide a systematic approach to incorporate equitable decisions in every step of the development process.

11/2021-10/2023 Place Matters: The Streetscape Environment and Health among African Americans
Stanford AIMI-HAI Partnership Grant
Co-Principal Investigators (Odden/King/Rose/Wu)
The emergence of widespread maps that feature panoramas of the environment (e.g., Google Street View) offers unprecedented opportunity for measuring streetscape features. The overarching hypothesis of this work is that the presence of positive streetscape features can help enhance health, especially in under-resourced communities with high levels of health disparities. The proposed research will be conducted in collaboration with a population-derived cohort of African Americans living in the Deep South. Employing innovative human-centered artificial intelligence and computer vision methods, we will evaluate whether patterns of streetscape features are associated with physical activity, well-being, and chronic disease, independent of traditional risk factors and GIS-based measures.

6/2022-5/2026 Racial Bias in Risk-Adjustment Algorithms and Implications for Racial Health Disparities: Evidence from Dual-Eligible Medicare/Medicaid Long-term Care Patients in New York
NIH R01 Submission
Co-Investigator (Rossin-Slater/Lee)
The central objectives of this project are to: (i) obtain causal estimates of the effect of risk-adjusted managed long-term care (MLTC) on different care utilization and health outcomes among dual-eligible beneficiaries in New York, separately by patient race/ethnicity; (ii) identify differences in the magnitudes of racially disparate impacts across other patient characteristics, including sex, age, health status, and local area; and (iii) identify differences in the magnitudes of racially disparate impacts across different types of plans.

Prior Funding

9/2011-8/2013 Sequential Decision Theory: Dynamic Regimes
NSF DMS/1103901
Principal Investigator (Rose)
The Mathematical Sciences Postdoctoral Research Fellowship "supports leaders in the mathematical sciences by facilitating their participation in postdoctoral research." When studying clinical questions in observational data, it is often beneficial to define treatment "rules" (i.e., dynamic regimes) in order to identify optimal outcomes after an intervention or interventions. The project focused on statistical methodology for dynamic regimes.

9/2013-9/2014 Modifiable Risk and Protective Factors for Suicidal Behaviors in the US Army
NIMH/U01MH087981
Co-Investigator (Ursano)
This multi-site study sought to assess factors that help protect servicemembers' mental health or put it at risk, in the largest study of mental health risk and resilience

conducted in military personnel. Dr. Rose's role was to develop and apply new semiparametric machine learning methods to examine several adverse outcomes.

9/2013-9/2014 National Implementation of Medicare Advantage & Prescription Drug CAHPS Survey
RAND/9920120015
Co-Investigator (Zaslavsky/Elliott)
The broad focus of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys is to collect and evaluate health care experiences. Dr. Rose's role was to develop and apply statistical methods for various questions relating to health status, claims, costs and other topics in the CAHPS data.

11/2013-9/2014 An Evaluation of Multipayer, Medical Episode-based Payment Reform in Arkansas
RWJF/71402
Co-Investigator (Chernew)
The Arkansas state payment reform model holds providers accountable for the costs and quality of care provided in specific acute clinical episodes, rather than through global payment. The primary objective of this project was to use qualitative methods and early data/ reports from Arkansas to provide insight about the operation and impact of the state's initiative. Investigators also laid the groundwork for future econometric evaluations by identifying and assessing the suitability of various control populations.

1/2014-12/2014 Assessing the Impact of Chronic Disease on Prosperity with Robust Estimation
William F. Milton Fund
Principal Investigator (Rose)
The examination of chronic diseases in resource-limited settings has received less research attention, and, therefore, the impact of chronic disease on prosperity outcomes, such as poverty, has not yet been determined. Due to a lack of health-systems focus on chronic disease, there is a preventable load of premature mortality from chronic disease. Dr. Rose used statistical learning methods for a complex sampling design to analyze novel data on chronic disease and poverty in Bangladesh.

5/2014-5/2017 Mental Health Coverage and Payment in Private Health Plans
NIH/NIMH/2R01MH094290
Co-Investigator (McGuire)
This project proposed to conduct fundamental economic research on the patterns of health care use by persons with mental illness in order to establish the evidence base for sound choices about structuring health insurance markets in the Exchanges. We assessed the magnitude of the selection problem among likely Exchange participants, identifying and evaluate options for correcting incentives to health plans to provide efficient and fair coverage for persons with mental illness.

5/2014-8/2017 Measuring and Improving Colonoscopy Quality Using Natural Language Processing
NIH/NCI/R01CA168959
Co-Investigator (Mehrotra)
Our proposal centered on measuring, understanding, and improving colonoscopy quality. This was one of the largest assessments of the variation in adenoma detection

rates and spanned different geographic regions, payment systems, and practice settings. We also sought to understand why there is variation in quality. It is assumed, but not proven, that providing feedback to physicians on colonoscopy quality will improve care.

6/2014-11/2015 Evaluation of Multistage Antimicrobial Treatment Strategies in Pneumonia
University of Utah
Principal Investigator (Rose)
This research focused on the application and development of new statistical methodology in observational data with multiple treatment interventions with dynamic regimes. Estimating causal effects in non-experimental studies is complex, but modern causal inference provides a theoretical foundation to guide selection of analytic techniques that account for time-varying exposures and confounders.

10/2014-9/2015 Project 2: Evaluating ACOs and Improving ACO Regulation
John and Laura Arnold Foundation
Co-Investigator (McWilliams)
In order to move away from fee-for-service payment, which has contributed to fragmented and overly expensive health care system, CMS has established the Accountable Care Organization program. The specific aims of this evaluation included estimating the impact of ACOs on spending and how that impact varies by ACO design features.

10/2014-9/2017 Project 3: Quantitative Evaluation of Arkansas Payment Improvement Initiative
John and Laura Arnold Foundation
Project Principal Investigator (Rose)
Much of the innovation in payment is occurring at the state level. Some rely on global payments and others on bundled payments for selected episodes. Evidence about the impact of state level reforms is lacking. Our analyses had two aims: 1. To assess the impact of the Arkansas payment model on spending in commercial beneficiaries. 2. To assess the dynamics of spending and outcome changes by principle accountable providers among Medicaid beneficiaries. Dr. Rose's role as Project PI was to direct the quantitative evaluations of the Arkansas Payment Improvement Initiative for different episode types.

10/2014-9/2017 Project 6: Risk Adjustment Redesign
John and Laura Arnold Foundation
Co-Investigator (McGuire)
Plan payments in Medicare Advantage and in the new Affordable Care Act Exchanges, as well as budgets assigned in new global payment models such as ACOs, must be adjusted for variation in the health status of enrollees. Existing regression risk adjustment methodologies have evolved over time to now rely on more than 100 diagnostic indicators with complex algorithms to define risk scores for individuals. This project proposed a transformative redesign of the practice of risk adjustment used for paying health plans in health insurance markets, including Exchanges and Medicare Advantage.

