Jacob Bor

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Boston University School of Public Health 801 Massachusetts Avenue, 3rd Floor

Boston, MA 02118

Interests

Population health; economics; HIV/AIDS; causal inference

EMPLOYMENT

Boston University Assistant Professor (September 2013 - present)

Peter T. Paul Career Development Professor

Department of Global Health (primary) and Department of Epidemiology

Boston University School of Public Health

Affiliations

Research Affiliate, Global Development Policy Center, Boston University, 2018 - present Junior Faculty Fellow, Hariri Institute for Computing, Boston University, 2017 - present Visiting Faculty Researcher, Africa Health Research Institute, South Africa, May 2014 - present Senior Researcher, Health Economics & Epidemiology Research Office (HE²RO), University of Witwatersrand, South Africa, March 2014 - present

EDUCATION

Harvard University

S.D., Global Health and Population (Economics), Harvard School of Public Health, 2013 Thesis: Essays on the economics of HIV/AIDS in rural South Africa S.M., Global Health and Population, Harvard School of Public Health, 2009 A.B., Social Studies, Harvard College, cum laude with high honors in Social Studies, 2005

PUBLICATIONS

Carmona S, **Bor J**, Nattey C, Maughan-Brown B, Maskew M, Fox MP, Glencross DK, Ford N, MacLeod W. Persistent high burden of advanced HIV disease among patients seeking care in South Africa's national HIV programme: data from a nationwide laboratory cohort. *Clinical Infectious Diseases*, in press.

Oldenburg CE, **Bor J**, Tanser F, Mutevedzi T, Shahmanesh M, Seage GR, De Gruttola V, Mimiaga MJ, Mayer KH, Pillay D, Bärnighausen T. Impact of early antiretroviral therapy eligibility on HIV acquisition: Household-level evidence from rural South Africa. *AIDS*, in press.

Bor J*, Chiu C, Ahmed S, Katz I, Fox M, Rosen S, Yapa M, Tanser F, Pillay D, Bärnighausen T. (2017). Failure to initiate HIV treatment in patients with higher CD4 counts: evidence from demographic surveillance in rural KwaZulu-Natal. *Tropical Medicine and International Health*, in press. *Corresponding author.

Bor J*, Fox MP, Rosen S, Venkataramani A, Tanser F, Pillay D, Bärnighausen T. Treatment eligibility and retention in HIV care: regression discontinuity evidence from South Africa. *PLOS Medicine*, 14(11), e1002463. *Corresponding author.

Bärnighausen T, Tugwell P, Rottingen JA, Shemilt I, Rockers P, Geldsetzer P, Lavis J, Grimshaw J, Daniels K, Brown A, **Bor J**, Tanner J, Rashidian A, Barreto M, Vollmer S, Atun R. Quasi-

- experimental study designs series, Paper 4: uses and value. *Journal of Clinical Epidemiology*, 89, 21-29. doi: 10.1016/j.jclinepi.2017.03.012.
- Bärnighausen T, Oldenburg C, Tugwell P, Bommer C, Ebert C, Barreto M, Djimeu E, Haber N, Waddington H, Rockers P, Sianesi B, **Bor J**, Fink G, Valentine J, Tanner J, Stanley T, Sierra E, Tchetgen Tchetgen E, Atun R, Vollmer S. Quasi-experimental study designs series, Paper 7: assessing the assumptions. *Journal of Clinical Epidemiology*, 89, 53-66. doi: 10.1016/j.jclinepi.2017.02.017.
- **Bor J**. (2017). Diverging life expectancies and voting patterns in the 2016 US Presidential election. *American Journal of Public Health*, 107(10), 1560-1562.
- Griffith K, Evans L, **Bor J***. (2017). The Affordable Care Act reduced socioeconomic disparities in health care access. *Health Affairs*, 36(8), 1503-1510. *Corresponding author.
- Reniers G, Blom S, Lieber J, Herbst AJ, Calvert C, **Bor J**, Bärnighausen T, Zaba B, Li ZR, Clark SJ, Grant AD, Lessells R, Eaton JW, Hosegood V. (2017). Tuberculosis mortality and the male survival deficit in rural South Africa: An observational community cohort study. *PLoS One*, 12(10), e0185692.
- **Bor J***, Ahmed S, Fox MP, Rosen S, Meyer-Rath G, Katz IT, Tanser F, Pillay D, Bärnighausen T. (2017). Effect of eliminating CD4-count thresholds on HIV treatment initiation in South Africa: An empirical modeling study. *PLoS ONE*, 12(6), e0178249. *Corresponding author.
- Haber N, Tanser F, **Bor J**, Naidu K, Mutevedzi T, Herbst K, Porter K, Pillay D, Bärnighausen. (2017). From HIV infection to therapeutic response: a population-based longitudinal HIV cascade-of-care study in KwaZulu-Natal, South Africa. *The Lancet HIV*, 4(5), e223-e230.
- **Bor J***, Cohen GH, Galea S. (2017). Population health in an era of rising income inequality: United States, 1980-2015. *The Lancet*, 389: 1475-90. *Corresponding author.
- Reniers G, Blom S, Calvert C, Martin-Onraet A, Herbst K, Eaton JW, **Bor J**, Slaymaker E, Li ZR, Clark SJ, Bärnighausen T, Zaba B, Hosegood V. (2017). Trends in the burden of HIV mortality after roll-out of antiretroviral therapy in KwaZulu-Natal, South Africa: evidence from an observational community cohort study. *Lancet HIV*, 4(3): e113-e121.
- Maskew M*, **Bor J***, Hendrickson C, MacLeod W, Bärnighausen T, Pillay D, Sanne I, Carmona S, Stevens W, Fox MP. (2017). Imputing HIV treatment start dates from routine laboratory data in South Africa: a validation study. *BMC Health Services Research*, 17(1):41. *equal contributions.
- Brennan AT, Davies MA, **Bor J**, Wandeler G, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Boulle A, Sikazwe I. (2017). Has the phasing out of stavudine in accordance with changes in WHO guidelines led to a decrease in single-drug substitutions in first-line antiretroviral therapy for HIV in sub-Saharan Africa? *AIDS*, 31(1): 147-157.
- Brennan AT, **Bor J**, Davies MA, Conradie F, Maskew M, Long L, Sanne I, Fox MP. (2016). Tenofovir stock shortages have limited impact on clinic and patient level HIV treatment outcomes in public sector clinics in South Africa. *Tropical Medicine & International Health*, DOI: 10.1111/tmi.12811.
- Dickman S, Woolhandler S, **Bor J**, McCormick D, Bor D, Himmelstein D. (2016). Health Spending For Low, Middle, and High-Income Americans, 1963-2012. *Health Affairs*, 35(7): 1189-1196.
- **Bor J.** (2016). Can't WaSH without water: instrumental variables evidence from a randomized trial (commentary). *Epidemiology*, 27(5): 761-4.

