Jessie K. Edwards

ACADEMIC APPOINTMENTS

University of North Carolina at Chapel Hill

University of North Carolina at Chapet 11th	
Associate Professor, Department of Epidemiology	2022 – present
Assistant Professor, Department of Epidemiology	2020 – present
Research Assistant Professor, Department of Epidemiology	2015 – 2020
Postdoctoral Research Associate, Department of Epidemiology	2013 - 2015
EDUCATION	
PhD Epidemiology, University of North Carolina at Chapel Hill	2013
MSPH Epidemiology, University of North Carolina at Chapel Hill	2010
BS International Affairs, Georgia Institute of Technology	2007
AWARDS	
Reviewer of the year American Journal of Epidemiology	2015
Berton H. Kaplan Student Publication Award University of North Carolina at Chapel Hill	2013
Sidney Kark Award for Distinguished Teaching Assistant University of North Carolina at Chapel Hill	2013
Delta Omega Public Health Honor Society, Theta Chapter	2013
Society for Epidemiologic Research Student Poster Award	2012
Graduate Merit Assistantship University of North Carolina at Chapel Hill	2008–2009
President's Scholarship	2003–2007

PUBLICATIONS

PEER REVIEWED PAPERS

Georgia Institute of Technology

*Zalla LC, Cole SR, Eron JJ, Adimora AA, Vines AI, Althoff KN, Silverberg MJ, Horberg MA, Marconi VC, Coburn SB, Lang R, Williams EC, Gill MJ, Gebo KA, Klein M, Sterling TR, Rebeiro PF, Mayor AM, Moore RD, Edwards JK. Association of Race and Ethnicity With Initial Prescription of Antiretroviral Therapy Among People With HIV in the US. JAMA. 2023;329(1):52-62

- 2. *Mulholland GE, Herce ME, Bahemuka U, Kwena ZA, Kidola J, Okech BA, Bukusi E, Okello ES, Nanyonjo G, Ssetaala A, Seeley J, Emch M, Pettifor A, Weir SS, Edwards JK. Geographic mobility and treatment outcomes among people in care for tuberculosis in the Lake Victoria region of East Africa: a multi-site prospective cohort study. PLOS Glob Public Health. 2023; In Press
- 3. Chen D, Sandler DP, Keil AP, Heiss G, Whitsel EA, Edwards JK, Stewart PA, Stenzel MR, Groth CP, Ramachandran G, Banerjee S, Huynh TB, Jackson B, Blair A, Lawrence KG, Kwok RK, Engel LS. Volatile hydrocarbon exposures and incident coronary heart disease events; up to 10 years of follow-up among Deepwater Horizon oil spill workers. Environmental Health Perspectives. 2023; *In Press*
- 4. Lemasters K, Renson A, Zalla LC, Martin C, **Edwards JK**. Understanding the accumulation of health-related inequities over the life course using the mean cumulative count. American Journal of Epidemiology. 2023; *In Press*
- 5. Edmonds A, Haley DF, **Edwards JK**, Ramirez C, French AL, Tien PC, Plankey M, Sharma A, Augenbraun M, Seaberg EC, Workowski K. Health Insurance and Initiation of Direct-Acting Antivirals for Hepatitis C in US Women with HIV. Clinical Infectious Diseases. 2023; *In Press*
- 6. Jetsupphasuk M, Hudgens MG, Lu H, Cole SR, Edwards JK, Adimora AA, Althoff KN, Silverberg MJ, Rebeiro PF, Lima VD, Marconi VC, Sterling TR, Horberg MA, Gill MJ, Kitahata MM, Moore RD, Lang R, Gebo K, Rabkin C, Eron JJ. Optimizing Treatment for Human Immunodeficiency Virus to Improve Clinical Outcomes Using Precision Medicine. American journal of epidemiology. 2023; In Press
- 7. Cole SR, Zivich PN, **Edwards JK**, Shook-Sa BE, Hudgens MG. Sensitivity Analyses for Missing Outcome Data. Epidemiology. 2023; *In Press*
- 8. Cassidy CA, Vias NP, **Edwards JK**, Xiong K, Beatty Parker C, Aiello AE, Boyce RM, Shook-Sa BE. Accounting for outcome misclassification in complex sampling designs: estimation of SARS-CoV-2 seroprevalence in central North Carolina. Epidemiology. 2023; *In Press*
- 9. Zivich P, Cole SR, **Edwards JK**, Mulholland G, Shook-Sa BE, Tchetgen-Tchetgen EJ. Introducing Proximal Causal Inference for Epidemiologists. American Journal of Epidemiology. 2023: *In press*
- 10. Cole SR, Zivich PN, Edwards JK, Ross RK, Shook-Sa BE, Price JT, Stringer JSA. Missing Outcome Data in Epidemiologic Studies. American Journal of Epidemiology. 2023 Jan;192(1):6-10.
- 11. Ross RK, Keil AP, Cole SR, **Edwards JK**, Stringer JSA. A Warning About Using Predicted Values to Estimate Descriptive Measures. American Journal of Epidemiology. 2023 May;192(5):840-3
- 12. **Edwards JK**, Cole SR, Shook-Sa BE, Zivich PN, Zhang N, Lesko CR. When does differential outcome misclassification matter for estimating prevalence? Epidemiology. 2023; 34(2):p 192-200
- 13. Lemasters K, Delamater P, Brinkley-Rubinstein L, **Edwards JK**, Robinson WR, Pence B. Mass probation: Temporal and geographic correlation of county-level probation rates & mental health in North Carolina. SSM Mental Health. 2023; 3: 100189
- 14. Chen D, Sandler DP, Keil AP, Heiss G, Whitsel EA, Pratt GC, Stewart PA, Stenzel MR, Groth CP, Banerjee S, Huynh TB, **Edwards JK**, Jackson WB, Engeda J, Kwok RK, Werder EJ, Lawrence KG, Engel LS. Fine particulate matter and incident coronary heart disease events up to 10 years of follow-up among Deepwater Horizon oil spill workers. Environmental Research. 2023; 217:114841
- 15. Lemasters K, Renson A, **Edwards JK**, Robinson WR, Brinkly-Rubenstein L, Delamater P, Pence B. Inequities in Life Course Involvement in the Criminal Legal System: Measuring

