

Department of Biostatistics & Epidemiology
School of Public Health & Health Sciences
University of Massachusetts - Amherst
416 Arnold House, 715 North Pleasant St.
Amherst, MA 01003-9304
☎ 1-413-545-9464
✉ lbalzer@umass.edu
https://works.bepress.com/laura_balzer/

Laura Balzer, PhD

INTERESTS

- Causal inference and machine learning
- Design and analysis of cluster randomized and pragmatic trials
- Development, evaluation, and implementation of data-driven solutions in Public Health
- Analyses of Big Data with complex measurement, missingness, and dependence
- Applications: global health, social determinants of health, community-based participatory research

CURRENT APPOINTMENT

2017–Present **Assistant Professor of Biostatistics**, *University of Massachusetts, Amherst.*
Department of Biostatistics and Epidemiology
School of Public Health and Health Sciences

EDUCATION

- 2010–2015 **PhD in Biostatistics**, *University of California, Berkeley.*
- Advisors: Drs. Maya Petersen and Mark van der Laan
 - Dissertation: Design and Analysis of Cluster Randomized Trials with Application to HIV Prevention and Treatment
 - Berkeley Fellowship: “Awarded to outstanding applicants to doctoral programs in all fields”
- 2008–2009 **MPhil in Computational Biology**, *University of Cambridge, UK.*
- Director’s Award for outstanding performance; Graduated 1st in the class
- 2004–2008 **BS in Applied Mathematics**, *University of Vermont.*
- Barry M. Goldwater Scholarship Award: “The most prestigious undergraduate scholarship in the natural sciences, mathematics and engineering in America”

POST-DOCTORAL TRAINING

- 2015–2017 **Post-Doctoral Fellow in Biostatistics**, *Harvard School of Public Health.*
- Advisor: Dr. Victor DeGruttola
 - Harnessing social network information to target interventions and to improve study designs for program and policy evaluation

HONORS & AWARDS

- 2017 **Postdoctoral Association 2017 Spring Travel Award**, *Harvard*.
- 2015 **Chin Long Chiang Biostatistics Student of the Year**, *UC Berkeley*.
 “For her innovative research in HIV prevention and treatment and her many contributions to the Biostatistics Program”
- 2015 **Travel Award: Infectious Disease Research Conference**, *NIAID/NIH*.
- 2014 **Gertrude M. Cox Scholarship**, *ASA*.
 “For outstanding academic achievement in the University of California, Berkeley biostatistics program, significant contributions to methodological development of causal inference for group-randomized studies, inter-departmental cooperation as demonstrated by effective collaborations with epidemiology students and faculty, and exceptional commitment to ambitious, engaging, creative and superherostudded teaching”
- 2014 **Causality in Statistics Education Award**, *ASA*.
 Jointly with Dr. Maya Petersen to the “individual or team that does the most to enhance the teaching and learning of causal inference in introductory statistics courses”
- 2014 **Travel Award: Joint Statistical Meetings**, *ASA - San Francisco Bay Area Chpt.*
- 2014 **Russel M. Grossman Endowment Award**, *UC Berkeley*.
- 2013 **3rd place poster**, *Society for Epidemiologic Research*.
- 2012 **Outstanding Graduate Student Instructor**, *UC Berkeley*.
- 2012 **2nd place at School of Public Health Research Symposium**, *UC Berkeley*.
- 2012 **Lois Rifkin Scholarship**, *UC Berkeley*.
- 2012–2014 **Division of Biostatistics stipend for scholastic achievements**, *UC Berkeley*.
- 2010–2012 **Berkeley Fellowship**, *UC Berkeley*.
 “Awarded to outstanding applicants to doctoral programs in all fields”
- 2009 **Director’s Award for outstanding performance**, *Cambridge, UK*.
 Equivalent to Distinction; Graduated 1st in the class
- 2008 **Summa Cum Laude**, *University of Vermont*.
 Graduated 1st in the class
- 2008 **Honors College Scholar**, *University of Vermont*.
- 2008 **Mathematics Senior Award**, *University of Vermont*.
- 2008 **Statistics Departmental Senior Award**, *University of Vermont*.
- 2007 **Sang Kil Nam Scholarship in Mathematics**, *University of Vermont*.
 “In recognition of the value of education as a path toward the betterment of mankind”
- 2007 **Barry M. Goldwater Scholarship Award**.
 “The most prestigious undergraduate scholarship in the natural sciences, mathematics and engineering in America”
- 2006 **Chemistry Rubber Company Award for excellence in Chemistry**, *University of Vermont*.
- 2004–2008 **Presidential Scholarship for academic excellence**, *University of Vermont*.