- **Bor J**. (2016). Capitalizing on natural experiments to improve our understanding of population health (editorial). *American Journal of Public Health*, 106(8): 1388-9.
- Maughan-Brown B, Lloyd N, **Bor J**, Venkataramani A. (2016). Changes in HIV testing coverage during South Africa's 2010/11 National Testing Campaign: gains and shortfalls. *Journal of the International AIDS Society (JIAS)*,19: 20658.
- Venkataramani A, **Bor J**, Jena A. (2016). Regression Discontinuity Designs in Health Care Research. British Medical Journal (BMJ), 352: i1216.
- De Neve JW, Fink G, Subramanian S, Moyo S, **Bor J**. (2015). Secondary education and HIV infection in Botswana? Author's reply. *The Lancet Global Health*, 4(1): e23.
- Bor J*, Rosen S, Chimbindi N, Haber N, Herbst K, Mutevedzi T, Tanser F, Pillay D, Bärnighausen T. (2015). Mass HIV treatment and sex disparities in life expectancy: demographic surveillance in rural South Africa. *PLOS Medicine*, 12(11): e1001905-e1001905. *Corresponding author.
- Walkey A, **Bor J**. (2015). Risk-based Heterogeneity of Treatment Effect in Trials and Implications for Surveillance of Clinical Effectiveness Using Regression Discontinuity Designs (Letter). *American Journal of Respiratory and Critical Care Medicine*, 192(11): 1399-1399.
- Dorji G, DeJong W, **Bor J**, DeSilva MB, Sabin L, Feeley FR, Udon P, Wangchuk N, Wangdi U, Choden T, Gurung MS, Chogyel T, Wangchuk D, Kypros K. (2015). Increasing compliance with alcohol service laws in a developing country: Intervention trial in the Kingdom of Bhutan. *Addiction*, doi: 10.1111/add.13202.
- Bor J*, Geldsetzer P, Venkataramani A, Bärnighausen T. (2015). Quasi-experiments to establish causal effects of HIV care and treatment and to improve the cascade of care. Current Opinion in HIV/AIDS, 10(6): 495-501. *Corresponding author.
- Rosenberg M, Pettifor A, Nguyen N, Westreich D, **Bor J**, Bärnighausen T, Mee P, Twine R, Tollman S, Kahn K. (2015). Relationship between receipt of a social protection grant for a child and second pregnancy rates among South African women: A cohort study. *PLOS ONE*, 10(9): e0137352.
- De Neve JW, Fink G, Subramanian S, Moyo S, **Bor J***. (2015). Length of schooling and risk of HIV infection in Botswana: a natural experiment. *The Lancet Global Health*, 3(8): e428-e429. *Corresponding author.
- Chimbindi N, **Bor J**, Newell M-L, Tanser F, Baltusen R, Hontelez J, de Vlas S, Lurie M, Pillay D, Bärnighausen T. (2015). Time and money: the true costs of health care utilization for patients receiving "free" HIV/TB care and treatment in rural KwaZulu-Natal. *JAIDS*, 70(2): e52-60.
- **Bor J***, Moscoe E, Bärnighausen T. (2015). Three approaches to causal inference in regression discontinuity designs (Letter). *Epidemiology*, 26(2):e28-e30. *Corresponding author.
- Moscoe E, **Bor J**, Bärnighausen T. (2015). Regression discontinuity designs are underutilized in medicine, epidemiology, and public health: a review of current and best practice. *Journal of Clinical Epidemiology*, 68(2):122-133.
- **Bor J***, Moscoe E, Bärnighausen T. (2014). The "natural experiment" in regression discontinuity designs: randomization without controlled trials (Letter). *British Medical Journal*, 349: g5293, http://www.bmj.com/content/349/bmj.g5293/rr/764146. *Corresponding author.
- Bor J*, Moscoe E, Mutevedzi P, Newell M-L, Bärnighausen T. (2014). Regression discontinuity

designs in epidemiology: causal inference without randomized trials. *Epidemiology*, 25(5): 729-737. *Corresponding author.

