

ASHLEY L. BUCHANAN
Curriculum Vitae

CONTACT INFORMATION

Department of Pharmacy Practice, Health Outcomes
College of Pharmacy
The University of Rhode Island
265A Avedisian Hall
7 Greenhouse Road
Kingston, Rhode Island 02881
Phone: 401-874-4739
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EDUCATION

2015 Doctor of Public Health in Biostatistics
University of North Carolina at Chapel Hill, Gillings School of Public Health
2007 Master of Science in Biostatistics, Harvard School of Public Health
2005 Bachelor of Science in Mathematics, University of Massachusetts Amherst

ACADEMIC APPOINTMENTS

2016-Present University of Rhode Island, College of Pharmacy
Department of Pharmacy Practice
Assistant Professor of Biostatistics
Department of Computer Science and Statistics
Limited Joint Appointment

2020-Present Brown University, Brown School of Public Health
Department of Biostatistics
Adjunct Assistant Professor

2015-2016 Harvard T.H. Chan School of Public Health
Departments of Biostatistics and Epidemiology
Postdoctoral Research Fellow

RESEARCH APPOINTMENTS

2012-2014 University of North Carolina at Chapel Hill
Department of Epidemiology
Biostatistician

2010-2011 University of North Carolina at Chapel Hill
Collaborative Studies Coordinating Center
Biostatistician

2007- 2010 Harvard School of Public Health
Department of Biostatistics, Center for Biostatistics in AIDS Research
Biostatistician II

PUBLICATIONS

Peer-reviewed publications

1. **Buchanan AL**, Bessey S, Goedel WC, King MRF, Murray EJ, Friedman SR, Halloran ME, Marshall BD. Disseminated effects in agent based models: A potential outcomes framework to inform pre-exposure prophylaxis coverage levels for HIV prevention. *American Journal of Epidemiology*, In Press, 2020.
2. Ahern D, Aberger E, Wroblewski J, Zheng Q, Mehta S, **Buchanan AL**, Shah K, Rocchio R, Follick M. A behavioral science approach to diabetes management: Impact on care guidelines, hospitalizations, and costs. *The American Journal of Managed Care*, In Press, 2020.
3. Marraccini, ME, Brick, LA, O'Neill, JC, Weynadt, LL, **Buchanan AL**. Self-injurious thoughts and behaviors among college students: A latent class analysis. *Archives of Suicide Research*, In Press, 2020.
4. Vadiveloo M, Guan X, Parker H, Perraudc E, **Buchanan AL**, Atlas S, Thorndike AN. Rationale and design of the Smart Cart Study – a randomized controlled cross-over trial evaluating the effect of targeted food incentives on grocery purchases. *Contemporary Clinical Trials*, In Press, 2020.
5. Aroke HA, **Buchanan AL**, Bratberg JP, Hogan JW, Rich J, Wen X, Kogut SJ. Patterns of initial prescription opioid use and risk of mortality. *Journal of Addiction Medicine*, In Press, 2020.
6. Dahabreh IJ, Haneuse SJ, Robins JM, Robertson SE, **Buchanan AL**, Stuart EA, Hernan MA. Study designs for extending causal inferences from a randomized trial to a target population. *American Journal of Epidemiology*, In Press, 2020.
7. Sun T, **Buchanan AL**, Bratberg, JP, Patry, E, Matson, KL. Rx for addiction and Mmdication safety (RAMS-PEER): Evaluation of an education and peer program on opioid misuse. *Preventing Chronic Disease*, 17(E37), 2020.
8. **Buchanan AL**, Sun T, Katenka N. (2020) Causal Inference in Pharmacoepidemiology. In: *Pharmaceutical Analyses: Great Alone, Better Together*. Birkhauser, Springer Science: New York, In Press (Oct 26 2020).
9. Yedinak JL, Goedel WC, Paul K, Lebeau R, Krieger MS, Thompson C, **Buchanan AL**, Coderre T, Boss R, Rich JD, Marshall BDL. Defining a recovery-oriented cascade of care for opioid use disorder: A community-driven, statewide cross-sectional assessment. *PLoS Medicine*, 16(11), e1002963, 2019.
10. Aroke HA, Vyas AM, **Buchanan AL**, Kogut SJ. Psychotropic polypharmacy and associated healthcare resource utilization during initial phase of care among adults with common types of cancer in the United States. *Cancer Epidemiology Biomarkers and Prevention*, 6(2), pp.73-82, 2019.
11. Crawford FW, Morozova O, **Buchanan, AL**, Spiegelman D. Interpretation of the individual effect under treatment spillover. *American Journal of Epidemiology*, 188(8):1407-9, 2019.
12. Donovan K, Kogut SJ, **Buchanan AL**, Wen X. Tramadol for acute pain in patients prescribed buprenorphine/naloxone for opioid use disorder. *Journal of Opioid Management*, 14(6), p.407, 2019.
13. Sudfeld CR, **Buchanan AL**, Ulenga N, Spiegelman D, Mtisi E, Hertzmark E, Muya AN, Sando D, Mungure E, Mizinduko M, Fawzi WW. Implementation of routine multivitamin supplementation