PROFESSIONAL EXPERIENCE

- 2015-2017 **Consultant**, *SEARCH Collaboration*, Makerere University - UC San Francisco.
- 2010-2015 **Graduate Student Researcher**, *UC Berkeley*, Berkeley, CA.
- 2012-2014 **Graduate Student Instructor**, *UC Berkeley*, Berkeley, CA.
- 2009-2010 **Biostatistician**, *UC Irvine*, Irvine, CA.
- 2009 **Computational Biologist**, *Human Epidemiology Nutrition Growth Ecology (HENGE)*, University of Cambridge, UK.
- 2006-2008 **Undergraduate Researcher**, *Interdisciplinary Training in Mathematics and Biology Program*, University of Vermont.

RESEARCH SUPPORT

ONGOING

- 2016-2021 **Simplified Isoniazid Preventive Therapy Strategy to Reduce TB Burden (SPIRIT)**
- Funding: NIH-NIAID R01AI125000 (PI: Diane Havlir)
 - Goal: Determine if a multi-component implementation intervention that targets District Health Officers can increase Isoniazid Preventative Therapy (IPT) initiation and completion among HIV-infected persons, and decrease TB incidence, as compared to country standard practices, in a cluster randomized trial in Uganda
 - Role: Co-Investigator & Protocol Statistician
- 2012-2017 **Sustainable East Africa Research in Community Health (SEARCH)**
- Funding: NIH-NIAID U01AI099959 (PI: Diane Havlir)
 - Goal: Evaluate the impact of (a) early HIV diagnosis and immediate ART using a streamlined care system (Phase I) and (b) targeted PrEP, targeted HIV testing and targeted care interventions on top of universal treatment and streamlined care (Phase II) in rural East Africa (NCT01864603)
 - Role: Co-Investigator

COMPLETED

- 2014-2018 **Causal Inference Methods for Implementation Science**
- Funding: NIH-NIAID R01AI074345 (PI: Mark van der Laan)
 - Goal: Develop general methods for evaluating the comparative effectiveness of alternative strategies for HIV prevention, treatment and care in real world settings, with a focus on the effects of (a) patient responsive monitoring and treatment strategies; (b) cluster-level and individual-level interventions over multiple time points, accounting for the complex dependencies between individuals; and (c) cluster-level interventions in settings where data are only available from one or a few clusters
 - Role: Graduate student researcher

2012–2014 **Causal Inference Controversies**

- Funding: UC Berkeley Committee on Research (PI: Jennifer Ahern)
- Goal: Development of a paper to address controversy related to the parameters that are considered permissible to estimate using causal inference methods
- Role: Graduate student researcher

ACADEMIC INSTRUCTION & WORKSHOPS

- **National Workshop - Estimation and Interpretation: Introduction to Parametric and Semi-parametric Estimators for Causal Inference**

This workshop introduces a “causal roadmap” approach to epidemiologic questions. The focus is on estimation with a simple substitution estimator (parametric G-computation), inverse probability of treatment weighting, and targeted maximum likelihood estimation with Super Learner. Using an applied example, participants implement these estimators in R.

- Workshop rating: 9.33/10.00
- Youtube video of the workshop available [here](#)

2017 **Instructor** - *Society for Epidemiologic Research*, Seattle, WA

Instructor - *SERtalks*, New York, NY

Instructor - *University of Utah, School of Medicine*, Salt Lake City, UT

2016 **Instructor** - *Society for Epidemiologic Research*, Miami, FL

Instructor - *SERtalks*, Minneapolis, MN

Instructor - *University of California, San Francisco*, San Francisco, CA

2015 **Instructor** - *Society for Epidemiologic Research*, Denver, CO

- **Causal Inference II Course**

This course covers more advanced causal topics: longitudinal causal models, identifiability, and estimation; direct and indirect effects; dynamic treatment regimes; stochastic interventions; community-based interventions; semi-parametric approaches to hierarchical data; and Collaborative targeted maximum likelihood estimation.