Harhay MO, **Bor J**, Basu S, McKee M, Mindell JS, Shelton NJ, Stuckler D. (2013). Differential impact of the economic recession on alcohol use among white British adults, 2004-2010. *European Journal of Public Health*, 24(3): 410-5.

Bor J*, Herbst AJ, Newell M-L, Bärnighausen T. (2013). Increases in adult life expectancy in rural South Africa: valuing the scale-up of HIV treatment. *Science*, 339: 961-965. *Corresponding author.

Bor J*, Basu S, Coutts A, McKee M, Stuckler D. (2013). Alcohol use during the Great Recession of 2008-2009. *Alcohol and Alcoholism*, doi: 10.1093/alcalc/agt002. *Corresponding author.

Bor J*, Tanser F, Newell M-L, Bärnighausen T. (2012). In a study of a population cohort in South Africa, HIV patients on antiretrovirals had nearly full recovery of employment. *Health Affairs*, 31(7): 1459-1469. *Corresponding author.

Bor J, Bärnighausen T, Newell C, Tanser F, Newell M-L. (2011). Social exposure to an antiretroviral treatment program in rural KwaZulu-Natal. *Tropical Medicine & International Health*, 16: 988994.

Bärnighausen T, **Bor J**, Wandira-Kazibwe S, Canning D. (2011). Interviewer identity as exclusion restriction in epidemiology (Letter). *Epidemiology*, 22(3): 446.

Bärnighausen T, **Bor J**, Wandira-Kazibwe S, Canning D. (2011). Correcting HIV prevalence estimates for survey non-participation using Heckman-type selection models. *Epidemiology*, 22(1): 27-35.

Bor J*. (2007). The political economy of AIDS leadership in developing countries: an exploratory analysis. *Social Science & Medicine*, 64(8): 1585-1599. *Corresponding author.

Under Review

Oldenburg C, Bor J, et al. Comparing causal estimates using RDD. R/R at Am J Epidemiology.

Hontelez J, Bor J, Tanser F, Bärnighausen T. Hospitalizations and ART. R/R at Health Affairs.

Brennan A, **Bor J**, et al. Drug Side Effects and Retention on HIV Treatment: a Regression Discontinuity Study of Tenofovir Implementation in South Africa and Zambia. R/R at $Am\ J\ Epidemiology$.

Bor J*, Venkataramani A*, Williams D, Tsai A. Spillover effects of police killings and the mental health of African-Americans in the general U.S. population. Under review at *Lancet*. *Equal contributions.

Ahmed S, Autrey J, Katz I, Fox M, Rosen S, Ononya D, Mayer K, Bärnighausen T, **Bor J**. Why do people with HIV not initiate treatment? A qualitative meta-analysis for intervention design. Under review at *Social Science and Medicine*.

Kluberg S, Fox MP, LaValley M, Pillay D, Bärnighausen T, **Bor J**, Do ART eligibility expansions crowd out the sickest? Evidence from rural South Africa. In preparation for *TMIH*.

Kluberg S, Fox MP, LaValley M, **Bor J**. Fixed Dose Combination. In preparation for *International Journal of Epidemiology*.

Bor J, Nattey, et al. Rising CD4 counts at clinical presentation in South Africa: evidence from a novel national HIV cohort. In preparation for *AIDS*.

Conference Papers, and Reports

Bor J, Brennan A, Carmona S, Fox MP, Fraser N, Gorgens M, MacLeod W, Maskew M, Maughan-PAPERS, WORKING Brown B, Nattey C, Oleinik K, Pillay Y, Sherman G, Shubber Z, Stevens W (listed alphabetically). Towards 90-90-90: how close is South Africa to reaching the UNAIDS HIV treatment targets? December 2016. HE2RO-NHLS Policy Brief.

> MacLeod W, Bor J, Crawford K, Carmona S. Analysis of Big Data for better targeting of ART Adherence Strategies: Spatial clustering analysis of viral load suppression by South African province, district, sub-district and facility. November 2015. Department of Health, Republic of South Africa.

> Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Presented at the PopPov Conference, Addis Ababa, Ethiopia, June 2015, awarded "Best Paper Overall". Poster at Population Association of America Annual Meeting, San Diego CA, May 2015, awarded "Top poster". Poster at Northeast Universities Development Consortium Conference, Boston MA, Nov 2014. sites.bu.edu/neudc/files/2014/10/paper_211.pdf

> Bor J, Bärnighausen T. High stakes testing: chronic disease management in low resource settings. Presented at the 6th Annual Empirical Health Law Conference, 25 April 2015, Georgetown University, DC. Previous version: Bor J, Bärnighausen T. When to start ART: quasi-experimental evidence from South Africa. Presented at PAA 2015 San Diego; BU/Harvard/MIT Health Economics Seminar 2015; NEUDC 2014, Boston University, USA. http://paa2015.princeton.edu/uploads/151012

> Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the Population Association of America Annual Meeting, 2 May 2015, San Diego, CA. Presented at PopPov Conference, June 2015, Addis Ababa. Presented at International Health Economics Association Annual Meeting, July 2015, Milan. http://paa2015.princeton.edu/uploads/151126

> Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Poster at Northeast Universities Development Consortium Conference (NEUDC), Nov 2013, Harvard University, USA. Dissertation chapter: Bor J. Essays on the Economics of HIV/AIDS in Rural South Africa. Harvard University, School of Public Health, 2013, dissertation. editorialexpress.com/cgi-bin/conference/download.cgi?db_name=NEUDC2013&paper_id=214

