

Harvard Medical School 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

Postdoctoral Training

9/11-8/13	NSF Mathematical Sciences Postdoctoral Research Fellow	Biostatistics	Johns Hopkins Bloomberg School of Public Health
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Faculty Academic Appointments

9/13-2/16	Assistant Professor of Health Care Policy (Biostatistics)	Health Care Policy	Harvard Medical School
3/16-	Associate Professor of Health Care Policy (Biostatistics)	Health Care Policy	Harvard Medical School

Other Professional Positions

2002-2003	Research Assistant	National Cancer Institute
2002; 2004-2005	Teaching Assistant	The George Washington University
2005-2006	Teaching Assistant	University of California, Berkeley
2006	Research Assistant	San Francisco Department of Public Health
2009	Research Assistant	Genentech, Inc.
2006-2011	Research Assistant	University of California, Berkeley

Major Administrative Leadership Positions

Regional

2012	Conference Organizer	Atlantic Causal Inference Conference
2014	Conference Organizer	New England Statistics Symposium

National and International

2015	Conference Organizer	International Conference on Health Policy Statistics
2016	Co-Chair	3 rd IEEE International Conference on Data Science and Advanced Analytics, Health Data Science Special Sessions
2017-2018	Secretary/Treasurer	American Statistical Association, Biometrics Section

Committee Service

Local

2007-2010	Biostatistics Graduate Student Association	University of California, Berkeley <i>Founder & President</i>
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2008-2011	Recruitment and Diversity Services Student Ambassador Program	University of California, Berkeley <i>Member</i>
2010-2011	Admissions Committee, Biostatistics MA and PhD Program	University of California, Berkeley <i>Member</i>
2010-2011	School of Public Health Student Government	University of California, Berkeley <i>Member</i>
2015-	Committee on Higher Degrees in Health Policy	Harvard University <i>Faculty Member</i>
2016	Admissions Committee, Summer Program in Biostatistics and Computational Biology	Harvard Chan School of Public Health <i>Member</i>
2016-2017	Statistics Faculty Search Committee, Department of Health Care Policy	Harvard Medical School <i>Member</i>
2016-	Curriculum Development Board, Essentials of Medicine, Health Policy – Part II	Harvard Medical School <i>Member</i>
2016-	Admissions Committee, Health Policy PhD Program	Harvard University <i>Member</i>
National and International		
2012	Informal Committee of Junior Statisticians	American Statistical Association <i>Founder & Member</i>
2013-2014	Advisory Group on Statistics and Computer Science for Big Data	American Statistical Association <i>Member</i>
2014-2016	Committee on Meetings	American Statistical Association <i>Member</i>
2015	Thomas R. Ten Have Award Committee	Atlantic Causal Inference Conference <i>Member</i>
2015	Student Travel Award Committee	International Conference on Health Policy Statistics <i>Member</i>
2015-	Subcommittee on High-Dimensional Data Analysis	STRATOS Initiative (International) <i>Member</i>
2017	Student Travel Award Committee	Joint Statistical Meetings, Health Policy Statistics Section <i>Member</i>
2018	Student Travel Award Committee	International Conference on Health Policy Statistics <i>Member</i>
Professional Societies		
2009-	American Statistical Association, <i>Member</i> June 2013: White House Office of Science and Technology Policy, <i>Liason</i>	
2015-	AcademyHealth, <i>Member</i>	
2016-	International Society for Pharmacoeconomics and Outcomes Research, <i>Member</i>	
2017-	International Health Economics Association, <i>Member</i>	
Grant Review Activities		
2016-2017	Mathematics and Statistics Discovery Grant Program	Natural Sciences and Engineering Research Council of Canada (NSERC) <i>Reviewer</i>

2017	Methodology and Measurement in the Behavioral and Social Sciences Special Emphasis Panel	National Institutes of Health (NIH) <i>Reviewer</i>
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Editorial Activities

Adhoc Reviewer

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

Other Editorial Roles

2013-	Associate Editor	International Journal of Biostatistics
2015-	Associate Editor	Journal of Causal Inference
2015-	Associate Editor	Journal of the American Statistical Association (Theory & Methods)
2016-	Associate Editor	Epidemiologic Methods
2016-	Associate Editor	Biostatistics
2017-18	Editorial Board	Special Issue on Statistical Significance and P-Values, The American Statistician