2014 **Instructor** - *UC Berkeley*

- Full responsibility of course design, lectures, homework assignments, design and teaching of R labs, office hours, and course website maintenance
- Instructor rating: 7.00/7.00

2013 **Graduate Student Instructor (GSI)** - *UC Berkeley*

- Responsible for organizing the course, facilitating class discussion, holding office hours, and course website maintenance
- GSI rating: 6.55/7.00

- **Introduction to Causal Inference Course**

This course presents a general framework for causal inference. Directed acyclic graphs and non-parametric structural equation models are used to define the causal model. Target causal parameters are defined using counterfactuals and marginal structural models. G-computation estimators, inverse probability weighted estimators, and targeted maximum likelihood estimators are introduced with non-parametric and semi-parametric approaches.

2012–2013 **Graduate Student Instructor (GSI) - UC Berkeley**

- Responsible for developing and teaching R labs, writing R homework, holding office hours, and course website maintenance
- GSI ratings: 6.84/7.00 for 2012 and 6.83/7.00 for 2013
- *ASA's Causality in Statistics Education Award* - "individual or team that does the most to enhance the teaching and learning of causal inference in introductory statistics courses"
- Course materials available at www.ucbbiostat.com

■■■■ INVITED LECTURES & RESEARCH COLLOQUIUM

- **Targeted Learning in the SEARCH trial and HIV prevention in East Africa**
 - 2017 *Workshop on Quantitative Research Methods*, Yale
 - 2016 *Quantitative Group for Research on Infectious Diseases*, Harvard
 - 2016 *The Institute of Quantitative Social Science*, Harvard
- **Introduction to Targeted Learning**
 - 2012–2017 *Methods in Social Epidemiology*, UC Berkeley
 - 2016 *Methods I*, Harvard
 - 2016 *Statistical Inference II*, Harvard
 - 2015 *Quantitative Group for Research on Infectious Diseases*, Harvard
- **Estimating the Impact of Community-Based Interventions: the SEARCH Trial and HIV Prevention in East Africa**
 - 2016 *Faculté de Pharmacie*, Université de Montréal
 - 2016 *Department of Epidemiology, Biostatistics & Occupational Health*, McGill University
 - 2014 *Statistics Colloquium*, University of Vermont
 - 2014 *Introduction to Causal Inference*, UC Berkeley
- **Introduction to Causal Inference: A roadmap of research in social welfare and public health**
 - 2016 *School of Social Welfare Research Colloquium*, UC Berkeley
- **Introduction to Longitudinal Causal Models, Marginal Structural Models and Longitudinal IPTW**
 - 2015 *Quantitative Group for Research on Infectious Diseases*, Harvard
- **Designing the SEARCH trial**
 - 2013 *Epidemiologic Methods II*, UC Berkeley
- **Adventures in Linking the SCM and the Observed Data**
 - 2013 *Introduction to Causal Inference*, UC Berkeley
- **Pair Matching in Randomized Trials: Fairy Tales & Super Heroes**
 - 2012 *Special Topics in Biostatistics: Adaptive Designs*, UC Berkeley
- **Do-Si-Do: A Two-Stage Design and TMLE for Estimating Causal Effects of Community-Based Interventions**
 - 2012 *Causal Consulting*, UC Berkeley