- Cumulative Involvement. Annals of Epidemiology. 2022; In press
- 16. Gaber CE, Shaheen NJ, **Edwards JK**, Sandler RS, Nichols HB, Sanoff HK, Lund JL. Trimodality therapy vs definitive chemoradiation in older adults with locally advanced esophageal cancer. JNCI Cancer Spectrum. 2022 Dec;6(6):pkaco69
- 17. **Edwards JK**, Wohl D. Dying at Home Due to COVID-19. Open Forum for Infectious Diseases. 2022; 9(9): ofac439
- 18. Gaber CE, **Edwards JK**, Lund JL, Peery AF, Richardson DB, Kinlaw AC. Inverse probability weighting to estimate exposure effects on the burden of recurrent outcomes in the presence of competing events. American Journal of Epidemiology. 2022; 2023 May;192(5):830-9.
- 19. Filiatreau LM, Zivich PN, **Edwards JK**, Mulholland GE, Max R, Westreich D, Optimizing SARS-CoV-2 pooled testing strategies through differentiated pooling for distinct groups. American Journal of Epidemiology. 2023 Feb;192(2):246-56
- 20. Gaber CE, Shaheen NJ, Sandler RS, Edwards JK, Nichols HB, Sanoff HK, Lund JL. Patterns of care among older adults diagnosed with locally advanced esophageal cancer eligible for trimodal therapy. Journal of Geriatric Oncology. 2022 Nov 1;13(8):1178-87
- 21. Lesko CR, **Edwards JK**, Hanna DB, Mayor AM, Silverberg MJ, Horberg M, Rebeiro PF, Moore RD, Rich AJ, McGinnis KA, Buchacz K, Crane HM, Rabkin CS, Althoff KN, Poteat TC. Longitudinal HIV care continuum by gender identity in the United States. AIDS. 2022; Nov 1;36(13):1841-9
- 22. Ross RK, Cole SR, Westreich D, **Edwards JK**, Musonda P, Kasaro M, Price J, Stringer JSA. Different effects for different questions: an illustration using short cervix and the risk of preterm birth. International Journal of Gynecology and Obstetrics. 2023; Mar 160(3):842-9.
- 23. Lesko CR, Fox MP, **Edwards JK**. A framework for descriptive epidemiology. American Journal of Epidemiology. 2022; Dec;191(12):2063-70
- 24. Stebbins R, Maselko J, Yang YC, Plassman BL, **Edwards JK**, Aiello AE. Lifecourse Traumatic Events and Cognitive Aging in the Health and Retirement Study. American Journal of Preventative Medicine. 2022; Nov 1;63(5):818-26
- 25. **Edwards JK**, Cole SR, Breger TL, Filiatreau LM, Zalla L, Mulholland GE, Horberg MA, Silverberg MJ, Gill JM, Rebeiro PF, Thorne JE, Kasaie P, Marconi VC, Sterling TR, Althoff KN, Moore RD, Eron JJ. Mortality for adults entering HIV care under universal early treatment compared to the general US population. Clinical Infectious Diseases. 2022; 2022 Sep;75(5):867-874
- 26. Richardson DB, Keil AP, **Edwards JK**, Cole SR, Tchetgen Tchetgen EJ. A Bespoke Instrumental Variable Approach to Correction for Exposure Measurement Error. American Journal of Epidemiology. 2022; Oct 20;191(11):1954-61.
- 27. St. Jean DT, **Edwards JK**, Rogawski ET, Thompson P, Thomas JC, Becker-Dreps S. Transporting monovalent rotavirus vaccine efficacy estimates to an external target population: a secondary analysis of data from a randomized controlled trial in Malawi. Epidemiology and Infection. 2023; 2023 Feb 27:1-23.
- 28. Park LS, McGinnis KA, Gordon KS, Justice AC, Leyden W, Silverberg MJ, Skarbinski J, Jefferson C, Horberg M, Certa J, Napravnik S, **Edwards JK**, Westreich D, Bastarache L, Gangireddy S, Benning L, D'Souza G, Williams C, Althoff KN. SARS-CoV-2 testing and positivity among persons with and without HIV in 6 United States cohorts. Journal of Acquired Immune Deficiency Syndromes. 2022; 90(3):249-255
- 29. St Jean DT, McQuade ET, **Edwards JK**, Thompson P, Thomas J, Becker-Dreps S. Effect of early life antibiotic use on serologic responses to oral rotavirus vaccine in the MAL-ED birth cohort study. Vaccine. 2022 Apr 20;40(18):2580-7.
- 30. Zivich PN, Shook-Sa BE, Edwards JK, Cole SR, Westreich D. On the use of covariate supersets