3/2015-1/2020 Bayesian Methods for Comparative Effectiveness Research with Observational Data

NIH/1R01GM111339
Co-Investigator (Normand)
Health information growth has created unprecedented opportunities to evaluate treatment effectiveness in large and broadly representative patient populations but where the benefits of treatments may vary across population subgroups. We will develop novel statistical methods for estimating causal effects that (a) account for uncertainty in the selection of subgroups and for selection of measured confounders; and (b) accommodate unmeasured confounders that moderate treatment effects, in settings where the number of confounders is large and where no randomization has occurred. To enable reproducible research, we will develop and disseminate SAS macros and R functions.

9/2015-6/2016 Improving Sampling Techniques for Medicare Advantage Plan Payment Methodology with Machine Learning
NIH/NIA-HSPH/5P30AG024409-11
Principal Investigator (Rose)
This pilot study was a first step toward improving risk adjustment in Medicare Advantage plans. The specific aims included developing innovative and tailored machine learning-based matching methods in order to create an improved sample of subjects for estimating Medicare risk adjustment, drawn from standard Medicare data sources and assessing the impact of this new methodology on risk adjustment scores in existing formulas.

1/2016-12/2016 Improving Medicare Advantage Plan Payment Risk Adjustment with Machine Learning Techniques
AcademyHealth/2016.997.005
Principal Investigator (Rose)
This pilot study funded under the AcademyHealth New Investigator Small Grant Program is a second step toward improving risk adjustment in Medicare Advantage plans. The specific aims included developing ensemble machine learning methods to estimate risk-adjustment functions and evaluate their performance.

2/2017-8/2017 Evaluation of the Oncology Care Model
Center for Medicare and Medicaid Services
Co-Investigator (Keating)
CMS is launching the Oncology Care Model demonstration project, with a goal of improving the effectiveness and efficiency of specialty care. The team aimed to assess the impact of the program on utilization, spending, quality, and patient- and provider-reported experiences. Dr. Rose created new algorithms for classification of lung cancer severity.

5/2017-5/2019 Improving Health Care System Performance: Computational Health Economics with Normative Data for Payment Calibration
Harvard Data Science Initiative
Principal Investigator (Rose)
In the conventional framework for designing health plan payment models, the regulator chooses variables to be used as risk adjustors, the weights, and other policy parameters, but the data from which estimates are derived are taken as given. This

approach implicitly assumes the observed spending patterns are optimal. We proposed using the data itself as a policy tool along with developing new machine learning methodology for risk adjustment.

10/2017-7/2020 Healthcare Markets and Regulation Lab
Laura and John Arnold Foundation
Co-Principal Investigator, Methods Core (Hatfield/Rose)
The methodological research of the Methods Core is designed to strengthen the robustness, validity, and rigor of health policy research. There are numerous methods challenges for which no "off-the-shelf" solutions exist, particularly for evaluations of policy impacts using difference-in-difference designs. Methods Core papers will address these shortcomings and provide practical, statistically valid, and causally appropriate approaches to health services researchers engaged in evaluation studies. Dr. Rose will develop nonparametric machine learning methods for 1) difference-in-difference parameter estimation and 2) the creation of synthetic controls.

9/2019-8/2020 Estimating Work-Related Functional Capacity Among Older Americans
Harvard Medical School Dean's Innovation Pilot Award in Healthy Aging
Co-Investigator (Maestas)
This project will collect new survey data from a nationally representative sample of Americans that measures their functional capacity to work across eight functional domains relevant to jobs found in the U.S. labor market. Using these data, we will develop measures of individual work capacity that characterize feasible job sets and potential earnings.

12/2017-11/2021 Impact of Telemedicine on Medicare Beneficiaries with Mental Illness
NIH/1R01MH112829
Co-Investigator (Mehrotra)
Telemental health is one potential solution to the mental health care access problem. The uptake of telemental health has been uneven geographically, and what explains this variation is also largely unknown. Dr. Rose will focus on developing statistical methods to (1) explain why there is geographic variation in uptake using robust statistical machine learning and (2) assess whether communities with greater telemental health penetration have experienced improvements in care for patients with mental illness.

11/2020-6/2022 Utilization and Health Outcomes for Veterans with Expanded Health Care Access
VA HSR&D/IIR19-421
Subaward Principal Investigator (Rose) / Principal Investigator (Wagner)
The aims of this study will address the massive gap in our knowledge of Veteran decision-making regarding where to seek care, as well as the downstream health effects of this decision. The study will provide crucial information for system-wide policies addressing where Veterans can receive care and directly addresses the VA-related legislation priority of implementing the MISSION Act, as well as the VA/non-VA Veteran care priority of access to care.

7/2019-4/2023 Telemedicine for Treatment of Opioid Use Disorder
NIH/1R01DA048533

Subaward Principal Investigator (Rose) / Principal Investigators (Huskamp/Mehrotra)
Many patients with opioid use disorder have great difficulty accessing substance use disorder treatment. Telemedicine is one potential solution, and many states and the Congress are considering laws and regulations to encourage greater use. In this project, our goal is to understand how telemedicine is being used for patients, what drives the variation in use, whether it is associated with better care. Dr. Rose will develop and apply machine learning methods for these aims.

4/2022-3/2026 Impact of Telemedicine on Medicare Beneficiaries with Mental Illness
NIH/2R01MH112829
Subaward Principal Investigator (Rose) / Principal Investigator (Mehrotra)
Access to mental health specialists is difficult for many patients in the U.S., particularly for the poor and those who live in rural communities. Telemental health is one potential solution for this access problem. In the proposed project we will conduct a series of descriptive analyses to understand how telemental health is being used and whether communities with greater telemental health penetration have experienced improvements in care for patients with mental illness.

9/2017-8/2022 Machine Learning for Health Outcomes and Quality of Care in Low-Income Populations
NIH/DP2MD012722
Principal Investigator (Rose)
This NIH Director's New Innovator Award will support the PI to develop a novel machine learning framework for the generalizability of experimental and quasi-experimental studies, providing population health scientists with robust methodology to assess the effects of health interventions and exposures. Health outcomes and quality of care in low-income populations lag behind other groups, and the impact of health insurance on these disparities among low-income individuals is currently unknown. A major goal of this proposal is to examine the role of insurance coverage on health outcomes in low-income populations with rigorous new tools in partially randomized data.