PUBLICATIONS & MANUSCRIPTS**PEER-REVIEWED PUBLICATIONS**

- [1] M. Petersen, **L. Balzer**, D. Kwarisiima, N. Sang, et al. Association of implementation of a universal testing and treatment intervention with HIV diagnosis, receipt of antiretroviral therapy, and viral suppression among adults in East Africa. *JAMA*, 317(21):2196–2206, 2017.
- [2] **L.B. Balzer**. “All generalizations are dangerous, even this one.” - Alexandre Dumas [Commentary]. *Epidemiology*, 28(4):562–566, 2017.
- [3] W. Zheng, **L. Balzer**, M. van der Laan, M. Petersen, and the SEARCH Collaboration. Constrained binary classification using ensemble learning: an application to cost-efficient targeted PrEP strategies. *Statistics in Medicine*, Early view, 2017.
- [4] **L. Balzer**, P. Staples, J. Onnela, and V. DeGruttola. Using network-based simulations to evaluate the effect of adding targeted PrEP to an ongoing treatment-as-prevention trial. *Clinical Trials*, Jan:1–10, 2017.
- [5] **L. Balzer**, M. van der Laan, M. Petersen, and the SEARCH Collaboration. Adaptive pre-specification in randomized trials with and without pair-matching. *Statistics in Medicine*, 35(25):4528–4545, 2016.
- [6] M.A. Gianfrancesco, **L. Balzer**, K.E. Taylor, L. Trupin, et al. Genetic risk and longitudinal disease activity in systemic lupus erythematosus using targeted maximum likelihood estimation. *Genes and Immunity*, 17:358–362, 2016.
- [7] **L. Balzer**, M. Petersen, M.J. van der Laan, and the SEARCH Collaboration. Targeted estimation and inference of the sample average treatment effect in trials with and without pair-matching. *Statistics in Medicine*, 35(21):3717–3732, 2016.
- [8] **L. Balzer**, J. Ahern, S. Galea, and M.J. van der Laan. Estimating effects with rare outcomes and high dimensional covariates: Knowledge is power. *Epidemiologic Methods*, 5(1):1–18, 2016.
- [9] M. Pearl, **L. Balzer**, and J. Ahern. Targeted estimation of marginal absolute and relative associations in case-control data: An application in social epidemiology. *Epidemiology*, 27:512–517, 2016.
- [10] D. Kwarisiima, **L. Balzer**, D. Heller, P. Kotwani, et al. Population-based assessment of hypertension epidemiology and risk factors among HIV-positive and general populations in rural Uganda. *PLoS ONE*, 11(5):e0156309, 2016.
- [11] G. Chamie, T.D. Clark, J. Kabami, K. Kadede, E. Ssemmondo, R. Steinfeld, G. Lavoy, D. Kwarisiima, N. Sang, V. Jain, H. Thirumurthy, T. Liegler, **L. Balzer**, et al. A hybrid mobile HIV testing approach for population-wide HIV testing in rural East Africa. *Lancet HIV*, January, 2016.
- [12] J. Ahern, **L. Balzer**, and S. Galea. The role of outlet density and norms in alcohol use disorder. *Drug and Alcohol Dependence*, 151:144–150, 2015.
- [13] **L.B. Balzer**, M.L. Petersen, M.J. van der Laan, and the SEARCH Consortium. Adaptive pair-matching in randomized trials with unbiased and efficient effect estimation. *Statistics in Medicine*, 34(6):999–1011, 2015.
- [14] P. Kotwani, **L. Balzer**, D. Kwarisiima, T.D. Clark, et al. Evaluating linkage to care for hypertension after community-based screening in rural Uganda. *Tropical Medicine & International Health*, 19(4):459–468, 2014.

- [15] G. Chamie, D. Kwarisiima, T.D. Clark, J. Kabami, V. Jain, E. Geng, **L.B. Balzer**, et al. Uptake of community-based HIV testing during a multi-disease health campaign in rural Uganda. *PloS ONE*, 9(1):e84317, 2014.
- [16] V. Jain, D.M. Byonanebye, T. Liegler, D. Kwarisiima, G. Chamie, J. Kabami, M.L. Petersen, **L.B. Balzer**, et al. Changes in Population HIV RNA Levels in Mbarara, Uganda During Scale-Up of HIV Antiretroviral Therapy Access. *JAIDS*, 65(3):327–332, 2014.
- [17] M. van der Laan, **L. Balzer**, and M. Petersen. Adaptive Matching in Randomized Trials and Observational Studies. *Journal of Statistical Research*, 46(2):113–156, 2012.

BOOK CHAPTERS

- [18] **L.B. Balzer**, M.L. Petersen, and M.J. van der Laan. The sample average treatment effect. In M.J. van der Laan and S. Rose, editors, *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. Springer, In Press, 2017.
- [19] **L.B. Balzer**, M.J. van der Laan, and M.L. Petersen. Data-adaptive estimation in cluster randomized trials. In M.J. van der Laan and S. Rose, editors, *Targeted Learning in Data Science: Causal Inference for Complex Longitudinal Studies*. Springer, In Press, 2017.
- [20] **L. Balzer**, M. Petersen, and M.J. van der Laan. Tutorial for causal inference. In P. Buhlmann, P. Drineas, M. Kane, and M. van der Laan, editors, *Handbook of Big Data*. Chapman & Hall/CRC, 2016.