- for identification conditions. Epidemiology. 2022; 33(4):559-62
- 31. Chapinta D, Pettifor A, **Edwards JK**, Giovenco D, Topazian HM, Bray RM, Millington MC, Estill J, Keiser O, Justman JE. Access to social protection by people living with, at risk of, or affected by HIV in Eswatini, Malawi, Tanzania, and Zambia results from Population-Based HIV Impact Assessments. Journal of the International AIDS Society. 2022; 26, 3068–3078
- 32. Cole SR, **Edwards JK**, Breskin A, Rosin S, Zivich PN, Shook-Sa BE, Hudgens MG. Illustration of Two Fusion Designs and Estimators. American Journal of Epidemiology. 2023 Mar;192(3):467-74.
- 33. Romo ML, **Edwards JK**, Semeere AS, Musick BS, Urassa M, Odhiambo F, Diero L, Kasozi C, Murenzi G, Lelo P, Wyka K, Kelvin EA, Sohn AH, Wools-Kaloustian KK, Nash D. Viral load status before switching to dolutegravir-containing antiretroviral therapy and associations with HIV treatment outcomes in sub-Saharan Africa. Clinical Infectious Diseases. 2022; 2022 Aug 15;75(4):630-7
- 34. **Edwards JK**, Donastorg Y, Zadrozny S, Hileman S, Gomez H, Seamans MJ, Herce ME, Ramirez E, Barrington C, Weir S. A two-stage approach for rapid assessment of the proportion achieving viral suppression using routine clinical data. Epidemiology. 2022; 33 (5), 642-649
- 35. Mitchell CL, Janko MM, Mwandagalirwa MK, Tshefu AK, **Edwards JK**, Pence BW, Juliano JJ, Emch M. Impact of extractive industries on malaria prevalence in the Democratic Republic of the Congo: a population-based cross-sectional study. Scientific Reports. 2022; 12(1):1-9.
- 36. Htoo PT, Buse J, Cavender M, Wang T, Pate V, Edwards JK, Stürmer T. Cardiovascular Effectiveness of Sodium-Glucose Cotransporter 2 Inhibitors and Glucagon-Like Peptide-1 Receptor Agonists in Older Patients in Routine Clinical Care With or Without History of Atherosclerotic Cardiovascular Diseases or Heart Failure. Journal of the American Heart Association. 2022 Feb 15;11(4):e022376.
- 37. Romo ML, Patel RC, **Edwards JK**, Humphrey JM, Musick BS, Bernard C, Maina M, Brazier E, Castelnuovo B, Penner J, Wyka J, Wagner Cardoso S, Sun Ly P, Kunzekwenyika C, Cortés CP, Panczak R, Kelvin EA, Wools-Kaloustian KK, Nash D. Disparities in dolutegravir uptake among females of reproductive age with HIV in low- and middle-income countries following initial concerns about teratogenicity: an observational study. Annals of Internal Medicine. 2022; 175:84-94
- 38. Rudolph JE, Cole SR, **Edwards JK**, Whitsel EA, Serre ML, Richardson DB. Association between annual concentrations of particulate matter and mortality rates: using data linkage and Bayesian Maximum Entropy to target all contiguous US counties. Epidemiology. 2021 Nov 1;33(2):157-66.
- 39. Westreich D, **Edwards JK**, Tennant PWG, Murray EJ, van Smeden M. Choice of outcome in COVID-19 studies and implications for policy: mortality and fatality. American Journal of Epidemiology. 2022; 191(2):282-6
- 40. Mitchell CL, Ngasala B, Janko MM, Chacky F, Edwards JK, Pence BW, et al. Evaluating malaria prevalence and land cover across varying transmission intensity in Tanzania using a cross-sectional survey of school-aged children. Malaria Journal. 2022;21(1):80.
- 41. Lu H, Cole SR, Westreich D, Hudgens MG, Adimora AA, Althoff KN, Silverberg MJ, Buchacz K, Li J, Edwards JK, Rebeiro PF, Lima VD, Marconi VC, Sterling TR, Horberg MA, Gill MJ, Kitahata MM, Eron JJ, Moore RD. Virologic outcomes among adults with HIV using integrase strand transfer inhibitor-based antiretroviral therapy: a collaboration of cohort studies. AIDS. 2022 Feb 1;36(2):277-86.
- 42. *Zalla LC, Mulholland GE, Filiatreau LM, **Edwards JK**. Racial/Ethnic and Age Differences in the Direct and Indirect Effects of the COVID-19 Pandemic on US Mortality. American