Editorial Service

Editorial Board Memberships

2013-18	Associate Editor	International Journal of Biostatistics
2015-18	Associate Editor	Journal of Causal Inference
2015-18	Associate Editor	Journal of the American Statistical Association (Theory & Methods)
2016-18	Associate Editor	Epidemiologic Methods
2016-18	Associate Editor	Biostatistics

2017-18	Editorial Board	Special Issue on Statistical Inference in the 21st Century: A World Beyond p<0.05, The American Statistician
2019-	Co-Editor-in-Chief	Biostatistics

Adhoc Reviewer

American Economic Journal: Economic Policy
American Journal of Epidemiology
American Journal of Health Economics
Annals of Applied Statistics
Biometrics
Biometrika
Circulation: Cardiovascular Quality and Outcomes
Computational Statistics and Data Analysis
Epidemiologic Methods
Epidemiology
Health Affairs
Health Economics
Health Services and Outcomes Research Methodology
Health Services Research
Lifetime Data Analysis
Medical Care
Medical Decision Making
JAMA
JAMA Psychiatry
Journal of the American Statistical Association (Theory & Methods)
Pharmacoepidemiology and Drug Safety
Statistical Methods in Medical Research
Statistics in Medicine

Grant Review Activities

2016-17	Mathematics and Statistics Discovery Grant Program	Natural Sciences and Engineering Research Council of Canada (NSERC)
2017	Methodology and Measurement in the Behavioral and Social Sciences Special Emphasis Panel	National Institutes of Health
2018	Understanding Mortality Outcomes Special Emphasis Panel	National Institutes of Health
2018	Aggregating and Mining Existing Data Sets Special Emphasis Panel	National Institutes of Health
2019	Career Development and Fellowship Training Programs Grants (NST-2 Study Section)	National Institute of Neurological Disorders and Stroke
2019	NIH Director's New Innovator Award Program 2020	National Institutes of Health
2020	Understanding Mortality Outcomes / Aggregating and Mining Existing Data Sets	National Institutes of Mental Health

	Special Emphasis Panel	
2020	NIH Director's New Innovator Award Program 2021	National Institutes of Health
2021	Innovative Mental Health Services Research / High-Priority Areas for Research Leveraging I and Large-Scale Data (NIMH SERV Member Conflicts Review)	National Institutes of Mental Health
2021	NIH Director's New Innovator Award Program 2022	National Institutes of Health
2022	Social Disconnection and Suicide Risk Special Emphasis Panel	National Institutes of Mental Health
2022	NIH Director's New Innovator Award Program 2023	National Institutes of Health

University Administrative Service

Committee Service

2008-11	Recruitment and Diversity Services Student Ambassador Program	University of California, Berkeley
2010-11	Admissions Committee, Biostatistics MA and PhD Program	University of California, Berkeley
2010-11	School of Public Health Student Government	University of California, Berkeley
2015-20	Committee on Higher Degrees in Health Policy	Harvard University
2016	Admissions Committee, Summer Program in Biostatistics and Computational Biology	Harvard Chan School of Public Health
2016-17	Statistics Faculty Search Committee, Department of Health Care Policy	Harvard Medical School
2016-20	Curriculum Development Board, Essentials of Medicine, Health Policy – Part II	Harvard Medical School
2016-20	Admissions Committee, Health Policy PhD Program	Harvard University
2018-19	Harvard Data Science Initiative Postdoctoral Fellow Program Review Committee	Harvard University
2018-20	Foundry Planning Committee	Harvard Medical School
2021-22	Admissions Committee, Health Policy MS Program	Stanford University
2021-	Executive Committee, Health Policy PhD Program	Stanford University
2021-	Admissions Committee, Health Policy PhD Program	Stanford University
2021-24	Committee on Academic Computing and Information Systems, Academic Council	Stanford University
2021-	Healthcare Policy Steering Committee, Human-Centered AI Institute	Stanford University
2021	Grant Review Committee, Wu Tsai Human Performance Alliance Agility Project	Stanford University

2021-22	Faculty Search Committee, Department of Health Policy, School of Medicine	Stanford University
2021-23	Faculty Search Committee, Department of Medicine (BMIR/Cardiology), School of Medicine	Stanford University
2021-22	Strategic Planning Steering Committee, Department of Health Policy, School of Medicine	Stanford University
2022	AI+Health Online Conference Faculty Advisory Committee, Stanford HAI	Stanford University
2022-23	Faculty Search Committee, Department of Health Policy, School of Medicine	Stanford University
2023	Ethics & Society Review Panel, Stanford HAI	Stanford University

Previous Leadership Roles [Current Leadership Roles on Page 1]

2007-10	Founder & President	University of California, Berkeley Biostatistics Graduate Student Association
2018	Conference Organizer	Machine Learning for Causal Inference Workshop, Harvard Data Science Initiative Conference
2018-20	Elected Preclinical Representative	Harvard Medical School Faculty Council
2021-22	Diversity Liaison	Stanford School of Medicine
2022-23	Chair	Committee on Academic Computing and Information Systems, Academic Council, Stanford University

Service to Professional and External Organizations

Membership

2009- American Statistical Association
2015- AcademyHealth

Committee Service

2012	Informal Committee of Junior Statisticians	American Statistical Association
2013-14	Advisory Group on Statistics and Computer Science for Big Data	American Statistical Association
2014-16	Committee on Meetings	American Statistical Association
2015	Thomas R. Ten Have Award Committee	Atlantic Causal Inference Conference
2015	Student Travel Award Committee	International Conference on Health Policy Statistics
2015-20	Subcommittee on High-Dimensional Data Analysis	STRATOS Initiative
2017	Student Travel Award Committee	American Statistical Association, Health Policy Statistics Section
2018	Program Committee	Machine Learning for Healthcare Conference
2018	Senior Advisory Committee	3rd Annual Population Health Science Research Workshop
2018	Student Travel Award Committee	International Conference on Health Policy Statistics

2018-19	Bernie J. O'Brien New Investigator Award Committee	International Society of Pharmacoeconomics and Outcomes Research
2019	David P. Byar Young Investigator Award Committee	American Statistical Association, Biometrics Section
2019	Program Committee	Eastern North American Region of the International Biometric Society
2019	Scientific Committee	Frontier of AI-Assisted Care Scientific Symposium, Stanford University
2019	Planning Committee	Social Science Modeling for Big Data in the World of Machine Learning Workshop, National Academy of Sciences, Engineering, and Medicine
2019-20	Awards Council	International Society of Pharmacoeconomics and Outcomes Research
2020	Annual Research Meeting Disparities and Health Equity Review Committee	AcademyHealth
2020-25	Advisory Board	Johns Hopkins University T32: "Data Integration for Causal Inference in Behavioral Health" (PI: Elizabeth Stuart)
2020-24	George W. Snedecor Award Committee	Committee of Presidents of Statistical Societies (COPSS)
2021	Justice, Equity, Inclusion and Diversity Outreach Group, Program Committee	American Statistical Association
2021-	Steering Committee	QUADAS-AI
2021-	Classification System for Health Technology Assessment Expert Panel	National Institute for Health and Care Excellence / Imperial College London
2022-24	Mortimer Spiegelman Award Committee	American Public Health Association

Previous Leadership Roles [Current Leadership Roles on Page 1]

2012	Conference Organizer	Atlantic Causal Inference Conference
2013	Liaison to the White House Office of Science and Technology Policy	American Statistical Association
2014	Conference Organizer	New England Statistics Symposium
2015	Conference Organizer	International Conference on Health Policy Statistics
2016	Co-Chair	3rd IEEE International Conference on Data Science and Advanced Analytics, Health Data Science Special Sessions
2017-18	Secretary/Treasurer	American Statistical Association, Biometrics Section
2019	Conference Organizer	Statistical Analysis of Large Administrative Health Databases: Emerging Challenges and Strategies Banff International Research Station 5-Day Workshop
2019-21	Chair-Elect, Chair, Past Chair	American Statistical Association, Biometrics Section
2020-21	Chair	David P. Byar Early Career Award Committee, American Statistical Association, Biometrics Section
2021-22	Program Chair	2022 Conference on Health, Inference and Learning (CHIL)