Honors and Prizes

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	University of California, Berkeley,

	Scholarships	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	<i>Environmental and Molecular Mutagenesis</i> 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
2011-2013	NSF Mathematical Sciences Postdoctoral Research Fellowship	National Science Foundation	Supports leaders in the mathematical sciences by facilitating their participation in postdoctoral research
2012	Delta Omega	Johns Hopkins Bloomberg School	Recognizes outstanding

	Scholarship	of Public Health	research
2012	Young Investigator Award	International Conference on Advances in Interdisciplinary Statistics and Combinatorics	
2013	Editor's Choice Article	<i>American Journal of Epidemiology</i>	
2014	Reviewer of the Year	<i>American Journal of Epidemiology</i>	
2014	Best Reviewer Award	<i>Pharmacoepidemiology and Drug Safety</i>	
2015	Certificate of Excellence in Tutoring	Harvard Medical School	Recognizes excellence in small-group teaching based on student evaluations
2015	Editor's Choice Article	<i>Gastrointestinal Endoscopy</i>	
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 (\$1.5M direct costs)

Report of Funded Projects

Funding Information

Current

2017-2022	Machine Learning for Health Outcomes and Quality of Care in Low-Income Populations NIH/1DP2MD012722 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.
2017-2018	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 adjusters, the risk adjustment 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 propose using the data itself as a policy tool along with developing new machine learning methodology for risk adjustment.

2017-2020

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.

2015-2019

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.

Past

2011-2013

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.

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 will develop new statistical methods for a complex sampling design to analyze novel data on chronic disease and poverty in Bangladesh.

- 2014-2015 Evaluation of Multistage Antimicrobial Treatment Strategies in Pneumonia
University of Utah
Principal Investigator (Rose)
This research focuses 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.
- 2014-2017 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 will have 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. This program evaluation will involve the development of new statistical methods including techniques for the creation of synthetic controls.
- 2015-2016 Improving Sampling Techniques for Medicare Advantage Plan Payment Methodology with Machine Learning
NIH/NIA-HSPH/5P30AG024409-11
Principal Investigator (Rose)
This pilot study is a first step toward improving risk adjustment in Medicare Advantage plans. The specific aims include developing innovative and tailored machine learning-based matching methods in order to draw 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.
- 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 including developing ensemble machine learning methods to estimate risk-adjustment functions and evaluate their performance.
- 2013-2014 Modifiable Risk and Protective Factors for Suicidal Behaviors in the US Army
NIMH/U01MH087981
Co-Investigator (Ursano)
This multi-site study seeks 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.

- 2013-2014 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.
- 2013-2014 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 is to use qualitative methods and early data/reports from Arkansas to provide insight about the operation and impact of the state's initiative. Investigators will also lay the groundwork for future econometric evaluations by identifying and assessing the suitability of various control populations.
- 2013-2017 Measuring and Improving Colonoscopy Quality Using Natural Language Processing
NIH/NCI/R01CA168959
Co-Investigator (Mehrotra)
Our proposal centers on measuring, understanding, and improving colonoscopy quality. This will be one of the largest assessments of the variation in adenoma detection rates and will span different geographic regions, payment systems, and practice settings. We also seek 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.
- 2014-2015 Project 2: Evaluating ACOs and Improving ACO Regulation
John and Laura Arnold Foundation
Co-Investigator (Chernew)
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 include estimating the impact of ACOs on spending and how that impact varies by ACO design features.
- 2014-2017 Mental Health Coverage and Payment in Private Health Plans
NIH/NIMH/2R01MH094290
Co-Investigator (McGuire)
This project proposes 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 plan to assess the magnitude of the selection problem among likely Exchange participants, and based on this, identify and evaluate options for correcting incentives to health plans to provide efficient and fair coverage for person with mental illness.

- 2014-2017 Project 6: Risk Adjustment Redesign
 John and Laura Arnold Foundation
 Co-Investigator (Chernew)
 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 proposes a transformative redesign of the practice of risk adjustment used for paying health plans in health insurance markets, including Exchanges and Medicare Advantage.
- 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 aims to assess the impact of the program on utilization, spending, quality, and patient- and provider-reported experiences. Dr. Rose's role is to develop new tools and algorithms for classification of cancer severity for multiple cancer types.

