Harvard Medical School
Curriculum Vitae

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Name: José R. Zubizarreta

Office Address: Department of Health Care Policy
Harvard Medical School
Harvard University
180 Longwood Ave, Office 307-D
Boston, MA 02115

Work Phone: (617) 432-1266

Work Email: zubizarreta@hcp.med.harvard.edu

Work Fax: (617) 432-3503

Education:

2005	BS	Mathematical Engineering	Universidad Católica de Chile
2008	MA	Economics	Universidad de Chile
2011	MA	Statistics	The Wharton School, University of Pennsylvania
2013	PhD	Statistics	The Wharton School, University of Pennsylvania

Faculty Academic Appointments:

07/13-12/13	Instructor (Convertible)	Division of Decision, Risk, and Operations	Columbia Business School, Columbia University
10/13-06/17	Assistant Professor (by courtesy)	Department of Statistics	Faculty of Arts and Sciences, Columbia University
01/14-06/17	Faculty Affiliate	Data Science Institute	Columbia University
01/14-06/17	Assistant Professor	Division of Decision, Risk, and Operations	Columbia Business School
01/16-	Visiting Assistant Professor	Department of Pediatrics	School of Medicine, Universidad Católica de Chile
07/17-	Assistant Professor	Department of Health Care Policy	Harvard Medical School, Harvard University
07/17-	Faculty Affiliate	Department of Statistics	Faculty or Arts and Sciences, Harvard University

Other Professional Positions:

2005-2006	Coordinator of Voluntary Teachers	INFOCAP (NGO that provides labor training to low incomes workers; Chile)	*52 weeks per year*
2005-2006	Research Assistant	Universidad Católica de Chile	*12 hrs per week (52 weeks)*
2005-2006	Associate Researcher	Observatorio Social, Universidad Alberto Hurtado (Chile)	*12 hrs per week (52 weeks)*
2007-2008	Coordinator Area of Economic Studies	Observatorio Social, Universidad Alberto Hurtado (Chile)	*52 weeks per year*
2009	Research Assistant	Center for Promotion of Research Involving Innovative Statistical Methodology, NYU	*12 weeks per year*
2010-2013	Research Assistant	Department of Statistics, The Wharton School, University of Pennsylvania	*20 hrs per week (52 weeks)*

Major Administrative Leadership Positions:

Regional

2016	Conference Organizer	Columbia University Causal Inference Conference on Point Exposures
2016	Conference Organizer	Columbia University Causal Inference Conference on Effect Heterogeneity
2017	Conference Organizer	Columbia University Causal Inference Conference on Longitudinal Studies

National

2013	Assistant Program Director	MIT Media Lab Encuentros Conference

Committee Service:

Local

2014-2017	PhD Admissions Committee	Columbia Business School
2015-2017	Faculty Computing Committee	Columbia Business School
2015-2017	Empowering Research Committee	Columbia Business School

National

2015	Thomas R. Ten Have Award	Atlantic Causal Inference Conference

	Committee	
2017	Paper Review Committee	Society for Research on Educational Effectiveness
2018	Reviewer	National Science Foundation (NSF), Methodology, Measurement, and Statistics (MMS) Program
2018	Reviewer	Patient Centered Outcomes Research Institute (PCORI), Methods Panel
2018	Thomas R. Ten Have Award Committee	Atlantic Causal Inference Conference

International

2016	Session Chair	INFORMS Annual Meeting
2017	Student Awards Committee	International Conference in Health Policy Statistics
2017	Paper Review Committee	Society for Research on Educational Effectiveness
2017	Byar Award Committe	Biometrics Section of the American Statistical Association

Professional Societies:

2011-	American Statistical Association	Member
2011-	International Biometric Society, Eastern North American Region	Member
2011-	Institute of Mathematical Statistics	Member

Editorial Activities:

Ad hoc Reviewer

Annals of Applied Statistics
Annals of Epidemiology
Annals of Statistics
Annals of Operations Research
Biometrics
Biometrika
Biostatistics
Epidemiology
Epidemiologic Methods
Health and Services and Outcomes Research Methodology
Journal of Causal Inference
Journal of Computational and Graphical Statistics
Journal of Educational and Behavioral Statistics
Journal of Machine Learning Research
Journal of Research on Educational Effectiveness
Journal of the American Statistical Association, Applications and Case Studies
Journal of the American Statistical Association, Theory and Methods
Journal of the Royal Statistical Society: Series B (Statistical Methodology)
Journal of the Royal Statistical Society: Series C (Applied Statistics)
Management Science
Observational Studies
Operations Research
Psychometrika
Statistica Sinica
Statistical Science
Statistical Methods in Medical Research
Statistics and Computing
Statistics in Medicine
Trials