2022	Program Chair	American Statistical Association, Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group

Invited Presentations

2006 Fighting Liver Cancer / Departmental Seminar
San Francisco Department of Public Health, San Francisco, CA

2009 Causal Inference for Case-Control Studies / Departmental Seminar
Genentech, Inc, South San Francisco, CA

2009 Improving Phase I Decision-Making Using Alternative Dose-Escalation / Departmental Seminar
Genentech, Inc, South San Francisco, CA

2011 Statistical Methods for Causal Inference / 3-Day Short Course
The Forum for Collaborative HIV Research, Washington, DC

2011 On the Probability of Success of an IVF Program and the DAIFI Study / Invited Workshop
Université Paris Descartes, Applied Mathematics Department, Paris, France

2012 Targeted Learning: Causal Inference and Prediction / Departmental Seminar
Welch Center, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

2012 Interdisciplinary Methods for Prediction and Confidence Sets / Departmental Seminar
The George Washington University, Department of Statistics, Washington, DC

2012 Causal Inference for Case-Control Studies / Departmental Seminar
Johns Hopkins University, Causal Inference Group, Baltimore, MD

2012 Big Data, Causal Modeling, and Robust Estimation / Invited Presentation
New York University Center for Interdisciplinary Studies in Security & Privacy, New York, NY

2012 Causal Inference in HIV Research / Departmental Seminar
University of California, San Francisco Center for AIDS Prevention, San Francisco, CA

2012 Targeted Learning in Aging Populations: Insight into Electronic Medical Records / Departmental Seminars
Stanford Medical School, Prevention Research Center, Stanford, CA
National Institute of Environmental Health Sciences, Research Triangle Park, NC
National Institutes of Health, Stadtman Intramural Research Program, Bethesda, MD

2013 Robust Estimation for 'When to Initiate Treatment' in HIV-Infected Persons / Departmental Seminars
University of Washington, Department of Biostatistics, Seattle, WA
Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics, Baltimore, MD
The George Washington University, Dept. of Epidemiology & Biostatistics, Washington, DC
National Cancer Institute, Division of Cancer Epidemiology & Genetics, Bethesda, MD
Harvard Medical School, Department of Health Care Policy, Boston, MA

2013 Robust Estimation and Prediction for Cancer Research / Departmental Seminar
Cancer Prevention Institute of California, Fremont, CA

2014 A Speedy Tour of Estimators for Causal Inference / Departmental Seminar
Harvard University, Health Economics Methods Seminar, Boston, MA

2014 Machine Learning Methods for Prediction / Departmental Seminar
University of Utah School of Medicine, Department of Internal Medicine, Salt Lake City, UT

2014 Targeted Learning: Causal Inference for Observational & Experimental Data / 1-Day Short Course
University of Utah School of Medicine, Department of Internal Medicine, Salt Lake City, UT

2014 Targeted Learning in Semiparametric Models / Seminar
University of Pennsylvania, Semiparametric Research Group, Philadelphia, PA

2015 Rethinking Plan Payment Risk Adjustment with Machine Learning / Departmental Seminar
Harvard University, Institute for Quantitative Social Sciences, Cambridge, MA
Harvard University, Health Economics Methods Seminar, Boston, MA

2015 Health Policy Data Science / Invited Webinar Presentation
U.S. Department of Veterans Affairs, Big Data Scientist Training Program, Washington, DC

2015 Machine Learning for Effect Estimation in International Health / Departmental Seminar
Yale University, Quantitative Research Methods Workshop, New Haven, CT

2016 Robust Machine Learning for Variable Importance in Health Spending / Departmental Seminar
Harvard University, Health Economics Methods Seminar, Boston, MA

2016 Ensembles for Health Care Economics Research / Departmental Seminar
Fred Hutchinson Cancer Research Center, Data Science Seminar, Seattle WA

2016 Machine Learning for Biostatistics and Health Policy / Invited Presentation
Harvard T.H. Chan School of Public Health, Pipelines into Biostatistics, Boston, MA

2016 Targeted Learning / 1-Day Short Course
Columbia University, Department of Statistics, New York, NY

2016 Statistical Learning for Global Public Health / Departmental Seminar
Harvard T.H. Chan School of Public Health, Quality and Responsiveness Seminar, Boston, MA

2016 A Robust Machine Learning Method for Variable Importance in Health Spending / Departmental Seminar
Brown University, Statistics Seminar, Providence, RI

2016 Health Policy Data Science / Invited Presentation
Harvard Medical School, Health Care Policy Advisory Council, Boston, MA

2016 Robust Machine Learning for Variable Importance in Health Spending / Departmental Seminar
McGill University, Biostatistics Seminar, Montreal, Quebec, Canada

2017 Data Science & Medicine / Invited Presentation
Talks@12, Harvard Medical School, Boston, MA

2018 Machine Learning for Health Economics / Invited Webinar Presentation
AcademyHealth Health Economics Interest Group, Washington, DC

2018 Machine Learning for Health Care / Invited Presentation
Harvard T.H. Chan School of Public Health, Summer Program in Biostatistics, Boston, MA

2018 Machine Learning for Health Care Policy / Invited Webinar Presentation
WebENAR, Eastern North American Region of the International Biometric Society, Reston, VA

2018 Data, Generalizability, and Fairness / Workshop Keynote Presentation
Harvard University, Harvard Data Science Initiative Conference, Cambridge, MA

2019 What Your Electronic Health Data Won't Tell You…But I Will / Department Seminar
Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics, Baltimore, MD

2019 Machine Learning in Epidemiology / Invited Short Course
Albert Einstein College of Medicine, Department of Epidemiology & Population Health, Brooklyn, NY

2019 8th Kolokotrones Symposium on Data Science / Invited Panelist
Harvard T.H. Chan School of Public Health, Boston, MA

2019 Computational Health Economics and Outcomes / Invited Short Course
UCSF, Department of Epidemiology & Biostatistics, San Francisco, CA

2019 Electronic Health Data: Too Important to Be a Toy Example / Invited Presentation
2019-2020 Student-Invited Speaker, Department of Biostatistics, University of Washington, Seattle, WA

2019 Machine Learning for Health Economics and Outcomes: Prediction and Causal Inference / Invited Webinar Presentation
International Society for Pharmacoeconomics and Outcomes Research, Lawrenceville, NJ

2019 Machine Learning for Health Services Research / Departmental Seminar
Brown University, Health Services Research Seminar, Providence, RI

2020 Data Science for Social Good in Health Policy / Seminar
Stanford University, Data Science for Social Good Program, Stanford, CA *(Virtual)*