- decreases mortality and improves HIV-related outcomes for Tanzanian HIV-infected adults enrolled in HIV treatment and care. *AIDS*. 33(1), 93-100, 2019.
14. Patry E, Bratberg JP, **Buchanan AL**, Paiva AL, Balestrieri S, Matson KL. Rx for addiction and medication safety: An evaluation of teen education for opioid misuse prevention. *Research in Social and Administrative Pharmacy*. 15(8), 917-924, 2019.
 15. Lemay V, Hoolahan J, **Buchanan AL**. SAMYAMA: Stress, anxiety, and mindfulness: a yoga and meditation assessment. *American Journal of Pharmaceutical Education*. 83(5), 7001, 2019.
 16. **Buchanan AL**, Vermund SH, Friedman SR, Spiegelman D. Assessing individual and disseminated effects in network-randomized studies. *American Journal of Epidemiology*. 187(11), 2449-2459, 2018.
 17. **Buchanan AL**, Hudgens MG, Cole SR, Mollan KR, Sax PE, Daar ES, Adimora AA, Eron JJ, Mugavero MJ. Generalizing evidence from randomized trials using inverse probability of sampling weights. *Journal of the Royal Statistical Society, Series A*. 181(4), 1193-1209, 2018.
 18. **Buchanan AL**, Hudgens MG, Cole SR. Generalizing evidence from HIV trials using inverse sampling weights. In: *Quantitative Methods for HIV/AIDS Research*. New York: CRC Press, 2017.
 19. Lesko CR, **Buchanan AL**, Westreich D, Edwards JK, Hudgens MG, Cole SR. Practical considerations when generalizing study results: A potential outcomes perspective. *Epidemiology*, 28(4), 553-561, 2017.
 20. Aroke H, **Buchanan AL**, Wen X, Ragosta P, Koziol J, Kogut SJ. Estimating the direct costs of outpatient opioid prescriptions: A retrospective analysis of data from the Rhode Island prescription drug monitoring program. *Journal of Managed Care and Specialty Pharmacy*. 24(3), 214-224, 2017.
 21. **Buchanan AL**, Hudgens MG, Cole SR, Lau B, Adimora AA. Worth the weight: Using inverse probability weighted Cox models in AIDS research. *AIDS Research and Human Retroviruses*, 30.12, 1170-1177, 2014.
 22. Achenbach CJ, **Buchanan AL**, Cole SR, Hou L, Mugavero MJ, Crane HM, Moore RD, Haubrich RH, Gopal S, Eron JJ, Hunt PW. HIV viremia and incidence of non-Hodgkin lymphoma in patients successfully treated with antiretroviral therapy. *Clinical Infectious Diseases*, 58 (11), 1599-606, 2014.
 23. Zhou Z, Yu F, **Buchanan AL**, Fu Y, Campos M, Wu KK, Chambless LE, Folsom AR, Boerwinkle E, Dong JF. Possible race and gender divergence in association of genetic variations with plasma von Willebrand factor: A study of ARIC and 1000 genome cohorts. *PloS One*, 9.1, e84810, 2014.
 24. Rice ML, Zeldow B, Siberry GK, Purswani M, Malee K, Hoffman HJ, Frederick T, **Buchanan AL**, Sirois PA, Allison SM, Williams PL. Evaluation of risk for late language emergence after in utero antiretroviral drug exposure in HIV-exposed uninfected infants. *The Pediatric Infectious Disease Journal*, 32.10, e406-e413, 2013.
 25. Torre III P, Zeldow B, Hoffman HJ, **Buchanan AL**, Siberry GK, Rice M, Sirois PA, Williams PL. Hearing loss in perinatally HIV-infected and HIV-exposed but uninfected children and adolescents. *The Pediatric Infectious Disease Journal*, 31.8, 835-841, 2012.
 26. Campos M, **Buchanan AL**, Yu F, Barbalic M, Xiao Y, Chambless LE, Wu KK, Folsom AR, Boerwinkle E, Dong JF. Influence of single nucleotide polymorphisms in factor VIII and von