Report of Local Teaching and Training

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-	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 <i>Perfect 1.0 instructor rating on course evaluations</i>	Harvard Medical School Tutorial Leader Eight 1 hr sessions over 4 weeks
2015-	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	Frequentist Machine Learning and Bayesian Approaches to Health Data Science HMS PhD and medical students	Harvard Medical School/Harvard Catalyst Co-Instructor One 6.5 hour course
2018	Essentials of the Profession II HMS third-year medical students	Harvard Medical School Small Group Leader
2018	Reproducibility and Open Science HMS students, fellows, and faculty	Dana-Farber Cancer Institute Guest Lecturer One 1 hr session

Formally Supervised Trainees

- 2014 Andrew Mirelman, MPH, PhD in International Health, Johns Hopkins University
Published manuscript in *Health Policy and Planning*.
Now: Research Fellow at the Centre for Health Economics, University of York.
- 2014- Caitlin Carroll, PhD Candidate in Health Policy, Harvard University
Supervising research projects on the Arkansas Payment Improvement Initiative. Manuscript submitted as an NBER Working Paper.
- 2014-17 Sarah Anoke, PhD in Biostatistics, Harvard T.H. Chan School of Public Health
Oral exam and dissertation committee member.
Now: Postdoctoral Fellow, Harvard T.H. Chan School of Public Health
- 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*.
Now: Health Policy Researcher, RAND (Boston)
- 2015- Savannah Bergquist, PhD Candidate in Health Policy, Harvard University
Advisor and dissertation committee chair; Supervising research projects on risk adjustment redesign, machine learning, and Medicare. Published manuscripts in *Biostatistics* and *Proceedings of Machine Learning Research*.
 - Received university-wide 2017 Harvard Graduate Society Research Fellowship.
- 2015- 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: Research Assistant Professor, Boston University
- 2016 Ian Nason, MSc in International Health Policy, London School of Economics
Thesis advisor; Supervised thesis on risk for cardiovascular events using machine learning.
 - Received LSE Loch Exhibition Award for best overall performance, including coursework and master's thesis.
Now: PhD Student in Health Policy, Harvard University

- 2016 Kriti Lall, Undergraduate, Harvard University
Supervised independent study.
- 2016 Jarvis Miller, Visiting Summer Undergraduate, Rice University
Supervised summer project on ensembling for diabetes prediction in African Americans
Now: PhD Student in Statistics, University of Michigan
- 2016 Kimberlyn Bailey, Visiting Summer Undergraduate, SUNY Oswego
Supervised summer project on ensembling for diabetes prediction in African Americans
Now: Post-Baccalaureate Researcher, NIH
- 2016 Valerie Santiago González, Visiting Summer Undergraduate, University of Puerto Rico
Supervised summer project on ensembling for diabetes prediction in African Americans
- 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: Data Scientist, BitSight Technologies
- 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.
Manuscript revise & resubmit with *Health Services Research*.
Now: Data Scientist at Wayfair (Boston)
- 2016-17 Yingrui Yang, SM in Biostatistics, Harvard T.H. Chan School of Public Health
Supervised research project on semiparametric estimation methods.
- 2016- Alex McDowell, PhD Student in Health Policy, Harvard University
Academic advisor; Supervising research project on gender minority health coverage,
manuscript under review.
 - Received university-wide 2017 Harvard Summer Predissertation Fellowship.
- 2017 Aaron Sonabend, PhD Student in Biostatistics, Harvard T.H. Chan School of Public Health
Supervised independent study on statistical learning.
- 2017 Alicia Dominguez, Visiting Summer Undergraduate, University of New Mexico
Supervised summer project on ensembling for global health policy
- 2017 Bonnie Lin, Visiting Summer Undergraduate, Amherst College
Supervised summer project on ensembling for global health policy
- 2017 Julia Thome, Visiting Summer Undergraduate, Cornell College (IA)
Supervised summer project on ensembling for global health policy
 - Received national SACNAS travel scholarship for her summer research.
- 2017 Tyler Vu, Visiting Summer Undergraduate, California State University, Fullerton
Supervised summer project on ensembling for global health policy

- 2017- Irina Degtiar, PhD Student in Biostatistics, Harvard T.H. Chan School of Public Health
Supervising research project on generalizability of randomized and observational data.
- 2017- Ian Nason, PhD Student in Health Policy, Harvard University
Academic Advisor
- 2017- Anna Zink, PhD Student in Health Policy, Harvard University
Academic Advisor