Honors and Prizes:

2005	Maximum Distinction	Universidad Catolica de Chile	Mathematical Engineering
2008-2012	Fulbright Scholarship		
2009-2013	Graduate Fellow	The Wharton School, University of Pennsylvania	
2011	J. Parker Memorial Bursk Prize	Statistics Department, The Wharton School, University of Pennsylvania	For Excellence in Research
2011	Thomas R. Ten Have Memorial Award	Atlantic Causal Inference Conference	Award for "exceptionally creative or skillful research on causal inference"

2011	Student Paper Award	Health Policy Statistics Section, American Statistical Association	
2012	Deming Scholar Award	American Statistical Society/American Society for Quality	
2012	Young Investigator Award	Statistics in Epidemiology, American Statistical Association	
2012	President Gutmann Leadership Award	University of Pennsylvania	
2013	Student Paper Award	Social Statistics, Government Statistics, and Survey Research Methods Sections, American Statistical Association	
2014	Student Paper Award	International Biometric Society ENAR	
2014	Kenneth Rothman Prize	Epidemiology	For the best paper published in Epidemiology in 2013
2017	Initiative on Data Science Visiting Fellow	Booth School of Business, University of Chicago	
2017	Runner-up Pierskalla Best Paper Award	Health Applications Society, INFORMS	

Report of Funded and Unfunded Projects

Funding Information:

Past

2008-2009 Educational Outcomes of the Children of the Poor: The Chilean Case
United Nations Development Plan
Project PI
In 2006, one out of every five children lived below the poverty line in Chile. That same year, half of the children in the country had suffered poverty at least once during their childhood. This project asks what is the impact of experiencing poverty during childhood on educational outcomes during early adulthood. Addressing this question can enlighten the mechanisms under which poverty is transmitted across generations and help to understand the forces that generate and perpetuate the inequality of the Chilean Society.

2015-2017 New Methods for Causal Inference in Randomized and Observational Studies
Alfred P. Sloan Foundation
Project PI
Randomized experiments constitute the most reliable device for learning about the effects of treatments, policies or interventions on human subjects. Nonrandomized or observational studies are ubiquitous in the health and social sciences in part because harmful treatments cannot be imposed to individuals for experimentation. The goal of this research program is to develop new statistical methods that improve the design and analysis of both randomized experiments and observational studies of causal effects. The specific objectives of this project are: (i) to develop new statistical methods that improve (i.a.) the degree of control and (i.b.) the efficiency of randomized experiments, while providing a justified basis for statistical inference and (ii) to develop new, alternative statistical methods to those based on model-based estimates of the propensity score to (ii.a) better adjust for observed covariates and (ii.b) yield more stable estimates causal estimates, especially in longitudinal studies of treatment effects.

Current

2018-2021 New Statistical Methods for Causal Inference in the Social Sciences and Public Policy
Alfred P. Sloan Foundation/ G-2018-10118 $284,377
Project PI
This project proposes new statistical methods for causal inference in the social sciences and public policy. The specific objectives of this project are: (i) to develop new statistical methods that flexibly adjust for covariates and yield more stable causal estimates in observational studies with (i.a) instrumental variables and (i.b) multivalued treatments; (i.c) to study the formal properties of these and related methods; (ii) to develop a new framework for the design and analysis of observational studies with discontinuities that facilitates identification, estimation, and generalization beyond the cutoff of the running variable; and (iii) to develop new methods that improve the degree of control (covariate balance) and statistical efficiency of randomized experiments and enhance their generalizability.

2017-2022 Machine Learning for Health Outcomes and Quality of Care in Low-Income Populations
NIH/1DP2MD012722
Co-Investigator (Rose)
This project will 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.

2017-2020 Improving Feasibility and Efficiency of Quality Measurement in Oncology Practices
Laura and John Arnold Foundation
Co-Investigator (Keating)
This project will first estimate the extent to which claims-based measures of quality for practices (with and without clinical information about cancer stage and other tumor characteristics from registry data) correlate with practice-reported measures of oncology care quality. Next, for measures of quality for which supplemental clinical data are needed, assess the extent to which adaptive quality measurement strategies that focus primarily on identifying the providers who are delivering the highest- and lowest-quality care would be a more feasible and efficient strategy for assessing (and rewarding) quality of care delivered by oncology providers than measuring quality for all oncology practices.