> Bor J, Tanser F, Newell M-L, Bärnighausen T. Antiretroviral therapy as social protection: economic impacts of HIV treatment on South African households. Previous version presented as: Economic spillover effects of HIV treatment on households and communities, International AIDS and Economics Network Pre-Meeting, 21 July 2012, Washington DC. http://www.iaen.org/library/Presentation_4_Till_Barnighausen.pdf

> Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Nov 2012, Dartmouth College, USA. https://www.dartmouth.edu/~neudc2012/docs/paper_330.pdf

> Maughan-Brown B, Lloyd N, Bor J, Venkataramani A. (2015). Increasing access to HIV testing: Impacts on equity of coverage and uptake from a national campaign in South Africa. SALDRU Working Paper Series, Number 145. Southern Africa Labour and Development Research Unit, University of Cape Town, South Africa. https://ideas.repec.org/p/ldr/wpaper/145.html

> Bor J, MacLeod W, Hedberg C, Oosthuizen L, McLaren Z, Carmona S, Candy S. Pooled Facility Linking File: Linkage of National Health Laboratory Services Facility Codes to National Department of Health Facility Codes.

INVITED PRESENTATIONS

University of Pennsylvania School of Medicine, January 11 2018, "From universal access to universal treatment: the promises and pitfalls of HIV treatment as prevention."

Tufts School of Medicine, April 27 2017, "Evaluating the HIV care cascade using regression discontinuity designs."

Harvard Medical School, Lancet symposium: Inequality and Health in America, April 24 2017, "Population health in an era of rising income inequality: USA, 1980-2015."

Boston University School of Public Health, Lancet symposium: Inequality and Health in America, April 10 2017, "Population health in an era of rising income inequality: USA, 1980-2015."

Walter Rodney African Studies Seminar, African Studies Center, Boston University, April 3 2017, "From universal access to universal treatment: the promise and challenge of HIV treatment as prevention in South Africa."

Hariri Institute Junior Faculty Fellow Presentation, March 29 2017, "Building a South African National HIV cohort from routine laboratory data."

Boston University School of Public Health, Population Health Science Research Workshop, September 2016. "A social vaccine? HIV and the non-pecuniary returns to schooling in Botswana"

Harvard School of Public Health, Quality and Responsiveness Lab, Department of Global Health and Population, May 31 2016, "Quality of care in South Africa?s National HIV Care and Treatment Programme: initial work and research opportunities."

University of Belfast (UK), Department of Economics, April 29 2016, "High stakes testing: chronic disease management in low-resource settings."

Boston University School of Public Health, Department of Epidemiology, March 2016.

McGill University (Canada), Center on Population Dynamics, October 2015.

GrassrootSoccer Monitoring, Evaluation, and Research Group, August 2015.

Georgetown University, 6th Annual Empirical Health Law Conference, April 2015.

Boston University School of Public Health, Department of Epidemiology, March 2015.

BU-Harvard-MIT Health Economics Seminar, February 2015.

University of North Carolina - Chapel Hill Gillings School of Global Public Health. Causal Inference Research Group (CIRG), January 2015.

Harvard University. Causal Inference Seminar, Epidemiology, Harvard SPH, December 2014.

Boston University School of Public Health, Health Policy and Management, October 2014.

Boston University School of Public Health, Department of Biostatistics, October 2014.

University of Cape Town (South Africa). Regression Discontinuity Designs for Clinical and Population Health Research, 2-day workshop, Center for Infectious Disease Epidemiology Research (CIDER), August 18-20, 2014.

GrassrootSoccer Monitoring, Evaluation, and Research Group, October 2013.

Cambridge Health Alliance, Department of Medicine Grand Rounds, March 2013.

Partners In Health, Research Lunch, Boston, MA, November 2012.

Boston University School of Public Health, Center for Global Health and Development, October 2012.

Harvard University, Harvard-MIT Economic Development Seminar, October 2012.

Harvard Center for Population and Development Studies Seminar, November 2005.

Clingendael Institute (Netherlands). Expert Seminar on AIDS, Security & Democracy. May 2005.

Conference Presentations

Bor J, Venkataramani A, Williams D, Tsai A. Spillover effects of police killings and the mental health of African-Americans in the general U.S. population. Accepted for oral presentation at Population Association of America Annual Meeting, April 2018, Denver CO.

Bor J, Barofsky J, Flanagan D, Bärnighausen T. Beliefs about HIV treatment in the era of mass ART. Accepted for oral presentation at Population Association of America Annual Meeting, April 2018, Denver CO.

Bor J, MacLeod W, Oleinik K, et al., Sergio Carmona. Record linkage of national laboratory data in South Africa: a novel platform for HIV policy evaluation. IHEA. July 2017, Boston MA.

Griffith K, Evans L, Bor J. The Affordable Care Act Reduced Socioeconomic Disparities in Health Care Access. IHEA. July 2017, Boston, MA.

Bor J, Barofsky J, Zitha T, Seeley J, Bärnighausen T. Survival Expectations in the era of mass HIV treatment: a mixed methods study. IHEA. July 2017, Boston MA.

Moscoe E, Bor J, Tanser F, Pillay D, Bärnighuasen. Does HIV treatment availability encourage people to learn their HIV status? Accepted for poster presentation. Conference on Retroviruses and Opportunistic Infections (CROI), February 2017, Seattle, WA.

Bor J, De Neve JW. A Social Vaccine? HIV Infection, Fertility, and the Non-Pecuniary: Returns to Secondary Schooling in Botswana. Adolescence, Youth and Gender: Building Knowledge for Change. Young Lives. Department of International Development, University of Oxford. (oral presentation). September 2016.