- journal of public health. 2022 Jan;112(1):154-64.
- 43. Shangase N, **Edwards JK**, Pence B, Aiello A, Hussong A, Gómez-Olivé X, Kahn K, Stoner M, Pettifor A. Effect of quality of caregiver-adolescent relationship on sexual debut, transactional sex and on age-disparate relationships among young women in rural South Africa enrolled in HPTN 068. JAIDS Journal of Acquired Immune Deficiency Syndromes. 2022 89(4): 366-373
- 44. **Edwards JK**, Cole SR, Breger T, Rudolph J, Filiatreau L, Buchacz K, Humes E, Rebeiro P, DSouza G, Gill MJ, Silverberg M, Mathews WC, Horberg M, Thorne J, Hall HI, Justice A, Marconi V, Lima V, Bosch R, Sterling T, Althoff K, Moore RD, Saag M, Eron J. Mortality among people entering HIV care compared to the general US population: an observational study. Annals of Internal Medicine. 2021; 174 (9), 1197-1206
- 45. Herce ME, Chagomerana MB, Zalla LC, Carbone NB, Chi BH, Eliya MT, Phiri S, Topp SM, Kim MH, Wroe EB, Chilangwa C, Chinkonde J, Mofolo IA, Hosseinipour MC, **Edwards JK**. Community-facility linkage models and maternal and infant health outcomes in Malawi's PMTCT/ ART program: A cohort study. PLoS Medicine. 2021; Sep 17;18(9):e1003780.
- 46. Miller EM, Law EA, Ajeen R, Karasik J, Mendoza C, Abernathy H, Garrett H, King E, Wallace J, Zelek M, Edwards JK, Xiong K, Beatty C, Fleischauer AT, Ciccone EJ, Shook-Sa BE, Aiello AE, Boyce RM. SARS-CoV-2 infection in central North Carolina: Protocol for a population-based longitudinal cohort study and preliminary participant results. PLOS ONE. 2021;16(10):e0259070.
- 47. *Mulholland GE, Markiewicz M, Arimi P, Ssengooba F, Weir S, **Edwards JK**. HIV prevalence and the HIV treatment cascade among female sex workers in cross-border areas in East Africa. AIDS and Behavior. 2021; Aug 11:1-3
- 48. Giovenco D, Pettifor A, Powers KA, Hightow-Weidman L, Pence BW, **Edwards JK**, Gill K, Morton JF, van der Straten A, Celum C, Bekker LG. The Effect of PrEP Use Disclosure on Adherence in a Cohort of Adolescent Girls and Young Women in South Africa. AIDS and Behavior. 2021; Sep 3:1-0
- 49. Stebbins R, Edwards JK, Plassman BL, Yang YC, Noppert GA, Haan M, Aiello AE. Immune Function, Cortisol, and Cognitive Decline & Dementia in an Aging Latino Population. Psychoneuroendocrinology. 2021; Nov 1;133:105414.
- 50. Sumner KM, Mangeni JN, Obala AA, Freedman E, Abel L, Meshnick SR, **Edwards JK**, Pence BW, Prudhomme-O'Meara W, Talor SM. Impact of asymptomatic Plasmodium falciparum infection on the risk of subsequent symptomatic malaria in a longitudinal cohort in Kenya. eLife. 2021; Jul 23;10:e68812.
- 51. Lesko CR, Hutton HE, **Edwards JK**, McCaul ME, Fojo AT, Keruly JC, Moore RD, Chander G. Alcohol use disorder and recent alcohol use and HIV viral non-suppression among people engaged in HIV care in an urban clinic, 2014-2018. AIDS and Behav, 2021; Oct 9:1-9.
- 52. Sumner KM, Freedman E, Mangeni JN, Obala AA, Abel L, **Edwards JK**, Emch M, Meshnick SR, Pence BW, Prudhomme-O'Meara W, Taylor SM. Exposure to diverse Plasmodium falciparum genotypes shapes the risk of symptomatic malaria in incident and persistent infections: A longitudinal molecular epidemiologic study in Kenya. Clinical Infectious Diseases. 2021; 73(7):1176-1184
- 53. Topazian HM, Gumbo A, **Edwards JK**, Brandt K, Goel V, Kayange M, Mvalo T, Emch M, Pettifor A, Smith JS, Juliano JJ, Hoffman I. Effectiveness of a National Mass Distribution Campaign of Long-Lasting Insecticide-Treated Nets on Clinical Malaria in Malawi, 2018-2020. BMJ Global Health. 2021; May 1;6(5):e005447.
- 54. Gaber CE, Kinlaw AC, **Edwards JK**, Lund JL, Stürmer T, Peacock Hinton S, Pate V, Bartelt LA, Sandler RS, Peery AF. Comparative Effectiveness and Harms of Antibiotics for Outpatient Diverticulitis: Two Nationwide Cohort Studies. Annals of Internal Medicine. 2021; 174(6),