MANUSCRIPTS UNDER PEER-REVIEW OR REVISION

- [21] **L.B. Balzer**, W. Zheng, M.J. van der Laan, M.L. Petersen, and the SEARCH Collaboration. A new approach to hierarchical data analysis: Targeted maximum likelihood estimation of cluster-based effects under interference. 2017.
- [22] D. Perriat, **L. Balzer**, R. Hayes, S. Lockman, F. Walsh, et al. Comparative assessment of five large-scale studies of universal HIV testing and treatment in Sub-Saharan Africa. 2017.
- [23] J.A. Labrecque, J.K. Kaufman, **L.B. Balzer**, R.F. Maclehorse, E. Strumpf, et al. Effect on height-for-age and weight-for-age at 24 months of a conditional cash transfer program using doubly-robust, targeted estimation. 2016.

SELECTED MANUSCRIPTS IN PROGRESS

- [24] **L.B. Balzer**, J. Schwab, M.J. van der Laan, and M.L. Petersen. Evaluation of progress towards the UNAIDS 90-90-90 HIV care cascade. Technical Report 357, UC Berkeley, 2017.
- [25] W. Zheng, N. Sang, G. Chamie, **L.B. Balzer**, et al. Social networks and HIV prevalence in Kenya in the SEARCH study. 2016.
- [26] **L.B. Balzer**, N. Sang, A. Plenty, T. Liegler, et al. Baseline population HIV cascade and 2-year outcomes of HIV+ children in the SEARCH trial. 2016.
- [27] **L. Balzer**, W. Zheng, T. Ruel, E.D. Charlebois, et al. Changing social networks and increased HIV prevalence in Kenyan adolescent women. 2016.

- [28] W. Zheng, **L.B. Balzer**, L. Brown, and N. Sang. Local social network features predict HIV testing uptake in a rural Ugandan community. 2016.
- [29] **L.B. Balzer**, M.J. van der Laan, and M.L. Petersen. Two-stage TMLE for estimating the causal effects of cluster-based interventions with informative measurement and missingness. 2016.
- [30] M. Prague and **L.B. Balzer**. Comparison of TMLE and doubly robust GEE for estimating treatment effects in cluster randomized trials. 2016.

█ SERVICE & MEMBERSHIPS

ACADEMIC MEMBERSHIPS

- 2013–Present Society of Epidemiologic Research (SER)
- 2012–Present American Statistical Association
- 2012–2015 Western North American Region of the International Biometric Society
- 2008–Present Phi Beta Kappa

UNIVERSITY SERVICE

- 2016–Present **Organizer - Quantitative Group for Research on Infectious Diseases, Harvard.**
- 2014–Present **Honors College Advisory Board, University of Vermont.**
- 2014 **Search committee for new Biostatistics Faculty, UC Berkeley.**
- 2014 **Honors College Alumni Panel, University of Vermont.**
- 2012–2015 **School of Public Health Graduate Recruitment & Diversity Services, UC Berkeley.**
- 2011–2012 **School of Public Health Student Government, UC Berkeley.**
- 2004–2008 **Honors College Leadership Committee, University of Vermont.**

SERVICES TO PROFESSIONAL PUBLICATIONS

- 2015–current **Editorial Board:** *Journal of Causal Inference*
- 2012–current **Journal Review:**
- American Journal of Epidemiology*
- BMJ Open*
- Clinical Infectious Diseases*
- Epidemiology*
- International Journal of Epidemiology*
- Journal of the International AIDS Society*
- PLoS ONE*
- Social Science & Medicine - Population Health*
- Statistics and Probability Letters*
- Statistics in Medicine*
- Statistical Methods in Medical Research*

SELECTED CONFERENCE SERVICE

- 2017 **Poster Judge, Society of Epidemiologic Research, Seattle, WA.**

- 2016 **Conference Organizer + Coordinator + Chair**, *Causal Inference with Highly Dependent Data in Communicable Disease Research Conference*, Harvard T.H. Chan School of Public Health.
- 2016 **Mentored Poster Chats**, *Society of Epidemiologic Research*, Miami, FL.
- 2016 **Conference Abstract Review**, *Society of Epidemiologic Research*, Miami, FL.
- 2015 **Conference Session Organizer**, *Atlantic Causal Inference Conference*, The University of Pennsylvania.