Bor J, Nattey C, Maughan-Brown B, MacLeod W, Maskew M, Carmona S, Matt Fox. Rising CD4 counts at clinical presentation: evidence from a novel national database in South Africa (late breaking poster). International AIDS Conference, Durban, South Africa, July 2016.

Bor J, Brennan A, Fox MP, Maskew M, Stevens W, Carmona S, MacLeod W. District prevalence of unsuppressed HIV in South African Women: Monitoring Programme Performance and Progress Towards 90-90-90. (Oral). International AIDS Economics Network Pre-Conference, Durban, South Africa, July 2016.

Chiu C, Over M, Meyer-Rath G, Tanser F, Pillay D, Bärnighausen T, Bor J. Distance elasticity of demand for HIV treatment: sex disparities in utilization. (Oral). International AIDS Economics Network Pre-Conference, Durban, South Africa, July 2016.

- Bor J, Ahmed S, Fox MP, Rosen S, Katz I, Tanser F, Pillay D, Bärnighausen T. Eliminating CD4 thresholds in South Africa will not lead to large increases in persons receiving ART without further investment in testing, linkage and initiation. (Oral). International AIDS Conference, Durban, South Africa, July 2016.
- Bor J, Brennan A, Fox MP, Maskew M, Stevens W, Carmona S, MacLeod W. District prevalence of unsuppressed HIV in South African Women: Monitoring Programme Performance and Progress Towards 90-90-90. (Oral). International AIDS Conference, Durban, South Africa, July 2016.
- Chiu C, Bor J, Ahmed S, Katz I, Fox MP, Rosen S, Tanser F, Pillay D, Bärnighausen T. HIV treatment refusal in patients with high CD4 counts: evidence from demographic surveillance in rural KwaZulu Natal. (Poster). International AIDS Conference, Durban, South Africa, July 2016.
- Chiu C, Over M, Meyer-Rath G, Tanser F, Pillay D, Bärnighausen T, Bor J. Distance elasticity of demand for HIV treatment: sex disparities in utilization. (Poster). International AIDS Conference, Durban, South Africa, July 2016.
- Fox MP, Bor J, MacLeod W, Maskew M, Brennan A, Stevens W, Carmona S. Is retention on ART underestimated due to patient transfers? Estimating system-wide rentention using a national labs database in South Africa. (Oral). International AIDS Conference, Durban, South Africa, July 2016.
- Fraser N, MacLeod W, Bor J, Shubber Z, Carmona S, Gorgens M. Fast-tracking of the HIV response: Do the metros lead the way to reaching 90-90-90 in Soputh Africa? (Poster). International AIDS Conference, Durban, South Africa, July 2016.
- MacLeod WB, Fraser N, Bor J, Shubber Z, Carmona S, Pillay Y, Gorgens M. Analysis of age-and sexspecific HIV care cascades in South Africa suggests unequal progress towards UNAIDS 90-90-90 treatment targets. (Poster). International AIDS Conference, Durban, South Africa, July 2016.
- Maskew M, Bor J, MacLeod W, Carmona S, Sherman G, Fox MP. The youth treatment bulge in South Africa: increasing numbers, inferior outcomes among adolescents on ART. (Oral). International AIDS Conference, Durban, South Africa, July 2016.
- Maskew M, Hendrickson C, MacLeod W, Sanne I, Carmona S, Stevens W, Fox MP, Bor J. Utilizing laboratory data to impute ART start dates and monitor cohort treatment outcomes. (Poster). International AIDS Conference, Durban, South Africa, July 2016.
- Griffith K, Evans L, Bor J. Medicaid expansion and health care access disparities: evidence from the first year. (Oral). Agency for Healthcare Research and Quality 22nd Annual NRSA Research Trainees Conference, June 25, 2016.
- Bor J. Treated and Control Complier Means in Regression Discontinuity Designs. Society for Epidemiologic Research (SER) 2016 Congress of the Americas (Congress). Oral. Miami, FL. June 2016.
- Bor J, MacLeod W, Oleinik K, Candy S, Grobler J, Maskew M, Sanne I, Stevens W, Carmona S, Fox MP. Building a South African National HIV Cohort from routine laboratory data. Oral presentation at International Workshop on HIV/AIDS Observational Databases (IWHOD), Budapest, Hungary, April 2016.
- Bor J, De Neve JW. A Social Vaccine? HIV Infection, Fertility, and the Non-Pecuniary: Returns to Secondary Schooling in Botswana. 3rd Annual State of Global Health Symposium, Coming of Age: A Conference on Global Adolescent Health. Department of Global Health and Population, Harvard T.H. Chan School of Public Health. (poster). 29 March 2016.