2020 Machine Learning for Health Economics and Outcomes Research / Departmental Seminar
VA Palo Alto, Health Economics Resource Center, Palo Alto, CA *(Virtual)*

2020 Machine Learning in Health Care: Too Important to Be a Toy Problem / Departmental Seminar
Stanford University, Biomedical Informatics Colloquia, Stanford, CA *(Virtual)*

2020 Machine Learning and Marginalized Groups in Health Care / Seminar
National Institute on Aging, AI Lecture Series, Bethesda, MD *(Virtual)*

2020 Machine Learning in Health Care: Too Important to Be a Toy Problem / Seminar
Stanford University, Human-Centered AI Institute, Stanford, CA *(Virtual)*

2021 Computational Health Economics & Building an Online Scientific Presence / Departmental Seminar
Stanford University, Center for Population Health Sciences, Stanford, CA *(Virtual)*

2021 Machine Learning in Health Care: Too Important to Be a Toy Problem / Departmental Seminar
New York University, Department of Biostatistics, New York, NY *(Virtual)*

2021 Machine Learning in Health Care: Too Important to Be a Toy Problem / Departmental Seminar
Stanford University, Department of Epidemiology and Population Health, Stanford, CA *(Virtual)*

2021 Machine Learning in Health Care: Too Important to Be a Toy Problem / Departmental Seminar
Stanford University, Clinical Excellence Research Center, Stanford, CA *(Virtual)*

2021 Fair Machine Learning for Continuous Outcomes in Risk Adjustment / Seminar
Trustworthy Machine Learning Initiative *(Virtual)*

2021 Projects at the Interface of Machine Learning for Health Policy / Department Seminar
Stanford University, Department of Health Policy, Stanford, CA *(Virtual)*

2022 Fairness and Generalizing to Target Populations / Department Seminar
Stanford University, Biostatistics Workshop, Stanford, CA *(Virtual)*

2022 Fairness and Generalizing to Target Populations / Department Seminar
University of Washington, Program in Health Economics and Outcomes Research Methodologies, Seattle, WA *(Virtual)*

2022 Machine Learning in Health Care: Too Important to Be a Toy Problem / Department Seminar
University of California, Berkeley, Heath Policy Research Colloquium, Berkeley, CA

2023 Algorithmic Bias and Machine Learning in Health Care / Distinguished Lectureship
Distinguished Lecture Series in Data Science, Columbia School of Public Health *(Virtual)*

2023 AI and Healthcare / Invited Panel
Health Policy Forum, Stanford University School of Medicine, Stanford, CA

2023 Algorithmic Bias and Machine Learning in Health / Student Selected Seminar Series (S4)
University of Minnesota, Division of Biostatistics *(Virtual)*

National and Regional Meeting Presentations

2009 Causal Inference in Nested Case-Control Studies / Contributed Presentation
Joint Statistical Meetings, Washington, DC

2010 Learning from Data: Super Learning and TMLE / Invited Presentation
75th Anniversary Symposium, The George Washington University, Department of Statistics, Washington, DC

2011 Causal Inference for Case-Control Studies and Two-Stage Designs / Invited Presentation
Annual Meeting of the Western North American Region of the International Biometric Society, San Luis Obispo, CA

2012 Predicting Mortality in an Elderly Population Using Machine Learning / Topic-Contributed Presentation
Annual Meeting of the Eastern North American Region of the International Biometric Society, Washington, DC

2012 Constructing Confidence Sets for the Optimal Treatment Regime / Invited Presentation
Joint Statistical Meetings, San Diego, CA

2012 Targeted Learning: Causal Inference for Observational & Experimental Data / 1-Day Short Course
Joint Statistical Meetings, San Diego, CA

2014 Machine Learning for Effect Estimation in International Health / Topic-Contributed Presentation
Joint Statistical Meetings, Boston, MA

2015 Targeted Learning: Causal Inference for Observational & Experimental Data / 1-Day Short Course
Atlantic Causal Inference Conference, Philadelphia, PA

2015 Methods for Multiple Treatment Comparisons / 1-Day Short Course
MDEpiNet Annual Meeting, Silver Spring, MD

2015 Machine Learning for Plan Payment Risk Adjustment / Topic-Contributed Presentation
Joint Statistical Meetings, Seattle, WA

2016 Machine Learning and Biostatistics for Public Health / Invited Presentation
Annual SACNAS National Conference, Long Beach, CA

2017 Statistical Machine Learning for Variable Selection / 2-Day Short Course
Causal Inference Methods for PCOR using Observational Data, Washington DC

2017 Computational Health Economics for Identification of Unprofitable Health Care Enrollees / Invited Presentation
Annual Meeting of the Eastern North American Region of the International Biometric Society, Washington, DC

2017 Computational Health Economics and Health Outcomes / Invited Presentation
Machine Learning in Healthcare Summit: Industry Applications, Boston, MA

2017 Medicare Risk Adjustment with Systematically Missing Data / Invited Presentation
AcademyHealth Annual Research Meeting, New Orleans, LA

2017 Computational Health Economics for Health Care Spending / Invited Presentation
Joint Statistical Meetings, Baltimore, MD

2018 Robust Estimation for Multiple Unordered Treatments / Invited Presentation
Annual Meeting of the Eastern North American Region of the International Biometric Society, Atlanta, GA

2018 The Future is Now: Machine Learning and Policy / Invited Presentation
12th Annual DIA/FDA Statistics Forum, Bethesda, MD

2018 Computational Health Economics and Clinical Informatics in Mental Health / Invited Presentation
7th Annual Thomas R. Ten Have Symposium on Statistics in Mental Health, Chicago, IL

2018 Ensembles for Prediction and Causal Effect Estimation / Invited Presentation
AcademyHealth Annual Research Meeting, Seattle, WA

2018 Ullrich et al., "Battling Antibiotic Resistance: Using Machine Prediction to Improve Prescribing" / Invited Discussant Presentation
10th Annual Health Economics Workshop, Baltimore, MD

2018 Nontraditional Data Sources and Health Decision-Making / Invited Discussant Presentation
3rd Annual Population Health Science Research Workshop, Boston, MA

2018 Computational Health Economics and Outcomes Research / Invited Presentation
3rd Seattle Symposium on Health Care Data Analytics, Seattle, WA

2018 Promise of AI and Telemedicine to Expand Care to New Populations / Invited Panel Presentation
Artificial Intelligence & Robotics in Medicine Conference, Yale Law School, New Haven, CT

2019 Covariate Selection and Algorithmic Fairness for Continuous Outcomes in Health Plan Risk Adjustment / Invited Presentation
Annual Meeting of the Eastern North American Region of the International Biometric Society, Philadelphia, PA

2019 Does Machine Learning Help Us Understand Medical Device Safety / Invited Keynote Presentation
12th Annual FDA/AdvaMed Medical Devices and Diagnostics Statistical Issues Conference, Washington, DC

2019 Fair Regression for Health Care Spending / Invited Presentation
AcademyHealth Annual Research Meeting, Washington, DC