SELECTED CONFERENCE PRESENTATIONS

1. **L. Balzer**. The roadmap - a systematic approach from the causal question through the statistical analysis and to impact.
 2017 *Joint Statistical Meetings*, Seattle, WA (Invited Talk)
 (upcoming)
2. **L. Balzer**, W. Zheng, M. van der Laan, M. Petersen. A new approach to hierarchical data analysis: targeted maximum likelihood estimation of cluster-based exposures under interference.
 2017 *Society for Epidemiologic Research*, Seattle, WA (Poster)
3. **L. Balzer**, M. van der Laan, M. Petersen. Targeted Maximum Likelihood with Super Learning to evaluate progress towards HIV care cascade goals: An example from the SEARCH “test and treat” study.
 2017 *Society for Epidemiologic Research*, Seattle, WA (Contributed Talk)
4. W. Zheng, N. Sang, G. Chamie, **L. Balzer**, *et al.* Social networks and HIV prevalence in Kenya in the SEARCH study.
 2017 *Conference on Retroviruses and Opportunistic Infections*, Seattle, WA (Invited Talk)
5. **L. Balzer**, N. Sang, A. Plenty, T. Liegler, *et al.* Baseline population HIV cascade and 2-yr outcome of HIV+ children in the SEARCH trial.
 2017 *Conference on Retroviruses and Opportunistic Infections*, Seattle, WA (Poster)
6. C. Marquez, A. Mucunguzi, G. Chamie, D. Kwariisima, T. Ruel, **L. Balzer**, *et al.* High TB infection rate in children & young adults in rural Uganda in the SEARCH trial.
 2017 *Conference on Retroviruses and Opportunistic Infections*, Seattle, WA (Poster)
7. M. Petersen, **L. Balzer**, D. Kwarsiima, N. Sang, *et al.* SEARCH test and treat study in Uganda and Kenya exceeds the UNAIDS 90-90-90 cascade target by achieving 81% population-level viral suppression after 2 years.
 2016 *21st International AIDS Conference*, Durban, South Africa (Late-breaker Oral)
8. **L. Balzer**, W. Zheng, T. Ruel, E.D. Charlebois, *et al.* Changing social networks and increased HIV prevalence in Kenyan adolescent women.
 2016 *21st International AIDS Conference*, Durban, South Africa (Poster)
9. **L. Balzer**. Why bother with TMLE (targeted maximum likelihood estimation)?
 2016 *Society for Epidemiologic Research*, Miami, FL (Poster)