Projects Submitted for Funding

2019-2023 Alzheimer's Disease and Related Dementia Care within the Medicare Program
NIH
Co-Investigator (Hsu)
The current project will use a novel dataset that contains individual-level linkages between three data sources: 1) comprehensive Medicare claims from Parts A, B, and D; 2) EHR data from a large health system; and 3) a dementia research registry. The project also will use national traditional fee-for-service Medicare data and a P01-developed instrument on MA benchmarks to assess spillover effects within TM. We will address three specific aims within the overall population and among vulnerable subgroups, e.g., racial/ethnic minority or dual-eligible beneficiaries: Aim 1. Validation of Claims-based ADRD Disease and Severity Definitions: We will validate algorithms using claims data for identifying beneficiaries with ADRD of varying stages or levels of severity, combined with a gold-

standard definition based on EHR chart reviews. Aim 2. MA Spillover Effects on ADRD Diagnostic Quality in TM: We will assess the impact of MA penetration (using an IV based on changes in MA benchmarks) on guideline concordant or discordant testing. Aim 3. MA Spillover Effects on ADRD Treatment Quality in TM: We will assess the impact of MA penetration on guideline concordant or discordant treatments.

2018-2023 Remote Cognitive Behavior Therapy for Major Depression (RTD) in Primary Care
WVU /PCORI
Co-Investigator (Kessler)
We propose a pragmatic trial of the comparative effectiveness of two levels of remote internet-based cognitive behavior therapy (eCBT; unguided and guided) to treat major depressive disorder (MDD) with and without comorbidities among primary care patients in rural West Virginia (WV). Study aims include: 1) evaluate the aggregate effects on patient-centered outcomes of expanding rural primary care MDD treatment options in a low-income state to include either one of two levels (unguided and guided) of remote eCBT with remote collaborative care case management included as part of the guided eCBT arm, 2) investigate HTE across these treatment arms using a comprehensive baseline set of patient-reported predictors, 3) use double robust nonexperimental methods to investigate HTE with respect to two major uncontrolled aspects of MDD treatment: class of ADM and eCBT vs live psychotherapy (obtained by 12% of primary care MDD patients in rural WV).

2019-2021 Data Warehouse and Analytics Center for STS National Database
The Society for Thoracic Surgeons
Co-Investigator (Normand)
This application proposes to establish the Health Care Policy Data Analysis Center (HCP-DAC) to warehouse and analyze the Society of Thoracic Surgeons' National Databases. We bring a wide variety of skills including data management (acquiring, assembling, software testing, and compliance with STS data specifications) and those focusing on analyses (report generation, risk model maintenance, benchmarking, and ad hoc analytical requests). Our expertise includes statistics, computer science, data management, nursing, health policy and public health, and familiarity with big data.

2019-2023 A Robust Statistical Learning Framework to Conduct Innovative Effectiveness Research
NIMH /1R01MH119056
Co-Investigator (Normand)
Availability of massive datasets describing populations with schizophrenia or major depressive disorder treated in usual care settings over extended follow-up periods presents a substantial opportunity to learn what works in the real world: at what treatment intensity and sequence, for how long, for whom, and at what risk level. We will develop statistical approaches to extract scientifically robust and valid causal evidence of the effectiveness of drug treatments widely used by adults with these conditions. Specifically, we will: focus on adults with illnesses associated with a heavy disease burden for whom drug treatments are a critical and often lifetime treatment component; assess the extent to which patient characteristics and social determinants of health may moderate effectiveness; expand causal rather than predictive methodology to characterize the outcome effects of intensity of drug exposure and drug regime changes; and we develop generalizable approaches in massive, longitudinal datasets to target parameters of general scientific interest.