2019 Risk Adjustment: Benchmarking & Fairness / Invited Presentation
Joint Statistical Meetings, Denver, CO

2019 These Aren't the Electronic Health Data You're Looking For / Invited Discussant Presentation
Joint Statistical Meetings, Denver, CO

2019 Toward Standards for Machine Learning Research in Health Care & Policy / Invited Presentation
Social Science Modeling for Big Data in the World of Machine Learning Workshop, National Academies of Sciences, Washington, DC

2020 Toward Interpretability and Fairness for Multiple Groups: Risk Adjustment / Invited Presentation
Joint Statistical Meetings, Philadelphia, PA *(Virtual)*

2020 Beyond Case Counts: Making COVID-19 Clinical Data Available and Useful / Invited Moderator
COVID-19 Data Forum, Stanford, CA *(Virtual)*

2020 Improving Outcomes in Low-Income Populations / Invited Presentation
NIA Workshop on Applications of Machine Learning to Improve Healthcare Delivery for Older Adults *(Virtual)*

2020 Learning from Observational Data / Invited Discussant
Sixth Seattle Symposium in Biostatistics, Seattle, WA *(Virtual)*

2021 Developments in Fair Machine Learning for Risk Adjustment / Invited Presentation
Annual Meeting of the Eastern North American Region of the International Biometric Society, Baltimore, MD *(Virtual)*

2021 Transformations, Linking, and Generalizability / Invited Presentation
Building Data Capacity for Patient-Centered Outcomes Research Workshop, National Academies of Sciences, Washington, DC *(Virtual)*

2021 Causality in the Algorithmic Pipeline / Invited Presentation
Frontiers of Causal Inference in Data Science: Perspectives from Leaders in Tech and Academia, Penn-Rutgers Center for Causal Inference, Philadelphia, PA *(Virtual)*

2021 Machine Learning in Health Care: Too Important to Be a Toy Problem / Invited Award Lecture
Gertrude M. Cox Award Lecture, Washington Statistical Society & RTI International, Washington, DC *(Virtual)*

2021 A Brief Reflection on Causality and Evidence Synthesis in Statistical Science / Invited Presentation
Committee on Assessing Causality from a Multidisciplinary Evidence Base for National Ambient Air Quality Standards Workshop, National Academies of Sciences, Washington, DC *(Virtual)*

2021 Validity and Fairness in Mental Health Services Research / Invited Presentation
Joint Statistical Meetings, Seattle, WA *(Virtual)*

2021 Algorithmic Fairness / Invited Introductory Overview Lecture
Joint Statistical Meetings, Seattle, WA *(Virtual)*

2021 Interdisciplinary Statistics? / Invited Award Presentation
Mortimer Spiegelman Award Lecture, American Public Health Association Annual Meeting, Denver, CO *(Virtual)*

2021 AI Ethics & Fairness for Health Policy / Invited Presentation
Stanford AI+Health Conference, Stanford, CA *(Virtual)*

2022 Identifying and Addressing Health Bias: Using IBM Marketscan and CMS Data / Invited Presentation
MIT AI Policy Forum *(Virtual)*

2022 Fairness and Generalizing to Target Populations / Invited Presentation
African Diaspora Joint Mathematics Workshop, Berkeley, CA *(Virtual)*

2022 Transforming Healthcare Through Innovation / Invited Panelist Moderator
Stanford HAI Congressional Bootcamp on Artificial Intelligence

2022 Algorithmic Bias and Machine Learning in Health Care / Invited Keynote
CHOICE Institute Symposium, University of Washington, Seattle, WA *(Virtual)*

International Meeting Presentations

2007 Childhood Overweight in Asian Populations / Invited Presentation
International Society for Behavioral Nutrition & Physical Activity Meeting, Oslo, Norway

2010 Variable Importance in a Kaiser Permanente Database / Contributed Presentation
Joint Statistical Meetings, Vancouver, BC

2012 Constructing Confidence Sets for the Optimal Treatment Regime / Invited Presentation
International Conference on Advances in Interdisciplinary Statistics & Combinatorics, Greensboro, NC

2014 Machine Learning and PTSD / Invited Presentation
WHO World Mental Health Annual Meeting, Cambridge, MA

2015 A Machine Learning Framework for Plan Payment Risk Adjustment / Invited Presentation
International Conference on Health Policy Statistics, Providence, RI

2016 Ensembles for Health Economics Research / Invited Presentation
International Society for Pharmacoeconomics and Outcomes Research Meeting, Washington, DC

2016 Targeted Statistical Learning for Health Care Spending / Invited Presentation
Royal Statistical Society International Conference, Manchester, UK

2017 Real-World Evidence – Integrated Datasets / Invited Presentation
International Society for Pharmacoeconomics and Outcomes Research Meeting, Boston, MA

2017 Targeted Learning / Invited Short Course
Channel Network Conference of the International Biometric Society, Hasselt, Belgium

2017 Improving Health Care System Performance: Computational Health Economics with Normative Data / Invited Presentation
World Congress of the International Health Economics Association, Boston, MA

2018 Treatment Effect Heterogeneity in Cardiac Stents / Invited Presentation
International Conference on Health Policy Statistics, Charleston, SC

2018 Ensembles for Disease Stage Classification in Electronic Medical Records / Invited Presentation
International Society for Pharmacoeconomics and Outcomes Research Meeting, Baltimore, MD

2018 CancerCLAS: A Generalizable Algorithm for Classifying Cancer Types? / Invited Presentation
Joint Statistical Meetings, Vancouver, BC, Canada

2019 Modern Data Science for Risk Adjustment / Invited Presentation
International Risk Adjustment Network Conference, Portland, ME

2020 Missing Diagnoses, Uncovering Hidden Groups, and Going Beyond 'Encounters' to Assess Health / Invited Presentation
International Conference on Health Policy Statistics, San Diego, CA

2020 Machine Learning in Health Care: Too Important to Be a Toy Example / Invited Keynote
ACM Conference on Health, Inference, and Learning, Toronto, ON, Canada *(Virtual)*

2020 An Update on Machine Learning for Risk Adjustment / Invited Presentation
International Risk Adjustment Network Conference, Switzerland *(Virtual)*

2021 Developments in Fair Machine Learning for Risk Adjustment / Invited Presentation
CANSSI-NISS Conference on Health Data Science *(Virtual)*

2021 Ready for a Revolution: The Changing Role of Statistics in Data Science / Invited Keynote
Canadian Society for Epidemiology and Biostatistics Conference *(Virtual)*

2021 Neglected Assumptions in Causal Inference Workshop / Invited Panelist
International Conference on Machine Learning (ICML) *(Virtual)*

2021 Statistical Methods for Algorithmic Fairness in Risk Adjustment / Invited Presentation
Tackling Inequities and Exclusion in Statistical Research Symposium, London School of Hygiene and Tropical Medicine *(Virtual)*

2022 Machine Learning and Marginalized Groups in Health Care / Special Speaker
Science and Technology for Life Symposium, Korea University *(Virtual)*

2022 Toward Minimum Standards for Health Care AI / Invited Presentation
AIMS 2022 Medical AI in Practice: More Benefits, Less Harm, Beijing, China *(Virtual)*