- 737-746
- 55. Breskin A, Cole SR, **Edwards JK**, Brookmeyer R, Eron JJ, Adimora AA. Fusion Designs and Estimators for Treatment Effects. Statistics in Medicine. 2021; 40 (13), 3124-3137
- 56. Chagomerana MB, **Edwards JK**, Zalla LC, Carbone NB, Banda GT, Mofolo IA, Hosseinipour MC, Herce ME. Timing of HIV testing among pregnant and breastfeeding women and risk of mother-to-child HIV transmission in Malawi: A sampling-based cohort study. Journal of the International AIDS Society. 2021. Mar;24(3):e25687.
- 57. Mollan KR, Pence BW, Xu S, **Edwards JK**, Mathews WC, O'Cleirigh C, Crane HM, Eaton EF, Collier AC, Weideman AMK, Westreich D, Cole SR, Tierney C, Bengston AM. Transportability from randomized trials to clinical care: On initial HIV treatment with efavirenz and suicidal thoughts or behaviors. American Journal of Epidemiology. 2021: 190 (10); 2075-2084
- 58. Filiatreau LM, Pettifor A, **Edwards JK**, Masilela N, Twine R, Gomez-Olive FX, Haberland N, Kabudula CW, Lippman SA, Kahn K. Associations Between Key Psychosocial Stressors and Viral Suppression and Retention in Care Among Youth with HIV in Rural South Africa. AIDS and Behavior. 2021 Feb 24:1-1.
- 59. Brazeau NF, Mitchell CL, Morgan AP, Deutsch-Feldman M, Watson OJ, Thwai KL, Gelabert P, van Dorp L, Keeler CY, Waltmann A, Emch M, Gartner V, Redelings B, Wray GA, Mwandagalirwa MK, Tshefu AK, Likwela JL, **Edwards JK**, Verity R, Parr JB, Meshnick SR, Juliano JJ. The epidemiology of Plasmodium vivax among adults in the Democratic Republic of the Congo. Nature Communications. 2021 Jul 7;12(1):1-0.
- 60. *Zalla L, **Edwards JK**, Cole SR, Rudolph JE, Breger TL, Virkud A, Satcher Johnson A, Hall HI. Data Movies of Demographic Trends in US HIV Diagnoses, 2008-2017. American Journal of Public Health. 2021; 111(4): 529-532
- 61. Stoner MCD, **Edwards JK**, Westreich D, Kilburn K, Ahern J, Lippman SA, Gomez-Olive X, Kahn K, Pettifor A. Modelling cash plus other psychosocial and structural interventions to prevent HIV among girls of school age in South Africa (HPTN 068). AIDS and Behavior. 2021; 25: 133–143
- 62. Frascino NY, **Edwards JK**, Herce ME, Maselko J, Pettifor AE, Mbeye N, Weir SS, Pence BW. Differences in Access to HIV Services and Risky Sexual Behaviors Among Malawian Women at Social Venues Who Do and Do Not Engage in Sex Work. AIDS and Behavior. 2021 May 13:1-9.
- 63. Rudolph JE, **Edwards JK**, Naimi AI, Westreich DJ. Simulation in practice: the balancing intercept. American Journal of Epidemiology. 2021; 190(8): 1696-1698
- 64. Albert LM, **Edwards JK**, Pence B, Speizer IS, Hillis S, Kahn K, Gómez-Olivé FX, Wagner RG, Twine R, Pettifor A. Associations of father and adult male presence with first pregnancy and HIV infection: Longitudinal evidence from adolescent girls and young women in rural South Africa (HPTNo68). AIDS and Behavior. 2021; 25(7):2177-94
- 65. *Zalla LC, Martin CL, **Edwards JK**, Gartner DR, Noppert GA. A Geography of Risk: Structural Racism and COVID-19 Mortality in the United States. American Journal of Epidemiology. 2021; 190(8): 1439-1446
- 66. Cole SR, Edwards JK, Breskin A, Hudgens MG. Comparing Parametric, Semiparametric, and Nonparametric Estimators: The Weibull Trials. American Journal of Epidemiology. 2021; 190(8): 1643-1651
- 67. Stoner MCD, Westreich D, Ahern J, **Edwards JK**, Gomez-Olive X, Tollman SM, Lippman S, Kahn K, Pettifor A. Modeling combination interventions to prevent HIV in adolescent girls and young women in South Africa (HPTN 068). Clinical Infectious Diseases. 2021: 73 (7); e1911-e1918
- 68. Lu H, Cole SR, Westreich D, Hudgens MG, Adimora A, Althoff KN, Silverberg MJ, Buchacz