Report of Local Teaching and Training

Teaching of Students in Courses:

2007-2008	Applied Econometrics Undergraduate Students	Universidad Catolica de Chile, Department of Industrial and Systems Engineering 1.5-hr sessions 2x per week for 12 weeks
2014	Introduction to Econometrics and Statistical Inference PhD Students	Columbia Business School, Division of Decision, Risk, and Operations 1.5-hr sessions 2x per week for 12 weeks
2014-2016	Causal Inference PhD Students	Columbia Business School, Division of Decision, Risk, and Operations 1.5-hr sessions 2x per week for 12 weeks
2015-2016	Managerial Statistics MBA Students	Columbia Business School, Division of Decision, Risk, and Operations 1.5-hr sessions 3x per week for 6 weeks (taught 2 sections)
2017-	Methods Seminar PhD Students	Harvard Medical School, Department of Health Care Policy 1-hr sessions 1x month for 4 months
2017-	Health Policy Statistics Reading Course PhD Students	Harvard Medical School, Department of Health Care Policy 1.5-hr session 2x month for 4 months

Formally Mentored Harvard Medical, Dental and Graduate Students

2017- Christopher Hase, MA Candidate in Statistics, Harvard University
One manuscript in preparation

2017- Reagan Moser, PhD Candidate in Statistics, Harvard University
One accepted manuscript in the Handbook of Research Methods in Clinical Psychology

2017- Ambarish Chattopadhyay, PhD Candidate in Statistics, Harvard University
Dissertation Committee Member
Two manuscripts in preparation

2017- Juan Díaz, PhD Candidate in Statistics, Harvard University
Co-Advisor
Two manuscripts in preparation

2018- Zacharias Branson, PhD Candidate in Statistics, Harvard University
Dissertation Committee Member

2018- Xiao-Wu, PhD Candidate in Biostatistics, Harvard University
Dissertation Committee Member

2018- Sameer Deshpande, Data Science Institute Postdoctoral Fellow, Harvard University
Co-Mentor

Other Mentored Trainees and Faculty:

2014-2015 Nikhil Bhat, PhD in Decision, Risk, and Operations, Columbia University / Software Engineer, Google Research
Dissertation Committee Member

2014-2016 Cinar Kilcioglu, PhD in Decision, Risk, and Operations, Columbia University / Senior Data Scientist, Uber Research
Co-Advisor
Published manuscript in the *Annals of Applied Statistics*

2014-2016 Zach Shahn, PhD in Statistics, Columbia University / Researcher, Health Analytics Group of IBM Research
Oral Exam and Dissertation Committee Member
One manuscript in preparation

2014-2017 Wengi Hu, PhD in Decision, Risk, and Operations, Columbia University / Data Scientist, Uber Research
Co-Advisor
Published manuscript in *Manufacturing & Service Operations Management*
**Runner-up for the Pierskalla Best Paper Award, 2017 (awarded by the Health Applications Society of INFORMS for research excellence in the field of health care management science)*
**Finalist for the MSOM Student Paper Award, 2017 (awarded by the MSOM Society of INFORMS for papers judged to be the best in the field of operations management)*

2014-2017 Maria Resa, PhD in Statistics, Columbia University / Clinical Statistics Lead, Pfizer Research
Co-Advisor
Published manuscript in *Statistics in Medicine*
**Winner of the 2017 Student Paper Award of the Social Statistics, Government Statistics and Survey Research Methods Sections of the American Statistical Association*
Two submitted manuscripts

2014-2017 Susanna Makela, PhD in Statistics, Columbia University / Data Scientist, Google Research
Oral Exam and Dissertation Committee Member
One manuscript in preparation

2015-2018 Giancarlo Visconti, PhD in Political Science, Columbia University / Assistant Professor, Purdue University
Dissertation Committee Member
One submitted manuscript

2015- David Hirshberg, PhD Candidate in Statistics, Columbia University / Postdoctoral Fellow, Stanford University
Advisor
Three manuscripts in preparation

2015- Yixin Wang, PhD Candidate in Statistics, Columbia University
Three manuscripts in preparation
**Winner of the 2018 Student Paper Award of the Biometrics Section of the American Statistical Association*

2015- Magdalena Bennett, PhD Candidate in Education, Columbia University
One manuscript in preparation

Formal Teaching of Peers:

No presentations below were sponsored by outside entities

2014	New Methods for Causal Inferences in the Health and Social Sciences Columbia Global Center/Universidad Católica de Chile	2-day course Santiago, Chile
2015	Design of Observational Studies International Workshop on Applied Statistics	4-day course Bogota, Colombia
2016	Optimal Designs for Causal Inference Using Integer Programming Center for Mathematical Studies	2-day course Northwestern University
2017	New Matching Methods for Causal Inference United Kingdom Causal Inference Meeting	0.5-day course University of Essex, England
2017	New Matching Methods for Causal Inference Atlantic Causal Inference Conference	0.5-day course University North Carolina at Chapel Hill
2017	New Matching Methods for Causal Inference MDEpiNet PPP Annual Meeting, Food and Drug Administration (FDA)	0.5-day course FDA, Silver Spring
2018	Recent Development in Causal Inference International Conference in Health Policy Statistics	0.25-day course Charleston
2018	New Matching Methods for Causal Inference Society for Research in Educational Effectiveness (SREE) Spring Conference	0.5-day course Washington DC

Local Invited Presentations:

No presentations below were sponsored by outside entities

2013	Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress Sociology Department, University of Pennsylvania
2017	New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming Columbia Business School
2017	Building Representative Matched Samples in Large-Scale Observational Studies with Multivalued Treatments Department of Statistics, Harvard University
2017	Methods for Causal Inference to Advance Research in Health Care and Public Policy Department of Statistics, Harvard University
2017	Building Representative Matched Samples in Large-Scale Observational Studies with

Multivalued Treatments
Causal Inference Group, Harvard School of Public Health

2018 Building Representative Matched Samples in Large-Scale Observational Studies with Multivalued Treatments
HIV Working Group, Harvard School of Public Health

2018 Building Representative Matched Samples in Large-Scale Observational Studies with Multivalued Treatments
Institute for Quantitative Social Science, Harvard University

2018 Building Representative Matched Samples in Large-Scale Observational Studies with Multivalued Treatments
Harvard Catalyst Biostatistics Symposium, Harvard University

2018 New Matching Methods for Causal Inference
Harvard Business School

Report of Regional, National and International Invited Teaching and Presentations

Regional

2012 Matching Methods in Observational Studies
Statistics Department, Columbia University

2012 Effect of the 2010 Chilean Earthquake on Posttraumatic Stress: Illustrating New Matching Methods for Clinical, Epidemiological and Health Outcomes Research
Department of Psychiatry, Columbia University

2012 Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Biostatistics, Columbia University

2013 New Statistical Methods for Causal Inference in Observational Studies with Applications to the Social Sciences and Health Policy
Columbia Business School, Columbia University

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Teachers College, Columbia University

2013 Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Biostatistics, Johns Hopkins University

2013 Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Booth School of Business, University of Chicago

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Heinz College, Carnegie Mellon University

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, Harvard University

2014 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, Columbia University

2014 Design and Analysis of Observational Studies
Kellogg School of Management, Northwestern University

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Institution for Social and Policy Studies, Yale University

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Robert H. Smith School of Business, University of Maryland

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Heinz College, Carnegie Mellon University

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Biostatistics Department, Johns Hopkins University

2016 New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming
MEDS Kellogg School of Management, Northwestern University

2016 Measuring the Effect of the Experience of Incarceration on Reoffending
Social Enterprise Leadership Forum, Columbia Business School, Columbia University

2017 New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming
Department of Health Care Policy, Harvard Medical School

2017 New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming
Booth School of Business, University of Chicago

2017 New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming
Booth School of Business, University of Chicago

2017 New Matching Methods for Causal Inference and Impact Evaluation using Mathematical Programming
Operations Research Center, Massachusetts Institute of Technology

National

2011 Contrasting Evidence Within and Between Institutions that Supply Treatment in an Observational Study of Alternative Forms of Anesthesia/Invited Presentation
Joint Statistical Meetings, Miami FL

2012 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Atlantic Causal Inference Conference, Johns Hopkins University

2012 Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Joint Statistical Meetings, San Diego, CA

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, Stanford University

2014 Optimal Matching with Direct Covariate Balance Using Integer Programming
Kaiser Permanente, San Francisco

2014 Stable Weight Adjustment for Causal Inference and Estimation with Incomplete Data
Eastern and North American Region/International Biometric Society Spring Meeting, Baltimore, MD

2014 Stable Weight Adjustment for Causal Inference and Estimation with Incomplete Data
Joint Statistical Meetings, Boston, MA

2014 Stronger Instrumental Variables Via Integer Programming for Healthcare Research
INFORMS, San Francisco, CA

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Statistics Department, Duke University

2015 Optimal Multilevel Matching in Clustered Observational Studies: A Case Study of the School Voucher System in Chile
SREE, Washington, DC