10. **L. Balzer**, P. Staples, J. Onnela, V. DeGruttola. Using Network-based Simulations to Evaluate the Effect of Adding Targeted PrEP to an Ongoing Treatment-as-Prevention Trial.
2016 *Society for Epidemiologic Research*, Miami, FL (Poster)
2015 *Infectious Disease Research Conference (NIAID/NIH)*, Bethesda, MD (Invited Talk)
11. W. Zheng, **L. Balzer**, L. Brown, N. Sang, *et al.*. Local social network features predict HIV testing uptake in a rural Ugandan community.
2016 *Conference on Retroviruses and Opportunistic Infections*, Boston, MA (Poster)
12. **L. Balzer**, M. van der Laan, M. Petersen, the SEARCH Consortium. Adaptive Pre-specification in Randomized Trials With and Without Pair-Matching.
2015 *Infectious Disease Research Conference (NIAID/NIH)*, Bethesda, MD (Poster)
Society for Epidemiologic Research, Denver, CO (Poster)
Atlantic Causal Inference Conference, Philadelphia, PA (Poster)
13. **L. Balzer**, M. Petersen, M. van der Laan, the SEARCH Consortium. Estimating the Sample Average Treatment Effect in the SEARCH trial.
2015 *Society for Epidemiologic Research*, Denver, CO (Poster)
14. M. van der Laan, **L. Balzer**, M. Petersen. Estimation and Inference for the Sample Average Treatment Effect in Cluster Randomized Trials.
2015 *Atlantic Causal Inference Conference*, Philadelphia, PA (Invited Talk)
15. **L. Balzer**, M. Petersen, M. van der Laan. Pair-Matching & Estimation of the Intervention Effect in the SEARCH trial.
2014 *Joint Statistical Meetings*, Boston, MA (Contributed Talk)
SFASA Student Travel Awards Seminar, Boston, MA (Invited Talk)
Atlantic Causal Inference Conference, Providence, RI (Poster)
16. J. Ahern, **L. Balzer**, M. van der Laan. A rigorous system to determine the health impacts of policies and programs: Simulations to optimize study design and analysis.
2013 *Berkeley Data Science Initiative Symposium*, Berkeley, CA (Poster)
NIH High Risk-High Reward Research Symposium, Bethesda, MD (Poster)
17. **L. Balzer**, M. Petersen, M. van der Laan. Pair-Matching - Theory vs. Practice: Adaptive Matching in the SEARCH trial.
2013 *Society for Epidemiologic Research*, Boston, MA (Poster)
Western North American Region of IBS, Los Angeles, CA (Invited Talk)
2012 *School of Public Health Research Symposium*, Berkeley, CA (Poster)
18. **L. Balzer**, M. Pearl, J. Ahern, M. van der Laan. Estimating Effects on Rare Outcomes: Knowledge is Power.
2013 *Western North American Region of IBS*, Los Angeles, CA (Invited Talk)
Atlantic Causal Inference Conference, Boston, MA (Poster)
19. M. Pearl, **L. Balzer**, J. Ahern. Low-income neighborhoods and very preterm birth: an application of case-control-weighted targeted maximum likelihood estimation.

- 2013 *Society for Epidemiologic Research*, Boston, MA (Contributed Talk)
Society for Pediatric and Perinatal Epidemiologic Research (SPER), Boston, MA (Contributed Talk)
20. **L. Balzer**, M. Petersen, J. Schwab, M. van der Laan. Estimating the impact of community-level interventions: The SEARCH Trial and HIV Prevention in Sub-Saharan Africa.
 2012 *Western North American Region of IBS*, Fort Collins, CO (Invited Talk)
21. **L. Balzer**, M. Petersen, M. van der Laan. Why Match in Individually and Cluster Randomized Trials?
 2012 *Atlantic Causal Inference Conference*, Baltimore, MD (Poster)
22. **L. Balzer**, D. Bentil. Minimal Mathematical Model for Activated Protein C Regulation of Factor Va
 2008 *Student Research Conference, University of Vermont*, Burlington, VT (Invited Talk)

IN THE NEWS & MEDIA

- “In East Africa, Universal HIV Testing and Treatment Surpasses UNAIDS Goals” by Niall Kavanagh, UCSF News Center, June 21, 2017.
- “African study exceeds U.N. ‘test and treat’ goal for ending HIV pandemic” by Katy Migiro, Reuters, July 20, 2016.
- “SEARCH study exceed 90-90-90 targets after 2 years of ‘test and treat’ for HIV in rural East Africa” by Keith Alcorn, aidsmap, July 20, 2016.
- “How a remote Kenyan island is helping create world-class HIV care” by William Brangham, PBS Newshour, July 15, 2016.
- “Strength and Solutions In Numbers: SEARCH channels the power of group science and community engagement to guide a global effort to end AIDS” by Linda Anderberg, UC Berkeley School of Public Health, June 2015.
- “Biostatistics teaching team receives ASA education award for innovative excellence” by UC Berkeley School of Public Health, August 2014.
- “American Statistical Association Announces Recipients of 25th Annual Gertrude M. Cox Scholarships” by Jeffrey A. Myers, ASA News, August 2014.
- “Cal Berkeley Petersen, Balzer To Be Presented 2014 Causality in Statistics Education Award” by Jeffrey A. Myers, ASA News, July 2014.
- “Top Honors” by Thomas Weaver, Vermont Quarterly, Fall 2007.
- “Creating a Global Impact - CEMS Student Wins Highly Competitive Goldwater Scholarship” by The University of Vermont, April 2007.