- Maskew M, Bor J, Hendrickson C, MacLeod W, Bärnighausen T, Pillay D, Sanne D, Carmona S, Stevens W, Fox M. Imputing Clinical Records From Routine Laboratory Data: Date of ART Initiation. Poster at Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- Brennan A, Fox MP, Davies M-A, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Bärnighausen T, Wandeler G, Boulle A, Sikazwe I, Zanolini A, Bor J. Clinical Outcomes With Tenofovir Use in ART: Regression Discontinuity Analysis. Poster at Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- MacLeod W, Bor J, Fraser N, Shubber Z, Sanne I, Stevens W, Molapo T, Phokojoe M, Pillay Y, Carmona S. Measuring Viral Load Suppression in South Africa Using a Novel National Database. Poster presentation, Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- Bor J, Ahmed S, Fox MP, Rosen S, Tanser F, Pillay D, Bärnighausen T. Effect of eliminating CD4 thresholds on number of new ART initiators in South Africa. Themed Discussion at Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- Bor J, Fox MP, Rosen S, Venkataramani A, Tanser F, Pillay D, Bärnighausen T. The real world impact of CD4-eligibility criteria on retention in HIV care. Themed Discussion at Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- Kluberg S, Fox MP, Lavalley M, Pillay D, Bärnighausen T, Bor J. Does expanding ART eligibility criteria crowd out the sickest patients? Evidence from South Africa. Themed Discussion at Conference on Retroviruses and Infections (CROI), Boston, MA, February 2016.
- Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the International Health Economics Association Annual Meeting, Milan, Italy, July 2015.
- Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at PopPov Conference, Addis Ababa, June 2015.
- Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Presented at the PopPov Conference, Addis Ababa, Ethiopia, June 2015, awarded "Best Paper Overall".
- Bor J, Fox M, Rosen S, Tanser F, Pillay D, Bärnighausen. When to start? Without delay: the real world consequences of deferred HIV treatment eligibility for retention in care: a regression discontinuity study in rural South Africa. Poster at the Society for Epidemiologic Research Conference, Denver, July 2015.
- Brennan AT, Fox P, Davies M-A, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Bärnighausen T, Wandeler G, Boulle A, Sikazwe I, Zanolini A, Bor J. The effect of initiating Tenofovir on HIV treatment outcomes in adults in southern Africa: a regression discontinuity analysis. Poster at Society for Epidemiologic Research, Denver, June 2015.
- Bor J, Bärnighausen T. When to start ART: evidence from a regression discontinuity study in South Africa. Presented at Population Association of America Annual Meeting, San Diego, CA, May 2015.
- Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the Population Association of America Annual Meeting, San Diego, CA. May 2015.

- Bor J. Discussant: Education Issues in Africa. Population Association of America Annual Meeting, San Diego, CA, May 2015.
- Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Poster at Population Association of America Annual Meeting, San Diego CA, May 2015, awarded "Top poster".
- Haber N, Tanser F, Bor J, Naidu K, Mutevedzi T, Herbst K, Pillay D, Bärnighausen T. The HIV care and treatment cascade in rural South Africa: a longitudinal assessment beginning with infection. Population Association of America Annual Meeting, San Diego CA, May 2015.
- Dickman S, Woolhandler S, Bor J, McCormick D, Bor D, Himmelstein D. Fifty years of health spending by poor, middle-class, and wealthy Americans. Presented at SGIM, Toronto, April 2015.
- Bor J, Bärnighausen T. High stakes testing: chronic disease management in low resource settings. Presented at the 6th Annual Empirical Health Law Conference, Georgetown University, DC, 25 April 2015.
- Brennan AT, Bor J, Davies M-A, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Bärnighausen T, Wandeler G, Boulle A, Sikazwe I, Zanolini A, Fox M. The effect of initiating Tenofovir on HIV treatment outcomes in adults in southern Africa: a regression discontinuity analysis. Poster at International Workshop on HIV/AIDS Observational Databases, Sicily, March 2015.
- Bor J, Moscoe E, Chimbindi N, Herbst K, Naidu K, Tanser F, Pillay D, Bärnighausen T. The cost-effectiveness of early ART initiation in South Africa: a quasi-experiment. Presented at the Conference on Retroviruses and Infections (CROI), Seattle, WA, February 2015.
- Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Poster at Northeast Universities Development Consortium Conference, Boston MA, November 2014.
- Bor J, Bärnighausen T. When to start ART: quasi-experimental evidence from South Africa. Northeast Universities Development Consortium (NEUDC) Conference, Boston MA, November 2014.
- Bor J, Bärnighausen T. Regression-discontinuity designs for survival analysis. Poster at the Atlantic Causal Inference Conference, Brown University, Providence RI, May 2014.
- Bor J, Moscoe E, Mutevedzi P, Newell M-L, Bärnighausen T. The causal effect of delayed ART eligibility on survival and immune health: quasi-experimental evidence from rural South Africa. Poster at International Workshop on HIV/AIDS Observational Databases, Sitges, Spain, March 2014.
- Bärnighausen T, Herbst AJ, Newell ML, Tanser F, Bor J. Unequal benefits of HIV treatment: a growing male disadvantage in adult life expectancy in rural South Africa. Presented at the Conference on Retroviruses and Opportunistic Infections, March 2014, Boston MA.
- Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Poster at Northeast Universities Development Consortium Conference (NEUDC), Harvard University, Cambridge MA, November 2013.
- Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Presented at American Public Health Association Annual Meeting, Boston MA, November 2013.
- Bor J, T. Bärnighausen. Cash grants and HIV risk: evidence from South Africa's Old Age Pension.

Presented at Population Association of America Annual Meeting, New Orleans LA, May 2013.

Bor J, Herbst K, Newell M-L, Bärnighausen T. Large gains in adult life expectancy in rural KwaZulu-Natal and the scale-up of HIV treatment. Presented at American Public Health Association Annual Meeting, New Orleans LA, May 2013.

Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Nov 2012, Dartmouth College, USA.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Economic spillover effects of HIV treatment on households. Poster at AIDS 2012, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Nearly full recovery of employment among HIV patients on ART: evidence from a population cohort in rural South Africa, AIDS 2012, Washington DC, July 2012.