- Willebrand factor genes on plasma factor VIII activity: The ARIC Study. *Blood*, 119.8, 1929-1934, 2012.
27. Rice ML, **Buchanan AL**, Siberry GK, Malee KM, Zeldow B, Frederick T, Purswani MU, Hoffman HJ, Sirois PA, Smith R, Torre III P. Language impairment in children perinatally infected with HIV compared to children who were HIV-exposed and uninfected. *Journal of Developmental and Behavioral Pediatrics*, 33.2, 112-23, 2012.
 28. **Buchanan AL**, Montepiedra G, Sirois PA, Kammerer B, Garvie PA, Storm DS, Nichols SL. Barriers to medication adherence in HIV-infected children and youth based on self-and caregiver report. *Pediatrics*, 129.5, e1244-e1251, 2012.
 29. Argiris A, **Buchanan AL**, Brockstein B, Kolesar J, Ghebremichael M, Pins M, Hahn K, Axelrod R, Forastiere A. Docetaxel and irinotecan in recurrent or metastatic head and neck cancer. *Cancer*, 115.19, 4504-4513, 2009.

Publications under revision

- Murray EJ, BDL Marshall, **AL Buchanan**. Emulating target trials to improve causal inference from agent-based models, *American Journal of Epidemiology*, Under Revision.
- Aroke HA, Katenka N, Kogut, S, Skov B, **Buchanan AL**. Doctor shopping for prescription opioids: a network perspective. *PLOS One*, Under Review.
- Shimada A, **Buchanan AL**, Katenka N, Kogut SJ, Friedman SR. Evaluating the Effect of health beliefs on HIV testing among a network of people who inject drugs. *BMJ Open*, Under Review.
- Li F, **Buchanan AL**, Cole SR. Doubly-robust estimators for generalizing evidence from randomized trials. *Annals of Applied Statistics*, Under Review.
- Dahabreh IJ, Hernan MA, Robertson SE, **Buchanan AL**, Steingrimsson J. Generalizing trial findings in nested trial designs with sub-sampling of non-randomized individuals. *Biometrics*, Under Revision.
- Abreu AM, Young RM, **Buchanan AL**, Lofgren, IE, Okronipa H, Larety A, Ashorn P, Adu-Afarwuah S, Dewey KG, Oaks BM. Prenatal lipid-based nutrient supplementation has no effect on the risk of maternal hypertension but maternal hypertension is significantly associated with adverse birth outcomes in a Ghanaian cohort. *Journal of Nutrition*, Under Review.
- Sando D, Sztam K, Spiegelman D, **Buchanan AL**, Urio R, Muya A, Ulenga N, Fawzi, WW. Ready to use therapeutic supplementation in management of malnourished HIV-infected children in Tanzania. *BMC Nutrition*, Under Revision.

Forthcoming

- Buchanan AL**, Sun T, Wu J, Aroke H, Bratberg B, Rich J, Kogut S, Hogan J. Toward evaluation of disseminated causal effects of medications for opioid use disorder within provider-based networks using routinely-collected health data. *In Progress*.
- Buchanan AL**, Hernandez-Ramirez RU, Lok JJ, Vermund SH, Friedman SR, Spiegelman D. Individual and disseminated package effects in network-randomized studies of HIV prevention. *In Progress*.

Aroke H, **Buchanan AL**, Bratberg J, Yadinak J, Lebeau R, Kogut SJ, Marshall BDL. Timely initiation and retention on medication-based treatment for opioid use disorder among Medicaid enrollees in Rhode Island. *In Progress*.

Lee T, **Buchanan, AL**, Katenka N, Halloran ME, Friedman S, Nikolopoulos G. Toward evaluation of disseminated effects of non-randomized HIV prevention interventions among observed networks of people who inject drugs. *In Progress*.

Sun T, Kogut S, Katenka N, Aroke H, Bratberg J, **Buchanan A**. Early buprenorphine initiation, opioid overdoses and healthcare utilization among insured patients with opioid use disorder in the US, 2010 – 2018. *In Progress*.

Aroke HA, Sun T, Bratberg JP, Wu J, Hogan JW, Rich J, Kogut SJ, **Buchanan AL**. Toward evaluation of causal effects of time-varying exposure to prescription opioids on all-cause mortality among insured adults in the United States. *In Progress*.

Puleo J, **Buchanan A**, Katenka N, Halloran ME, Friedman S, Nikolopoulos G. Evaluating the effects of medication for opioid use disorder on HIV risk behaviors among a network of people who inject drugs. *In Progress*.

Skov B, Buchanan A, Katenka N, Friedman S, Nikolopoulos G. Evaluation of the relationship between centrality and individual-level characteristics among a network of people who inject drugs. *In Progress*.

Skov B, Lee T, **Buchanan A**, Katenka N, Halloran E. A guide to the simulation of potential outcomes in the presence of interference. *In Progress*.