- K, Li J, **Edwards JK**, Rebeiro PF, Lima VD, Marconi VC, Sterling TR, Horberg MA, Gill MJ, Kitahata MM, Eron JJ, Moore RD. Clinical effectiveness of integrase strand transfer inhibitor-based antiretroviral regimens among adults with human immunodeficiency virus: a collaboration of cohort studies in the United States and Canada. Clinical Infectious Diseases. 2021: 73 (7); e1408-e1414
- 69. Cole SR, **Edwards JK**, Greenland S. Surprise!. American Journal of Epidemiology. 2021; 190(2):191-3
- 70. Deutsch-Feldman M, Parr JB, Keeler C, Brazeau NF, Goel V, Emch M, Edwards JK, Kashamuka M, Tshefu AK, Meshnick SR. What is the burden of malaria in the DRC? Journal of Infectious Diseases. 2021; 223(11): 1948-1952
- 71. Topazian HM, Gumbo A, Puerto-Meredith S, Njiko R, Kayange M, Mwalilino D, Mvula B, Tegha G, Mvalo T, **Edwards JK**, Emch M, Pettifor A, Smith J, Hoffman I, Meshnick SR, Juliano JJ. Hidden Reservoir: Asymptomatic Plasmodium falciparum Malaria Prevalence among Adolescents and Adults in Malawi, 2015-2016. Scientific Reports. 2020; 10(1):1-1.
- 72. Richardson DB, Keil AP, Cole SR, **Edwards JK**. Reducing Bias Due to Exposure Measurement Error Using Disease Risk Scores. American Journal of Epidemiology. 2020; 190(2):191-3.
- 73. Webster-Clark M, Stürmer T, **Edwards JK**, Poole C, Simpson RJ, Lund JL. Real-World On-Treatment and Initial Treatment Absolute Risk Differences for Dabigatran vs Warfarin in Older US Adults. Pharmacoepidemiology and Drug Safety. 2020; 29(8):832-41
- 74. Cole SR, **Edwards JK**, Naimi AI, Muñoz A. Hidden imputations and the Kaplan-Meier estimator. American Journal of Epidemiology. 2020; 189(11):1408-11
- 75. Lesko CL, Keil AP, **Edwards JK**. The Epidemiologic Toolbox: Identifying, honing, and using the right tools for the job. American Journal of Epidemiology. 2020; 189(6):511-7
- 76. Richardson DB, Cole SR, Keil AP, E **Edwards JK**, Kinlaw AC. Standardizing Discrete Time Hazard Ratios with a Disease Risk Score. American Journal of Epidemiology. 2020; 189(10):1197-203
- 77. Fearon E, Chabata ST, Magutshwa S, Ndori-Mharadze T, Musemburi S, Chidawanyika H, Masendeke A, Napierala S, Gonese E, Roloff AH, Tippett Barr BA, Kilmarx PH, Wong-Gruenwald R, Chidiya S, Mhangara M, Hanisch D, **Edwards JK**, Rice B, Taramusi I, Mbengeranwa T, Magure T, Manangazira P, Mugurungi O, Hargreaves JR, Cowan FM. Estimating the population size of female sex workers in Zimbabwe: comparison of estimates obtained using different methods in twenty sites and development of a national-level estimate. Journal of AIDS. 2020; 85(1):30
- 78. **Edwards JK**, Cole SR, Fox MP. Flexibly accounting for exposure misclassification with external validation data. American Journal of Epidemiology. 2020; 189(8): 850-860
- 79. Price J, Vwalika B, **Edwards JK**, Cole SR, Kasaro MP, RIttenhouse K., Kumwenda A, Lubeya M, Stringer JSA. Maternal HIV infection and preterm birth phenotype in an urban Zambian cohort. JAIDS. 2020; 87(2): 860-868
- 80. Breger TL, **Edwards JK**, Cole SR, Westreich D, Pence BW, Adimora AA. Two-stage g-computation: evaluating treatment and intervention impacts in observational cohorts when exposure information is partly missing. Epidemiology. 2020: 31 (5), 695-703
- 81. Virkud AV, Arimi P, Ssengooba F, Mulholland GE, Herce ME, Markiewicz M, Weir S, **Edwards JK**. Access to HIV prevention services in East African cross-border areas: a 2016-2017 cross-sectional bio-behavioral study. Journal of the International AIDS Society. 2020; 23, e25523
- 82. Breger TL, **Edwards JK**, Cole SR, Saag M, Rebeiro PF, Moore RD, Eron JJ. Estimating a set of mortality risk functions with multiple contributing causes of death. Epidemiology. 2020; 31 (5), 704-712