Report of Education and Service to the Community

2012	Science, Medicine, Math, Young Professionals, and Time Wealth / Invited Presentation 4th Annual Women & Philanthropy Forum, Washington, DC
2014-16	Biostatistics Careers / Invited Panelist Summer Institute for Training in Biostatistics, Boston University, Boston, MA
2018	Machine Learning and Careers / Invited Panelist Women in Data Science Conference, Cambridge, MA
2018	Summer Opportunities in Biostatistics / Invited Discussant StatFest, Amherst, MA
2020	Careers in Journal Editing / Invited Panelist The Black Women in Computational Biology Network *(Virtual)*
2020	Summer Opportunities in Statistics and Data Science / Invited Facilitator StatFest, Indianapolis, IN *(Virtual)*

Teaching of Students in Courses

2009	Introduction to Marginal Structural Models Epidemiology and Biostatistics graduate students	University of California, Berkeley Co-Instructor Two 2 hr sessions per week for 15 weeks
2014-19	Health Policy Methods Seminar 20 Health Policy PhD students	Harvard Medical School Co-Instructor One 1 hr session per month
2015	HC750: Health Care Policy 140 medical students/8-10 per tutorial ***Perfect 1.0 instructor rating on course evaluations***	Harvard Medical School Tutorial Leader Eight 1 hr sessions over 4 weeks
2015-20	HP3080A/B: Research Seminar in Health Policy Health Policy PhD students	Harvard University Instructor Two 1.5 hr sessions per year
2016	PWY120: Essentials of the Profession I 140 medical students/8-10 per small group/40 per mid-size group	Harvard Medical School Small Group Leader Six 2 hr sessions over 3 weeks Mid-Size Group Leader Two 2 hr sessions
2016	BIO260: Introduction to Data Science	Harvard School of Public Health Guest Lecturer One 1 hr session

2018	Machine Learning and Bayesian Approaches to Data Science in Medicine HMS PhD and medical students	Harvard Medical School/Harvard Catalyst Co-Instructor One 6.5 hour course
2018	Reproducibility and Open Science HMS students, fellows, and faculty	Dana-Farber Cancer Institute Guest Lecturer One 1 hr session
2020	BIOMEDIN205: Precision Medicine & Big Data MD and graduate students	Stanford University School of Medicine Guest Lecturer One 1 hr session
2021-	Stanford Population Health Summer Research Program: Advancing Health Equity and Diversity (AHEaD) ahead.stanford.edu Visiting community college and undergraduate students	Stanford University School of Medicine Founding Co-Director & Co-Instructor 7-week program
2022-	Decoding Academia: Power, Hierarchies, and Transforming Institutions decodingacademia.org Graduate students	Stanford University School of Medicine Instructor Spring Term
2024-	Reproducible Research for Computational Sciences Epidemiology, Biomedical Informatics, and Health Policy PhD and MS students	Stanford University School of Medicine Course Lead and Co-Instructor Spring Term

Trainees

2014 Andrew Mirelman, MPH, PhD in International Health, Johns Hopkins University
Published manuscript in *Health Policy and Planning*.
Now: Technical Officer, World Health Organization

2014-17 Sarah Anoke, PhD in Biostatistics, Harvard T.H. Chan School of Public Health
Oral exam and dissertation committee member.
Now: Staff User Researcher, Twitter

2014-18 Caitlin Carroll, PhD in Health Policy, Harvard University
Supervised research projects on the Arkansas Payment Improvement Initiative. Published manuscript in the *Journal of Health Economics*.
Now: Assistant Professor of Health Policy and Management, University of Minnesota

2015-16 Megan Schuler, PhD, Marshall J. Seidman Fellow in Health Care Policy, Harvard University
Supervised research project on targeted learning. Published manuscript in the *American Journal of Epidemiology*.
- 2017 *American Journal of Epidemiology* Article of the Year

Now: Health Policy Researcher, RAND

2015-19 Savannah Bergquist, PhD in Health Policy, Harvard University
Advisor and dissertation committee chair; Supervised research projects on risk adjustment redesign, machine learning, and Medicare. Published manuscripts in *Biostatistics*, *Health Services Research* (2), *Proceedings of Machine Learning Research*, *JCO Clinical Cancer Informatics*, *Journal of Health Economics*, and *Statistics in Medicine*.

- 2017 Harvard Graduate Society Research Fellowship
- 2018 ICHPS Student Travel Award
- 2019 Joan P. Curhan Citizenship Award
- 2020 AcademyHealth Outstanding Dissertation Award

Now: Specialist, McKinsey & Company, Life Sciences Team

2015-18 Anthony Rosellini, PhD, NIH K01 Mentored Research Scientist, Harvard Medical School
Co-advisor; Supervised research project on ensembling for predicting PTSD after natural disasters. Published manuscript in the *Journal of Psychiatric Research*.
Now: Associate Professor, Boston University

2016 Jarvis Miller, Visiting Summer Undergraduate, Rice University
Supervised summer project on ensembling for diabetes prediction in African Americans.
Now: Data Scientist, Spotify

2016 Kimberlyn Bailey, Visiting Summer Undergraduate, SUNY Oswego
Supervised summer project on ensembling for diabetes prediction in African Americans.
Now: Master's student in Biostatistics, Harvard T.H. Chan School of Public Health

2016 Valerie Santiago González, Visiting Summer Undergraduate, University of Puerto Rico
Supervised summer project on ensembling for diabetes prediction in African Americans.
Now: Software Developer, CEGsoft

2016-17 Tai Cai, PhD in Biostatistics, Harvard T.H. Chan School of Public Health
Dissertation committee member; Co-supervised research project on hospital profiling.
Now: Research Data Scientist, Facebook

2016-17 Akritee Shrestha, SM in Biostatistics, Harvard T.H. Chan School of Public Health
Thesis advisor; Supervised research project on ensembling for mental health risk adjustment. Published manuscript in *Health Services Research*.
Now: Data Scientist, Instagram

2016-17 Yingrui Yang, SM in Biostatistics, Harvard T.H. Chan School of Public Health
Supervised research project on semiparametric estimation methods.
Now: Senior Data Scientist, Ancestry

2016-20 Alex McDowell, PhD in Health Policy, Harvard University
Advisor and dissertation committee chair; Supervised research projects on gender minority health. Published manuscripts in *LGBT Health*, *JAMA Psychiatry*, and *Medical Care*.