Ryan V, Katenka N, **Buchanan A**, Lee T, Friedman S, Nikolopoulos G. Graph models with missing data techniques for applications in drug use networks. *In Progress*.

Weyandt LL, Marraccina ME, Brick LAD, **Buchanan AL**, Clarkin C, Shepard E, Francis F. Prescription opioid misuse among a sample of college students: Prevalence and predictors. *In Progress*.

Invited oral presentations and seminars

International

Aroke H, **Buchanan A**, Bratberg J, Hogan J, Rich J, Wen X, Kogut S. Initial patterns of prescription opioid use and risk of mortality among adult patients with non-cancer pain conditions in the United States. Contributed oral presentation at the *International Society for Pharmacoepidemiology*, August 24, 2018; Prague, Czech Republic.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing individual and disseminated package effects in network-randomized studies of HIV prevention. Invited oral presentation at the *Statistical Society of Canada Meetings*, June 3-6, 2018; Montreal, Quebec, Canada.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing individual and disseminated package effects in network-randomized studies of HIV prevention. Invited oral presentation and invited session organizer at the *ASA Joint Statistical Meetings*, July 28-August 3, 2018; Vancouver, BC, Canada.

National

Lee T, **Buchanan A**, Katenka N, Skov B, Halloran E, Friedman S, Nikolopoulos G. Evaluating the impact of missing data when assessing disseminated effects in network-based studies. Contributed oral presentation and session organizer at the *ASA Joint Statistical Meetings Online*, August 1-6, 2020.

Buchanan AL, Katenka N, Lee T, Halloran ME, Friedman S, Nikolopoulos G. Toward evaluation of disseminated effects of non-randomized HIV prevention interventions among observed networks of people who inject drugs. Contributed oral presentation at the *ENAR International Biometric Society*, March 22-25, 2020; Online.

Buchanan AL, Shimada A, Katenka N, Kogut SJ, Friedman SR. Evaluating the effect of health beliefs on HIV testing among a network of people who inject drugs. Invited oral presentation and invited session organizer at *ASA Joint Statistical Meetings*, July 27 – August 1, 2019; Denver, CO.

Buchanan AL, King M, Bessey S, Murray EJ, Friedman SR, Halloran ME, Marshall BDL. Disseminated effects in agent based models: A potential outcomes framework to inform pre-exposure prophylaxis coverage levels for HIV prevention. Contributed oral presentation at the *Society for Epidemiologic Research Conference*, June 18-21, 2019; Minneapolis, MN.

Aroke HA, Sun T, Bratberg JP, Wu J, Hogan JW, Rich J, Kogut SJ, **Buchanan AL**. Evaluation of causal effects of time-varying prescription opioid use on mortality among insured adults in the United States. Contributed oral presentation at the *Society for Epidemiologic Research Conference*, June 18-21, 2019; Minneapolis, MN.

Aroke H, **Buchanan A**, Bratberg J, Hogan J, Rich J, Wen X, Kogut S. Patterns of initial prescription opioid use and risk of mortality. Contributed oral presentation at the *Society for Epidemiologic Research Annual Meeting*, June 20, 2018; Baltimore, MD.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing Individual and disseminated effects in network-randomized studies of HIV prevention. Invited oral presentation at the *ENAR International Biometric Society*, March 25-28, 2018; Atlanta, GA.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR. Assessing Individual and disseminated effects in network-randomized studies of HIV prevention. Invited oral presentation at the *Society for Epidemiologic Research Conference*, June 20-23, 2017; Seattle, WA.

Buchanan AL, Spiegelman D, Vermund SH, and Friedman SR. Assessing Individual and disseminated effects in network HIV treatment and prevention trials. Invited oral presentation and invited session organizer at the *ENAR International Biometric Society*, March 12-15, 2017; Washington, DC.

Buchanan AL, Spiegelman D, Vermund SH, and Friedman SR. Individual and disseminated effects in cluster-randomized designs. Invited oral presentation and invited session organizer at the *Society for Epidemiologic Research Conference*, June 21-26, 2016; Miami, FL.

Regional

Aroke H, **Buchanan AL**, Bratberg J, Yadinak J, Lebeau R, Kogut SJ, Marshall BDL. Timely initiation and retention on medication-based treatment for opioid use disorder among Medicaid enrollees in Rhode Island. Invited oral presentation at the *Advance CTR Seminar Series*. March 12, 2020; Providence, RI.

Buchanan AL, Sun T, Aroke HA, Bratberg JP, Rich J, Kogut SJ, Wu J, Hogan J. Toward evaluation of disseminated causal effects of medication-based treatment for opioid use disorder within provider-based

networks in administrative claims databases. Invited oral presentation at the *Dartmouth Interdisciplinary Network Research Group*, January 17, 2020; Dartmouth College, Hanover, NH.