- 83. Deutsch-Feldman M, Brazeau NF, Parr JB, Thwai KL, Muwonga J, Kashamuka M, Tshefu AK, Aydemir O, Bailey JA, **Edwards JK**, Verity R, Emch M, Gower EW, Juliano JJ, Meshnick SR. Spatial and epidemiological drivers of P. falciparum malaria among adults in the Democratic Republic of the Congo. BMJ Global Health. 2020; 5 (6), e002316
- 84. Webster-Clark M, Lund JL, Stürmer T, Poole C, Simpson R, Edwards JK. Reweighting Oranges to Apples: Transported RE-LY Trial vs Non-experimental Effect Estimates of Anticoagulation in Atrial Fibrillation. Epidemiology. 2020: 31 (5), 605-613
- 85. **Edwards JK**, Arimi P, Ssengooba F, Herce ME, Mulholland G, Markiewicz M, Babirye S, Ssendagire S, Weir SS. Improving HIV outreach testing yield at cross-border venues in East Africa. AIDS. 2020; 34 (6), 923
- 86. Lesko CR, Ackerman B, Webster-Clark M, **Edwards JK**. Target Validity: Bringing Treatment of External Validity in Line with Internal Validity. Current Epidemiology Reports. 2020 Jun 30:1-8.
- 87. **Edwards JK**, Lesko CR, Herce ME, Murenzi G, Twizere C, Lelo P, Anastos K, Tymejczyk O, Yotebieng M, Nash D, Adedimeji A, Edmonds A. Gone but not lost: implications for estimating HIV care outcomes when loss to clinic is not loss to care. Epidemiology. 2020; 31(4): 570-577
- 88. Haber NA, Lesko CR, Fox MP, Powers KA, Harling G, **Edwards JK**, Salomon J, Lippman SA, Bor J, Chang AY, Anglemyer A, Pettifor A. Limitations of the UNAIDS 90-90-90 Metrics: A Simulation-Based Comparison of Cross-Sectional and Longitudinal Metrics for the HIV Care Continuum. AIDS. 2020; 34(7): 1047-1055
- 89. Topazian HM, Stoner MCD, **Edwards JK**, Kahn K, Gomez-Olive FX, Twine R, Hughes JP, Cohen MS, Pettifor A. Variations in HIV risk by young woman's age and partner age-disparity in rural South Africa (HPTN 068). JAIDS. 2020; 83(4):350
- 90. Fox MP, **Edwards JK**, Platt R, Balzer LB. The critical importance of asking good questions: The role of epidemiology doctoral training programs. American Journal of Epidemiology. 2019; 189 (4), 261-264
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COMMENTARIES, LETTERS, AND BOOK CHAPTERS