2015 Covariate Balanced Restricted Randomization: Optimal Designs, Exact Tests, and Asymptotic Results
INFORMS, San Francisco, CA

2016 designmatch: Construction of Matched Samples for Randomized Experiments and Observational Studies that are Balanced by Design
Uber, California

2016 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Methods Workshop, University of California at Berkeley

2016 designmatch: Construction of Matched Samples for Randomized Experiments and Observational Studies that are Balanced by Design
Atlantic Causal Inference Conference, New York, NY

2016 Maximizing the Information Content of a Balanced Matched Sample
Joint Statistical Meetings, Chicago, IL

2016 Large-scale Optimal Matching for Design-based Inference Using Integer Programming
INFORMS, Nashville, TN

2017 New Matching Methods for Causal Inference and Impact Evaluation Using Mathematical Programming/Marketplace Optimization Data Science Symposium
Uber, San Francisco

International

2007 A First Household Panel Survey in Chile: Methodological Considerations
Institute of Social and Economic Research, University of Essex, England

2008 How Income Stratification is Perpetuated Across Generations? The Contribution of Longitudinal Surveys
Expansiva Workshop, Santiago, Chile

2011 Contrasting Evidence Within and Between Institutions that Supply Treatment in an Observational Study of Alternative Forms of Anesthesia
International Conference on Health Policy Statistics, Cleveland, OH

2012 Estimation of the Effect of Prophylactic CPAP on Very Low Birth Weight Infants Using Matching
Neocosur Conference, Buenos Aires, Argentina

2012 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, Warwick University, England

2012 Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Biostatistics and Epidemiology, McGill University

2013 Matching for Balance, Pairing for Heterogeneity in an Observational Study of Effectiveness of For-profit and Not-for-profit High Schools in Chile
Joint Statistical Meetings, Montreal, CA

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, University of Oxford, England

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Department of Statistics, London School of Economics, England

2013 Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress
Statistical Laboratory, University of Cambridge, England

2013 Estimation Strategies in Observational Studies
Neocosur Conference, Buenos Aires, Argentina

2013 Effect of Prophylactic CPAP in Very Low Birth Weight Infants in South America
Neocosur Conference, Buenos Aires, Argentina

2014 Instrumental Variable for Causal Inference in the Health Sciences
Neocosur Conference, Buenos Aires, Argentina

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
Statistical Laboratory, University of Cambridge, England

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
UK Causal Inference Meeting, University of Bristol, England

2015 Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data
International Workshop on Applied Statistics, Bogota, Colombia

2016 Causal Inference and Impact Evaluation in Observational Studies: New Matching Methods to Approximate a Randomized Experiment
School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile

2016 Toward an Evaluation of the Comparative Effectiveness of the Intensive Care Units of the Neocosur Network
Neocosur Conference, Buenos Aires, Argentina

2017 Comparative Effectiveness of the Intensive Care Units of the Neocosur Network through Weighted Samples
Neocosur Conference, Buenos Aires, Argentina

2017 Building Representative Matched Samples in Large-Scale Observational Studies with Multivalued Treatments
International Conference of the ERCIM WG on Computational and Methodological Statistics, Senate House, University of London, England

2017 New Statistical Methods for Causal Inference in Medicine and Public Health
School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile

2017 New Statistical Methods for Causal Inference in Medicine and Public Health
Ministry of Health, Gobierno de Chile, Santiago, Chile

2018 Minimal Approximate Balancing Weights: Asymptotic Properties and Practical Considerations

Report of Scholarship

Peer-Reviewed Scholarship in print or other media:
Research Investigations

1) **Zubizarreta JR**, Reinke CE, Kelz RR, Silber JH, Rosenbaum PR. Matching for Several Sparse Nominal Variables in a Case Control Study of Readmission Following Surgery. The American Statistician 2011. 65: 229-238.

2) **Zubizarreta JR**, Neuman MD, Silber JH, Rosenbaum PR. Contrasting Evidence Within and between Institutions that Supply Treatment in an Observational Study of Alternative Forms of Anesthesia. Journal of the American Statistical Association 2012. 107: 901-915.

3) **Zubizarreta JR.** Using Mixed Integer Programming for Matching in an Observational Study of Acute Kidney Injury after Surgery. Journal of the American Statistical Association 2012. 107: 1360-1371.