Buchanan AL. Toward evaluation of disseminated effects of non-randomized HIV prevention interventions among observed networks of people who inject drugs. Invited oral presentation at the *City University of New York School of Public Health and Health Policy*, November 1, 2019; New York, NY.

Buchanan AL, Sun T, Aroke HA, Bratberg JP, Rich J, Kogut SJ, Wu J, Hogan J. Toward evaluation of disseminated causal effects of medications for opioid use disorder within provider-based networks in administrative claims databases. Invited oral presentation at the *Northeast Regional Institutional Development Award (IDeA) Conference*, August 15-16, 2019; Bretton Woods, NH.

Buchanan AL, Sun T, Aroke HA, Bratberg JP, Rich J, Kogut SJ, Wu J, Hogan J. Toward evaluation of disseminated causal effects of medication-based treatment for opioid use disorder within provider-based networks in administrative claims databases. Invited oral presentation and invited session organizer at the *New England Statistical Symposium*, May 17, 2019; Hartford, CT.

Aroke HA, Katenka N, Kogut, S, Skov B, **Buchanan AL**. Social network of an opioid-provider sharing network of patients. Invited oral presentation at the *New England Statistical Symposium*, May 17, 2019; Hartford, CT.

Buchanan AL, Shimada A, Katenka N, Kogut SJ, Friedman SR. Evaluating the effect of health beliefs on HIV testing among a network of people who inject drugs. Invited oral presentation at the *Department of Biostatistics Seminar*, March 14, 2019; University of Washington, Seattle, WA.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing individual and disseminated effects in network-randomized studies of HIV prevention. Invited oral presentation at the *HIV/AIDS Biostatistics Working Group*, February 8, 2019; Harvard T.H. Chan School of Public Health, Boston, MA.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing individual and disseminated effects in network-randomized studies of HIV prevention. Invited oral presentation at the *Center for Interdisciplinary Research on AIDS*, February 6, 2019; Yale University, New Haven, CT.

Buchanan AL, Shimada A, Katenka N, Kogut SJ, Friedman SR. Evaluating the effect of health beliefs on HIV testing among a network of people who inject drugs. Invited oral presentation at the *Models and Machine Learning for Causal Inference and Decision Making in Health Research*, January 14 -18, 2019; The Institute for Computational and Experimental Research in Mathematics, Brown University, Providence, RI.

Buchanan AL, Shimada A, Katenka N, Kogut SJ, Friedman SR. Evaluating the effect of health beliefs on HIV testing among a network of people who inject drugs. Invited oral presentation at the *Statistical Data Science Program Lecture Series*, November 19, 2018; Smith College, Northampton, MA.

Buchanan, AL, Bratberg, J. New methods to evaluate the effects of opioids in provider-based networks. Invited oral presentation at the *Advance CTR Seminar Series*, September 12, 2018; Kingston, RI.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR, Lok J. Assessing individual and disseminated effects in network-randomized studies of HIV prevention. Invited oral presentation at the *Center for Drug Use and HIV Research Methods Core*, September 26-27, 2018; New York University, New York, NY.

Buchanan AL, Shimada A, Katenka N, Kogut SJ, Friedman SR. Evaluating the effect of health beliefs on HIV testing among a network of people who inject drugs. Invited oral presentation at the *Building*

Community in the Foundations of Data Science Workshop, August 13-14, 2018; Brown University, Providence, RI.

Poster presentations

Puleo J, **Buchanan A**, Katenka N, Halloran ME, Friedman S, Nikolopoulos G. Evaluating the effects of medication for opioid use disorder on HIV risk behaviors among a network of people who inject drugs. Poster presented at the *Conference on Problems of Drug Dependence*, June 20-24, 2020; Online.

Aroke HA, **Buchanan AL**, Bratberg J, Yadinak J, Lebeau R, Kogut SJ, Marshall BDL. Timely initiation and retention on medication-based treatment for opioid use disorder among Medicaid enrollees in Rhode Island. Poster Presented at the *Conference on Problems of Drug Dependence*, June 20-24, 2020; Online.

Webb A, **Buchanan AL**. The effect of antiretroviral therapy with high central nervous system penetration on HIV-related cognitive impairment: A systematic review and meta-analysis. Poster Presented at the *ACCP Global Conference*, October 20-23, 2018; San Francisco, CA.

Donovan K, **Buchanan AL**, Kogut SJ, Laforge R. Atypical antipsychotic use in the privately-insured pediatric population: Current Prevalence and Medication Costs. Poster presented at the *Joint Forces Pharmacy Seminar*, September 24, 2018.