Bor J, Herbst K, Newell M-L, Bärnighausen T. Dramatic increases in population life expectancy and the economic value of ART in rural South Africa. Late breaking presentation at AIDS 2012, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Economic spillover effects of HIV treatment on households and communities, International AIDS and Economics Network Pre-Meeting, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Nearly full recovery of employment among HIV patients on ART: evidence from a population cohort in rural South Africa, International AIDS and Economics Network Pre-Meeting, Washington DC, July 2012.

Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Dartmouth College, Hanover NH, November 2012.

OTHER PROFESSIONAL EXPERIENCE United Kingdom Department of Energy and Climate Change (March 2016), consultant.

National Bureau of Economic Research (Jun 2010 – Aug 2013), research assistant for David Cutler on area education and health.

World Bank (Nov 2012 – June 2013), short term consultant on HIV prevention impact evaluation.

UNAIDS (Aug 2012 – Dec 2012), short term consultancy on returns to investment in HIV.

Africa Centre for Health and Population Studies, South Africa (2010-2011), visiting researcher.

Innovations for Poverty Action, Kenya (Jun – Aug 2008) evaluations coordinator for Pascaline Dupas and Jon Robinson.

GrassrootSoccer, Botswana, Lesotho, and South Africa (Dec 2005 – Dec 2006) programs coordinator for HIV prevention program.

AWARDS AND FELLOWSHIPS Winner of 2018 National Institutes of Health Office of Disease Prevention Early Career Investigator Lecture, 2018

Hariri Research Award: "Graph-based Approaches to Record Linkage in Large Datasets", 2016-2017

Boston University Clinical and Translational Science Institute (CTSI) Pilot Grant, 2016-2017

Hariri Institute for Computing, Junior Faculty Fellow, 2016-2017

Early Career Catalyst Award, Boston University School of Public Health, 2016-2017

Peter Paul Career Development Professorship, 2014-2017

Best Paper, PopPov Conference, 2015

Best Poster, Population Association of America Annual Meeting, 2015

1st Prize, Boston University SPH Research Day Junior Faculty Poster Session, 2013

1st Prize, GHP50 Symposium Poster Session, 2013

Harvard Committee on African Studies Summer Research Grant, 2012

Harvard Center for Population and Development Studies Dillon Family Fellowship, 2012

Harvard Global Health Institute, International Travel Fellowship in Support of Global Infectious Diseases Research, 2011-2012

Weatherhead Center Graduate Student Associate and Pre-Dissertation Grant, 2010-2011

Institute for Quantitative Social Science Research Grant, 2010-2011

Institute for Quantitative Social Science Graduate Student Associate, 2009-2011

Thomas J. Hoopes Prize for outstanding scholarly research, for Harvard College Thesis, 2005

Benjamin A. Trustman Fellowship for post-graduate travel, 2005

COMPLETED RESEARCH SUPPORT

Peter T. Paul Career Development Professorship Bor (PI) Role: PI 2014-2017 Boston University \$120K

Career development award for three years of research start up and partial salary coverage. Awarded to three junior faculty each year from across Boston University.

Clinical and Translational Science Institute Pilot Grant Program Bor (PI) 2016-2017 Boston University $$10{\rm K}$$

Partial funding to support pilot project: Regression discontinuity designs to establish clinical effectiveness and cost-effectiveness of chronic disease care in the VA health system.

Early Career Catalyst Award Bor (PI) 2016-2017 Boston University \$10K

Partial funding to support pilot project: Regression discontinuity designs to establish clinical effectiveness and cost-effectiveness of chronic disease care in the VA health system.

MacLeod (PI) Role: Co-I 2015 World Bank \$84K

Secondary Analysis of South African Viral Load, CD4 count and other HIV Care Cascade Data. Analysis of national labs data in support of a World Bank study on adherence interventions.

AID674-A-12-00029 Long/Rosen (PI) Role: Co-I 2013-2017 USAID/South Africa \$2.2M INROADS: Innovations Research on HIV/AIDS. Cooperative agreement between Boston University and the University of Witwatersrand to conduct applied epidemiologic and economic research to evaluate South Africa's national HIV and TB care and treatment programs.

AID674-A-12-00020 RTC/MacLeod (PI) Role: Co-I 2013-2014 USAID/South Africa $\$333\mathrm{K}$

Monitoring and Evaluation of the Effectiveness of the Comprehensive Care, Management, and Treatment (CCMT) program for HIV/AIDS in South Africa using National Health Laboratory Service (NHLS) Data. Cooperative agreement between Right to Care (RTC) and Boston University to use NHLS data to monitor and evaluate South Africa's national HIV treatment and care program.

Bor/Bärnighausen (PI) Role: Co-PI 2012-2013 The Rush Foundation \$30K

Economic Spillover Effects of ART in Rural South Africa: Evidence from a Population Cohort. This grant supported research on economic spillover effects of HIV treatment using data from the Africa Centre for Health and Population Studies.

Bärnighausen (PI) Role: Co-I 2012-2013 Harvard Center for Population and Development Studies \$12K

Seed Grant: ART Knowledge and Subjective Life Expectancy. Preliminary qualitative research to field test a survey instrument on subjective expectations and investigate young adults' life plans in the age of ART. Research conducted at the Africa Centre for Health and Population Studies.

ONGOING RESEARCH SUPPORT

K01 MH105320-01A1 Bor (PI) Role: PI 2015-2019 NIH \$570K

Economic, Health and Behavioral Dimensions of HIV Treatment Scale-Up. NIH K01 Career Development Award to train in advanced methods for causal inference and mixed methods study designs, and to evaluate the spillover effects of HIV treatment scale-up on economic, health, and behavioral outcomes.