- 2017 Harvard Summer Predissertation Fellowship

Now: Assistant Professor, Mongan Institute at Massachusetts General Hospital/Harvard

2017 Alicia Dominguez, Visiting Summer Undergraduate, University of New Mexico
Supervised summer project on ensembling for global health policy.
Now: PhD Student in Biostatistics, University of Michigan

2017 Bonnie Lin, Visiting Summer Undergraduate, Amherst College
Supervised summer project on ensembling for global health policy.
Now: Information Systems Analyst, UC San Diego Health

2017 Julia Thome, Visiting Summer Undergraduate, Cornell College (IA)
Supervised summer project on ensembling for global health policy.
- 2017 National SACNAS travel scholarship for our summer research
- 2017 SACNAS Best Undergraduate Presentation in Statistics Award

Now: PhD Student in Biostatistics, Vanderbilt University

2017 Tyler Vu, Visiting Summer Undergraduate, California State University, Fullerton
Supervised summer project on ensembling for global health policy.
Now: PhD Student in Biostatistics, UCSD

2017-18 Samrachana Adhikari, PhD, Postdoctoral Fellow in Statistics, Harvard Medical School
Secondary Advisor; Supervised research project on classification for multiple unordered treatments and co-authored methods project for instrumental variables. Published manuscripts in *Journal of the American Statistical Association* and *Statistical Methods in Medical Research*.
Now: Associate Professor of Biostatistics, NYU

2017-21 Irina Degtiar, PhD in Biostatistics, Harvard T.H. Chan School of Public Health
Advisor; Supervising research projects on generalizability of randomized and observational data. Published manuscripts in *Annual Review of Statistics and Its Application* and *Biometrics*.
Now: Statistician, Mathematica

2018-20 Toyya Pujol, PhD in Industrial Engineering (Statistics), Georgia Tech
Dissertation committee member; Supervised project on machine learning methods for difference-in-differences designs.
Now: Operations Researcher, RAND

2018-19 Augustine (Austin) Denteh, PhD, Postdoctoral Fellow, Harvard Medical School
Advisor; Supervised research project on econometric methods for effect heterogeneity.
Now: Assistant Professor of Economics, Tulane University

2018-19 Maimuna (Maia) Majumder, PhD, Postdoctoral Fellow, Harvard Medical School
Advisor; Supervised research projects on generalizability and novel data sources. Published manuscripts in *JAMIA Open* and *BMJ Open*.
Now: Assistant Professor of Computational Health Informatics, Boston Children's & Harvard

2018-22 Anna Zink, PhD in Health Policy, Harvard University

Advisor and dissertation committee member; Supervised projects in risk adjustment and algorithmic fairness. Published manuscripts in *Biometrics*, *American Journal of Health Economics*, and *BMJ Health & Care Informatics*.

- 2019 NSF Graduate Research Fellowship Program awardee

Now: Principal Researcher, Chicago Booth Center for Applied AI

2019-22 Nhung Nghiem, PhD, Senior Research Fellow, University of Otago, Wellington
Advisory team member; Provided guidance on a project in computational health economics and health equity in New Zealand.

2019-23 Noémie Sportiche, PhD in Health Policy, Harvard University
Co-advisor and dissertation committee member; Advised on research projects in health economics and housing policy.

- 2019 Horowitz Foundation for Social Policy grant; Eli Ginzberg Award for "most outstanding project in health and welfare, particularly in urban settings"
- 2020 Population Association of America Best Poster
- 2020-22 Robert Wood Johnson Foundation Policies for Action grant co-principal investigator

Now: Researcher, Mathematica

2020- Minh Nguyen, PhD Candidate in Biomedical Informatics, Stanford University
Dissertation committee member & Diversifying Academia, Recruiting Excellence (DARE) Faculty Resource Advisor.

- 2022-24 DARE Fellowship, Stanford University

2021 Filsan Abdisatar, AHEaD Visiting Summer Undergraduate, University of Washington
Supervised summer project in algorithmic fairness.

2021 Pierre Alvin Go, AHEaD Visiting Summer Undergraduate, UC Davis
Supervised summer project in algorithmic fairness.

2021 Samson Mataraso, PhD Student in Biomedical Informatics, Stanford University
Rotation student, worked on algorithmic fairness.

2021-22 Paidamoyo (Ash) Chapfuwa, PhD, Postdoctoral Fellow, Stanford University
Advisor; Supervised projects in longitudinal data and causal inference. Published manuscript in *Proceedings of the 38th Conference on Uncertainty in Artificial Intelligence*.
Now: Senior Researcher, Microsoft Research

2021-23 Lucia Lushi Chen, PhD, Postdoctoral Fellow, Stanford University
Advisor; Supervised research projects on algorithmic fairness. Published manuscript in *Journal of the American Medical Informatics Association*.

2021-23 Jiayi Zhao, MS in Health Policy, Stanford University
Advisor; Co-supervised research project in machine learning and gender minority health.
Now: PhD Student in Health Policy, UCLA

2021- Oana Marie Enache, PhD Student in Biomedical Informatics, Stanford University
Advisor; Supervising on projects in generalizability.

2021- Marika Cusick, PhD Student in Health Policy, Stanford University
Dissertation Committee Member; Supervising projects on novel data sources and infectious disease as well as chronic kidney disease and fairness. Published manuscript in *BMJ Open*.
- 2023-2025 Stanford Interdisciplinary Graduate Fellowship

2021- Jlateh Vincent Jappah, MD, PhD Student in Health Policy, Stanford University
Co-Advisor.
- 2023 Research, Action, and Impact through Strategic Engagement (RAISE) Doctoral Fellowship, Stanford University

2021- Agata Foryciarz, PhD Candidate in Computer Science, Stanford University
Advisor; Supervising research projects on algorithmic fairness.

2021- Marissa Reitsma, PhD Candidate in Health Policy, Stanford University
Dissertation Committee Member; Supervising projects on improving risk adjustment undercompensation for racial and ethnic minorities, co-supervising COVID-19 projects in health disparities. Manuscript revise & resubmit with *Medical Decision Making*.

2022 Elizabeth (Liz) Chin, PhD Candidate in Biomedical Informatics, Stanford University
Dissertation Defense Chair (Defense Examiner).

2022 Mileati Melese, AHEaD Visiting Summer Undergraduate, University of Colorado
Supervised summer project in algorithmic fairness.
Now: Master's Student in Biostatistics, Emory University

2022 Stephanie Perez, AHEaD Visiting Summer Undergraduate, UCLA
Supervised summer project in algorithmic fairness.
Now: MEDPEP Scholar, UCLA

2022- Gabriela Basel, PhD Student in Chemical Engineering, Stanford University
Advisor; Supervising research projects on algorithmic fairness.
- 2023-2025 Diversifying Academia, Recruiting Excellence (DARE) Fellowship, Stanford University

2022- Issa Sylla, MS Student in Health Policy, Stanford University
Advisor.

2023- Matthew Kaufmann, PhD Candidate in Health Policy, Stanford University
Dissertation Committee Member.

2023 Kara Liu, PhD Student in Computer Science, Stanford University
Co-supervised Spring rotation project on opioid risk scores (with Carlos Guestrin).

2023 Nakaya Frazier, AHEaD Visiting Summer Undergraduate, UC Merced
Supervising summer project on chronic kidney disease and algorithmic fairness.

2023 Kelvin Nguyen, AHEaD Visiting Summer Undergraduate, University of Southern California
Supervising summer project on chronic kidney disease and algorithmic fairness.

2023- Carter Nakamoto, PhD Student in Health Policy, Stanford University
Advisor.