Miura A, **Buchanan AL**, Friedman SR, Katenka N. Evaluating the effects of attitudes on health-seeking behavior among a network of people who inject drugs. Poster presented at the *New England Statistics Symposium*, April 14, 2018; University of Massachusetts Amherst, Amherst, Massachusetts.

Vyas AM, Kogut SJ, Aroke HA, **Buchanan AL**. Psychotropic polypharmacy during the initial phase of care among cancer patients in the United States. Poster presented at the *American Association for Cancer Research 2018 Annual Meeting*, April 14-18, 2018; Chicago, IL. Published in the Proceedings of the AACR Part A: Abstract#4224.

Vyas AM, Aroke HA, **Buchanan AL**, Kogut SJ. Psychotropic polypharmacy among US cancer patients: a population-level analysis. Poster to presented at the *National Community Oncology Dispensing Association (NCODA) 2018 Spring Forum*, March 1-3, 2018; Dallas, TX.

Hoolahan J, Lemay V, **Buchanan AL**. SAMYAMA: Stress, anxiety, and mindfulness; a yoga and meditation assessment. American Society of Health-System Pharmacists. Poster presented at the *Midyear Clinical Meeting*. December 3-7, 2017; Orlando, Florida. Session board #5-289.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR. Individual and disseminated package effects in a HIV prevention network-randomized trial. Poster presentation at the *International Biometric Conference*, July 10-15, 2016; Victoria, BC.

Buchanan AL, Spiegelman D, Vermund SH, Friedman SR. Assessing individual and disseminated effects in network-randomized designs. Poster presentation at the *Causal Inference with Highly Dependent Data in Communicable Diseases Research*, May 2016; Boston, MA.

Buchanan AL, Hudgens MG, Cole SR. Generalizing evidence from randomized trials using inverse probability of sampling weights. Poster presentation at the *ENAR International Biometric Society*, March 15-18, 2015; Miami, FL.

Buchanan AL, Hudgens MG, and Cole SR. Generalizing evidence from randomized trials using inverse probability of selection weights. Poster presentation at the *Atlantic Causal Inference Conference*, May 15-16 2014; Providence, RI.

Buchanan AL, Rice ML, Siberry GK, Malee KM, Hoffman HJ, Frederick T, Sirois PA, Allison SM, Williams PL. Language impairment in children perinatally infected with HIV compared to children who were HIV-exposed and uninfected. Poster presentation at the *AIDS 2010 - XVIII International AIDS Conference*: Abstract no. WEPE0074, July 18-23, 2010; Vienna, Austria.

Buchanan AL, Montepiedra G, Sirois PA, Kammerer B, Garvie PA, Storm DS, Nichols SL. Barriers to medication adherence in HIV-infected children and youth based on self-and caregiver report. Poster presentation at the *National Institute of Mental Health (NIMH) Annual International Research Conference on the Role of Families in Preventing and Adapting to HIV/AIDS*, October 7, 2008; Providence, RI.

GRANT SUPPORT

Funding Agency: National Institute on Drug Abuse

Title: Diversity Postdoctoral Fellowship for Parent Project Causal Inference Methods for HIV Prevention Studies Among Networks of People Who Use Drugs

Role: Principal Investigator

Project Period: 07/01/19 – 05/31/21

Funding Agency: National Institute on Drug Abuse

Title: Causal Inference Methods for HIV Prevention Studies Among Networks of People Who Use Drugs

Role: Principal Investigator

Project Period: 07/01/18 – 05/31/23

Funding Agency: National Institute on Drug Abuse

Title: Promoting HIV risk reduction among people who inject drugs: A stepped care approach using contingency management with PrEP navigation

Role: Consultant (PI: Edelman)

Project Period: 07/01/20 – 06/30/25

Funding Agency: University of Rhode Island Proposal Development Grant

Title: Causal Inference Methods for HIV Prevention Studies of Multifaceted Interventions Among Networks of People Who Inject Drugs

Role: co-Principal Investigator

Project Period: 07/01/18 – 06/30/19

Funding Agency: Rhode Island Foundation Medical Research Grant

Title: New Methods to Evaluate the Effects of Opioids in Provider-Based Networks

Role: Principal Investigator

Project Period: 04/01/17 – 09/30/18

Funding Agency: Brown University Advance CTR Pilot Project

Title: New Methods to Evaluate the Effects of Opioids in Provider-Based Networks

Role: Principal Investigator

Project Period: 05/01/18 – 04/30/19

Funding Agency: CVS Health / URI College of Pharmacy Healthcare Research Operating Fund

Title: Rx for Addiction and Medication Safety (RAMS-PEER): Evaluation of Teen Peer Education on Opioid Misuse

Role: co-Principal Investigator (Bratberg/Matson)

Project Period: 06/01/17 – 08/30/18

Funding Agency: National Institute of Allergy and Infectious Diseases/Harvard University