Local Invited Presentations

- 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
- 2012 Targeted Learning: Causal Inference and Prediction / Departmental Seminar
Welch Center, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
- 2012 Causal Inference for Case-Control Studies / Departmental Seminar
Johns Hopkins University, Causal Inference Group, Baltimore, MD
- 2014 A Speedy Tour of Estimators for Causal Inference / Departmental Seminar
Harvard University, Health Economics Methods Seminar, Boston, MA
- 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
- 2016 Robust Machine Learning for Variable Importance in Health Spending / Departmental Seminar
Harvard University, Health Economics Methods Seminar, Boston, MA
- 2016 Machine Learning for Biostatistics and Health Policy / Invited Presentation
Harvard T.H. Chan School of Public Health, Pipelines into Biostatistics, Boston, MA
- 2016 Statistical Learning for Global Public Health / Departmental Seminar
Harvard T.H. Chan School of Public Health, Quality and Responsiveness Seminar, Boston, MA
- 2016 Health Policy Data Science / Invited Presentation
Harvard Medical School, Health Care Policy Advisory Council, Boston, MA
- 2017 Data Science & Medicine / Invited Presentation
Talks@12, Harvard Medical School, Boston, MA
- 2018 Intervening on the Data to Improve Health Plan Payment Methods / Invited Presentation
Data Science Initiative, Harvard University, Cambridge, MA

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

Regional

- 2006 Fighting Liver Cancer / Departmental Seminar
San Francisco Department of Public Health, San Francisco, CA
- 2012 Interdisciplinary Methods for Prediction and Confidence Sets / Departmental Seminar
The George Washington University, Department of Statistics, Washington, DC
- 2015 Machine Learning for Effect Estimation in International Health / Departmental Seminar
Yale University, Quantitative Research Methods Workshop, New Haven, CT
- 2016 A Robust Machine Learning Method for Variable Importance in Health Spending / Departmental Seminar
Brown University, Statistics Seminar, Providence, RI

National

- 2009 Causal Inference in Nested Case-Control Studies / Contributed Presentation
Joint Statistical Meetings, Washington, DC
- 2010 Variable Importance in a Kaiser Permanente Database / Contributed Presentation
Joint Statistical Meetings, Vancouver, BC
- 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
- 2011 Statistical Methods for Causal Inference / 3-day Short Course
The Forum for Collaborative HIV Research, Washington, DC
- 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
- 2012 Big Data, Causal Modeling, and Robust Estimation / Invited Workshop 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 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
- 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 Machine Learning for Plan Payment Risk Adjustment / Topic-Contributed Presentation
Joint Statistical Meetings, Seattle, WA
- 2015 Health Policy Data Science / Invited Webinar Presentation
U.S. Department of Veterans Affairs, Big Data Scientist Training Program, Washington, DC
- 2015 Methods for Multiple Treatment Comparisons / 1-day Short Course
MDEpiNet Annual Meeting, Silver Spring, MD
- 2016 Ensembles for Health Care Economics Research / Departmental Seminar
Fred Hutchinson Cancer Research Center, Data Science Seminar, Seattle WA
- 2016 Machine Learning and Biostatistics for Public Health / Invited Presentation

Annual SACNAS National Conference, Long Beach, CA

- 2016 Targeted Learning / 1-day Short Course
Columbia University, Department of Statistics, New York, NY
- 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
- International**
- 2007 Childhood Overweight in Asian Populations / Invited Presentation
International Society for Behavioral Nutrition & Physical Activity Meeting, Oslo, Norway
- 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 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 Robust Machine Learning for Variable Importance in Health Spending / Departmental Seminar
McGill University, Biostatistics Seminar, Montreal, Quebec, Canada
- 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

Report of Education of Patients and Service to the Community

Activities

- 2012 Science, Medicine, Math, Young Professionals, and Time Wealth / Invited Presentation
4th Annual Women & Philanthropy Forum, Washington, DC (Received Standing Ovation)
- 2014- Biostatistics Careers / Invited Panel
- 2016 Summer Institute for Training in Biostatistics, Boston University, Boston, MA

Report of Scholarship

*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 yeast *Saccharomyces 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.
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