4) Reinke CE, Kelz RR, **Zubizarreta JR**, Lanyu M, Saynisch P, Kyle FA, Even-Shoshan O, Fleisher LA, Silber JH. Obesity and Readmission in Elderly Surgical Patients. Surgery 2012. 152: 355-362.

5) **Zubizarreta JR**, Small DS, Goyal NK, Lorch SA, Rosenbaum PR. Stronger Instruments Via Integer Programming in an Observational Study of Late Preterm Birth Outcome. Annals of Applied Statistics 2013. 7: 25-50.

6) **Zubizarreta JR**, Cerda M, Rosenbaum PR. Effect of the 2010 Chilean Earthquake on Posttraumatic Stress: Reducing Sensitivity to Unmeasured Bias Through Study Design. Epidemiology 2013. 24: 79-87 (with discussion). Winner of the Rothman Prize for the best paper published in Epidemiology in 2013.

7) Goyal NK, **Zubizarreta JR**, Small DS, Lorch SA. Length of Stay and Readmission Risk for late Preterm Infants: An Instrumental Variable Approach. Hospital Pediatrics 2013. 3: 7-15.

8) Kelz RR, Reinke CE, **Zubizarreta JR**, Wang M, Saynisch P, Reese P, Even-Shoshan O, Reese PR, Fleisher LA, Silber JH, Acute Kidney Injury, Renal Function, and the Elderly Obese Surgical Patient: A Matched Case-Control Study. Annals of Surgery 2013. 258: 359-363.

9) Yang F, **Zubizarreta JR**, Small DS, Lorch SA, Rosenbaum PR. Dissonant Conclusions When Testing the Validity of an Instrumental Variable. The American Statistician 2014. 68: 253-263.

10) **Zubizarreta JR**, Paredes RD, Rosenbaum PR. Matching for Balance, Pairing for Heterogeneity in an Observational Study of the Effectiveness of For-Profit and Not-for-profit High Schools in Chile. Annals of Applied Statistics 2014. 8: 2096-2121.

11) **Zubizarreta JR**, Small DS, Rosenbaum PR. Isolation in the Construction of Natural Experiments. Annals of Applied Statistics 2014. 8: 2096-2121.

12) Neuman MD, Rosenbaum PR, Ludwig JM, **Zubizarreta JR**, Silber JH. Anesthesia Technique, Mortality, and Length of Stay After Hip Fracture Surgery. Journal of the American Medical Association 2014. 311: 2508-2517.

13) Keele L, Titiunik R, **Zubizarreta JR.** Enhancing a Geographic Regression Discontinuity Design Through Matching to Estimate the Effect of Ballot Initiatives on Voter Turnout. Journal of the Royal Statistical Society: Series A 2015. 178: 223-239.

14) Hsu J, **Zubizarreta JR**, Small DS, Rosenbaum PR. Strong Control of the Family-Wise Error Rate in Observational Studies that Discover Effect Modification by Exploratory Methods. Biometrika 2015. 102: 767-782.

15) **Zubizarreta JR.** Stable Weights that Balance Covariates for Estimation with Incomplete Outcome Data. Journal of the American Statistical Association 2015. 110: 910-922.

16) Resa MA, **Zubizarreta JR.** Evaluation of Subset Matching Methods and Forms of Covariate Balance. Statistics in Medicine 2016. 35: 4961-4979.

17) Kilcioglu C, **Zubizarreta JR.** Maximizing the Information Content of a Balanced Matched Sample in a Study of the Economic Performance of Green Buildings. Annals of Applied Statistics 2016. 10: 1997-2020.

18) **Zubizarreta JR**, Lorch SA, Marshall G, D'Apremont I, Tapia JL. Effect of Prophylactic CPAP in Very Low Birth Weight Infants in South America. Journal of Perinatology 2016. 36: 629-634.

19) **Zubizarreta JR**, Keele L. Optimal Multilevel Matching in Clustered Observational Studies: A Case Study of the School Voucher System in Chile. Journal of the American Statistical Association 2017. 112: 547-560.

20) Hirshberg, DA, **Zubizarreta JR**. On Two Approaches to Weighting in Causal Inference. Invited commentary. Epidemiology 2017. 28: 812-816.

21) Rosellini AJ, Dussaillant F, **Zubizarreta JR**, Kessler R, Rose S. Predicting Post-traumatic Stress Disorder Following a Natural Disaster. Journal of Psychiatric Research 2018. 96: 15-22.

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