Title: New methods for the design and evaluation of large HIV prevention interventions

Role: Research Statistician (PI: Spiegelman) Project Period: 09/01/16 – 05/31/19

Funding Agency: National Institute of Environmental Health Sciences /Harvard University
Title: Comprehensive Translational Science Analytics Tools for the Global Health Agenda
Role: Research Statistician (PI: Spiegelman) Project Period: 09/01/16– 07/31/18

Funding Agency: University of Rhode Island, College of Pharmacy and College of Health Sciences
Title: Prevalence of Opioid Misuse Among College Students: Demographic Characteristics and Psychological Factors
Role: Core Faculty (PI: Weydant) Project Period: 09/01/17 – 05/31/18

Funding Agency: Foundation for Food and Agriculture Research
Title: Individually-targeted incentives, diet quality, and health outcomes among adults
Role: co-Investigator (PI: Vadiveloo) Project Period: 9/01/17 – 8/30/20

Funding Agency: American Association of Colleges of Pharmacy
Title of project: Psychotropic polypharmacy among cancer patients
Role: Collaborator (PI: Vyas) Project period 01/01/17– 01/31/18

TEACHING AND ADVISING RECORD

University of Rhode Island Courses Taught

Spring 2019-20	PHP 336G: Interdisciplinary Healthcare Solutions to the Opioid Crisis
Spring 2017-18, Fall 2019-20	PHP 405: Epidemiology in Health Care
Fall 2017-19	PHP/STA 575: Causal Inference in Biomedical Research

Lectures at the University of Rhode Island

Fall 2020	PHP 585: Lecture (1) on Principal Components Analysis
Fall 2020	PHP 407: Biostatistics modules (6) on hypothesis testing, study design and ANOVA
Spring 2020	BPS 203: Lecture (1) Meditation and Health
Fall 2019-20	BPS 533: Lecture (1) Meditation and Health
Fall 2018	PSY 612: Lecture (1) on Marginal Structural Models
Spring 2018-19	PHP 640: Lecture (2) on Marginal Structural Models and Instrumental Variables
Spring 2018-20	PHP 504: Lecture (1) on Health Disparities
Spring 2018	PHP 535X: Lecture (1) Review of Statistical Analysis
Fall 2017	CSC 592: Lecture (1) on Interdisciplinary Research
Spring 2017	PHP 640: Lecture (2) on Causal Inference and Marginal Structural Models
Fall 2016	PHP 685: Pharmacoeconomic Methods and Applications Lecture (2) on Analyzing Costs and Representing Uncertainty
Fall 2016	PHP 405: Epidemiology in Health Care

Fall 2016, 2019 Lectures (2) on Statistics in Epidemiology
STA 411: Biostatistics II
Lecture (3) on Linear Regression, Nonparametric Tests, and Causal Inference

Seminars at the University of Rhode Island

Spring 2020 URI Big Data Seminar Series
Invited talk on Advance CTR Research Project
Spring 2019 RI Pharmacist Association Spring Seminar
Practices for Self-care
Spring 2018 The Opioid Crisis: What can we do about it
Invited Panelist
Spring 2018 Opioid Awareness Event
Invited Panelist
Spring 2017 Institute for Integrated Health and Innovation Big Ideas in Health Conference
Poster presentation on Evaluation of the Health Effects of Opioid Prescriptions in
Administrative Health Claims Databases
Fall 2016 Institute for Integrated Health and Innovation Opioid Epidemic Symposium
Causal Inference Methods for HIV Prevention Studies Among Networks of People Who
Inject Drugs
Fall 2016 Big Data Kick-off Event
Lightening talk on Causal Inference Research in Big Data

Short Course and Tutorials

2016 Statistical Analysis in Excel [5-day short course]
African Academy for Public Health, Dar es Salaam, Tanzania
2015 Introduction to Survival Analysis in Public Health Research [5-day short course]
African Academy for Public Health, Dar es Salaam, Tanzania

Teaching Assistant

2008-2009 Introduction to Statistics
Harvard University, Cambridge, MA
2006-2007 Principles of Biostatistics, Principles of Clinical Trials
Harvard School of Public Health

Postdoctoral Fellows

2019- TingFang Lee, PhD, Biostatistics
2019- Hilary Aroke, PhD, Substance Use Epidemiology

Doctoral Graduate Students

2023 (anticipated) Ravi Upadhyay, Health Outcomes, TBD
2021 (anticipated) Tianyu Sun, Health Outcomes, Evaluation of Medications for Opioid Use on Health
Outcomes among Commercially-Insured Patients
2018 Kellye Donovan, Health Outcomes, An Evaluation of Atypical Antipsychotic Use,
Costs and Effectiveness in the Pediatric Population