R01 AI115979-01 Fox/Maskew (PI) Role: Co-I 2015-2020 NIH \$1.6M

Analysis of National Lab Database to evaluate the HIV treatment rollout in South Africa. R01 to develop the capabilities of the South African National Labs data to be analyzed as a national patient cohort and to assess HIV care and treatment outcomes in this dataset.

R01 HD084233-01 Bärnighausen/Tansesr (PI) Role: Co-I 2015-2020 NIH \$2.5M

Causal Pathways to Population Health Impact of HIV Antiretroviral Treatment. R01 to assess the pathways to population survival and prevention benefits of HIV treatment in rural South Africa, where we have previously demonstrated large impacts on both longevity and infection rates. The grant will investigate gaps in the cascade of care that contribute to the lingering mortality burden, and behavioral and biological responses to treatment that influence onward transmission.

Hariri Institute Research Award Bor (PI) Role: PI 2016-2017 Boston University \$32K Computer science research assistance support for collaborative project, "Graph-based Approaches to Record Linkage in Large Datasets" with Prof. George Kollios in Computer Science department.

TEACHING Boston University

 $Faculty\ Instructor,$ PH 843, Introduction to Quantitative Analysis for Health Services and Public Health Research, Fall 2015 & Fall 2016

Course development, PH 843, Introduction to Quantitative Analysis for Health Services and Public Health Research, Spring 2015

Faculty Instructor, PH 854 Program and Policy Evaluation, Spring 2014

Guest lecturer, Epi 854 Advanced Epidemiology (Spring 2016, 2 sessions); GHP 255 HIV Interventions (Harvard School of Public Health, Fall 2015); BS 728 Public Health Surveillance (Fall 2015); PH 854 Program and Policy Evaluation (Spring 2015), Epi 860 Novel Methods in Epidemiology (Spring 2014)

Harvard University

TA, GHP 525, Econometrics for Health Policy (Günther Fink), Spring 2011, Spring 2012.

TA and curriculum development, GHP 272, Foundations in Global Health and Population (Barry Bloom & Till Bärnighausen), Fall 2011.

TA, GHP 526, Research in Global Health and Population (David Canning), Fall 2009.

TA, GHP 291, Microeconomics & Applications to Public Health (Ajay Mahal) Spring 2009.

TF, Anthro 1825, Global Health Case Studies (Paul Farmer, Jim Kim, Arthur Kleinman), Fall 2008. Derek Bok Center Award for Distinction in Teaching, 2008

MENTORSHIP Boston University

Kevin Griffith, Health Services Research, Doctoral committee member, 2015 - present.

Sheryl Gordon Kluberg, Epidemiology, Doctoral committee member, 2014 - 2017. First post-doctoral employment: Abt Associates.

Alana Brennan, Epidemiology, Doctoral committee member, 2013 - 2016. Winner of "2016 Carol Buck Student Prize Paper Award" from the Epidemiology Congress of the Americas. First post-doctoral employment: Instructor, BUSPH.

Jordana Mangan, Epidemiology, MPH Practicum advisor, 2015

Anna Tanasijevic, MPH Practicum advisor, 2016

CITIZENSHIP Committees at Boston University

Population Health Program Lead, Human Capital Initiative, Boston University Global Development Policy Research Center, 2018 – present

Chair, Faculty Search Committee, Department of Global Health, School of Public Health, 2018 – present

Vice-Chair, Faculty Senate, School of Public Health, 2018 – present

Representative At Large, Faculty Senate, 2015 – present

Curator, with Nafisa Halim of DGH/CGHD Scientific Meetings and Work-in-Progress Seminars, 2016-2017

Director, CGHD Graduate Research Affiliate Program (G-RAP), 2015-2016

Director, Global Health Research Core, 2015-2016

Member, Health Law, Policy, and Management Dept Chair Search Committee, 2015-2016

Member, BUSPH Strategic Thinking Inquiry Group: Foci of Research Excellence, 2015-2016

Chair, Center for Global Health and Development Strategic Vision Committee, 2015

Member, Zambia Data Integrity Committee, 2014

Member, Committee to Develop Advanced Monitoring and Evaluation Syllabus, 2014

Participant, Academy for Faculty Advancement, 2014-2015

Service Memberships

American Economics Association, Population Association of America

Peer review

Epidemiology (3 per year), International Journal of Epidemiology (3 per year), American Journal of Epidemiology, Journal of Development Economics, Economics and Human Biology, Journal of Human Resources, JAIDS, AIDS, Journal of the International AIDS Society (3 per year), AIDS Care, Health Affairs, Health Services Research, PLOS Medicine, PLOS One, Scandinavian Journal of Statistics, International Journal of Health Services, Social Science and Medicine, Conference on Retroviruses and Opportunistic Infections 2016-2018, International AIDS Conference 2012.

Conferences convened

Second Annual Population Health Sciences Research Workshop (PHS2017), Boston University School of Public Health, October 19-20, 2017

First Annual Population Health Sciences Research Workshop (PHS2016), Boston University School of Public Health, September 23, 2016

Other Service Activities

National Health Laboratory Service (NHLS)

- Construction of facility linking file for South Africa's national laboratory database to Department of Health facility identifiers, Spring 2014 Fall 2015.
- Construction of record linkage algorithm to enable construction of unique patient identifier for South Africa's full laboratory database, Spring 2015 present.
- Adaptation and integration of record linkage algorithm into NHLS's Central Data Warehouse information systems to enable real-time updating, Spring 2016 – present.
- Development of facility catchment areas using NHLS address data. Spring 2016 present.