Master's Graduate Students

- 2020 Benjamin Skov, Health Outcomes, Assessing of the relationship between network centrality and HIV risk behaviors among injection drug users
- 2020 Joseph Puleo, Statistics, Evaluating the Effect of Substance Use Disorder Treatment on HIV Risk Behaviors among a Network of People who Inject Drugs
- 2020 Valerie Ryan, Statistics, Using Exponential Random Graph Models and Link Prediction in HIV Risk Behavior Networks
- 2018 Hilary Aroke, Statistics, Doctor Shopping for Prescription Opioids: A Network Perspective
- 2018 Ayako Miura, Statistics, Evaluating the Effect of Health Beliefs on HIV Testing among a Network of People who Inject Drugs

Doctoral Dissertation Committee Membership

- Sara Balestrieri, Psychology (anticipated 2021)
- Xintong Guan, Business Administration (anticipated 2020)
- Hilary Aroke, Health Outcomes (2018)

Master's Thesis Committee Membership

- Marjana Catanzaro, Statistics (2020)
- Isabel Nowinowski, Statistics (2020)
- Manushi Welandawe, Statistics (2019)
- Alyssa Abreu, Nutrition and Food Sciences (2019)
- Zachary Kunicki, Statistics (2018)
- Katie Dio, Statistics (2018)
- Tasia Liu, Health Outcomes (2017)

SERVICE

University

- 2016-2019- Member, University of Rhode Island, College of Pharmacy Diversity Committee
- 2018-19 Member, University of Rhode Island Academic Affairs Diversity Task Force
- 2017- Member, University of Rhode Island Equity Council
- 2017- Member, University of Rhode Island Masters in Public Health Working Group
- 2017- Member, University of Rhode Island Data Science Graduate Curriculum Committee
- 2016- Member, University of Rhode Island Big Data Collaborative
- 2018-19 Member, University of Rhode Island Faculty Search Committees (Chair of Health Studies Department and Lecturer in Health Data Science)
- 2016- Faculty Sponsor, American Statistical Association URI Student Chapter
- 2016-2019 Instructor and Faculty Leader, College of Pharmacy Meditation Group
- 2019- Instructor and Faculty Leader, URI Mindful

National

- 2019 - Invited Member, Easter North American Region Regional Advisory Board
- 2017- Member, University of North Carolina Biostatistics Alumni Committee

PROFESSIONAL AFFILIATIONS

- 2018, 2020 Reviewer, NIDA Avenir Award Program for Research on Substance Abuse and HIV/AIDS (DP2)
- 2019 Reviewer, NIDA Leveraging Big Data Science to Elucidate the Neural Mechanisms of Addiction and Substance Use Disorder (R01/R21)
- 2019 Reviewer, University of Rhode Island Proposal Development Grants
- 2019 Reviewer, University of Rhode Island Big Data Interdisciplinary Grants
- 2019-2014- Statistical Reviewer, *Clinical Infectious Diseases*
- Peer Reviewer, *American Journal of Epidemiology*, *BMC Public Health*, *British Medical Journal*, *Journal of Consulting and Clinical Psychology*, *Pharmaceutical Statistics*, *Psychology of Addictive Behaviors*
- 2016- Member, Conference Abstract Reviewer, and Invited Session Organizer, Society for Epidemiologic Research
- 2014- Member, Invited Session Organizer, and University of Rhode Island Student Chapter Faculty Sponsor, American Statistical Association
- 2016- Member and Invited Session Organizer, Eastern North American Region International Biometric Society
- 2019- Member and Symposium Organizer, New England Statistical Symposium
- 2020- Member, Models of Infectious Disease Agent Study (MIDAS) Network

HONORS AND AWARDS

- 2014 University of North Carolina, Atlantic Causal Inference Conference Travel Award
- 2012 University of Washington, Statistics and Modeling in Infectious Diseases Travel Award
- 2005-2007 Harvard School of Public Health, Goldsmith Fellowship
- 2005-2007 Harvard School of Public Health, Anna Vaughn Scholarship
- 2005 University of Massachusetts Amherst, Honors Dean's Award
- 2005 University of Massachusetts Amherst, Honors Research Grant

SOFTWARE SKILLS

- Statistical: SAS, R, XEmacs/ESS, STATA, SPSS, SUDAAN, Unix, LaTeX, S/S+, MARS, CART, Mathematica, MINITAB
- Microsoft: Microsoft FrontPage, PowerPoint, Office, Excel, Outlook, Microsoft Access
- Web: Macromedia Dreamweaver MX, Adobe Photoshop 7.0, Adobe FrameMaker, Macromedia Flash, RoboHelp, JavaScript, HTML, Refworks, Adobe Acrobat