- 1. Cole SR, **Edwards JK**, Breskin A, Rosin S, Zivich PN, Shook-Sa BE, Hudgens MG. Rejoinder: Combining Information with Fusion Designs, and Roses by Other Names. American Journal of Epidemiology. 2023; *In press*
- 2. Wirth KE, Edwards JK, Feinstein L, Breskin A. When emulating a trial, do as the trialists do: Missteps in estimating relative effectiveness of a severe acute respiratory syndrome coronavirus 2 vaccine booster dose. Clinical Infectious Diseases. 2023 Jan 1;76(1):176-7.
- 3. Lesko CR, Fox MP, **Edwards JK**. Epidemiologic questions require context. American Journal of Epidemiology. 2023; *In press*
- 4. Lesko CR, Fox MP, **Edwards JK**. Describing health threats. American Journal of Epidemiology. 2022; *In press*
- 5. Lesko CR, Fox MP, Edwards JK. Lesko et al. Respond to "The Importance of Descriptive Epidemiology". American journal of epidemiology. 2022 Nov 19;191(12):2073-4
- 6. **Edwards JK**, Cole SR, Adimora AA. Remdesivir and COVID-19. The Lancet. 2020 Oct 3;396(10256):953.
- 7. Westreich D, van Smeden M, **Edwards JK**. COMMENT ON WILLIAMSON ET AL.(OpenSAFELY): the Table 2 fallacy in a study of COVID-19 mortality risk factors. Epidemiology. 2021; 32(1):e1-2
- 8. **Edwards JK**, and Lessler J. What now? Epidemiology in the wake of a pandemic. American Journal of Epidemiology. 2020; 190(1):17-20
- 9. Lesko CR, Buchanan, AL, Westreich D, **Edwards JK**, Hudgens MG, Cole SR. Re: Generalizing study results: a potential outcomes perspective. The authors respond. Epidemiology. 2018;

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- 10. Cole SR, Chu H, Brookhart MA, **Edwards JK**. Re: Dogmatists cannot learn. The authors respond. Epidemiology. 2017; 28(6), e62-e63
- 11. Keil A, **Edwards JK**. Bias in environmental epidemiology. In: Encyclopedia of Environmental Health, 2e. 2017

Invited presentations

- 1. Merging statistical models, mechanistic models, and causal inference in outbreak response. Harvard School of Public Health. Boston, MA, 6 April 2023
- 2. Imputation approaches to account for measurement error in marginal structural models. Center for Outcomes Research. McGill University, Montreal Canada, 22 February 2023
- 3. Accounting for outcome misclassification in causal risk functions. Joint Statistical Meetings. Washington DC, 9 August 2022
- 4. Fusion designs for measurement error. Society for Epidemiologic Research. Chicago IL, 16 June 2022
- 5. Exploring the elevation in mortality among people with HIV in the era of effective therapy. Epidemiology Student Association Seminar Series. University of California Los Angeles, Department of Epidemiology, 19 October 2021
- 6. Fractional Imputation. Society for Epidemiologic Research. Online. 25 Jun 2021
- 7. Estimating the sizes of key populations: considerations for design and analysis. CDC Key Population Surveillance and Estimates: Recent Advances and Future Directions Technical Working Group. 24 May 2021
- 8. Exploring the elevation in mortality among people with HIV and interventions for mitigation. University of California Davis, Department of Epidemiology. 10 May 2021
- 9. Exploring the elevation in mortality among people with HIV. Harvard TH Chan School of Public Health Department of Biostatistics: HIV Working Group. 7 May 2021
- 10. Knowledge synthesis: informing decisions with incomplete data. University of Pennsylvania Seminar in Advanced Epidemiologic Methods. 23 April 2021
- 11. Exploring the elevation in mortality among people with HIV. University of Pennsylvania Center for Clinical Epidemiology and Biostatistics Departmental Seminar. 8 April 2021
- 12. Zen and the art of asking good questions, Society for Epidemiologic Research Annual Meeting. Online. 16 December 2020
- 13. Being principled about when we can be pragmatic: mechanics behind new user designs, Society for Epidemiologic Research and International Society for Pharmacoepidemiology joint webinar. 29 January 2020
- 14. A flexible approach to account for exposure measurement error in counterfactual risk functions, Joint Statistical Meetings, Denver, CO, 31 July 2019
- 15. Competing events: practical illustrations, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 19 June 2019
- 16. Missing data, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 21 June 2019
- 17. Estimating policy relevant causal effects with inverse probability weights, Keynote address at the SERdigital symposium, 13 March 2019
- 18. A hitchhikers guide to causal inference, Causal Inference Research Group, University of North Carolina, Chapel Hill, 7 September 2018
- 19. Causal inference across space and time, Society for Epidemiologic Research Annual Meeting, Baltimore, MD, 23 June 2018
- 20. An imputation approach to account for measurement error in marginal structural models, International Biometric Society Eastern North American Regional Meeting, Atlanta, GA, 27

- March 2018
- 21. Integrating data from key population surveys into surveillance efforts, Measurement and Surveillance of HIV Epidemics Scientific Symposium, Johannesburg, South Africa, 7 December 2017
- 22. Estimating sizes of key populations as a missing data problem, UNAIDS Reference Group Meeting, London, United Kingdom, 19 October 2017
- 23. A randomized trial of data adaptive doubly robust estimators versus standard practice, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 22 June 2017
- 24. A method to compare viral suppression over time in observational studies with competing events: Applied example to estimate the comparative effectiveness of raltegravir vs efavirenz, International Workshop on HIV Observational Databases, Lisbon, Portugal, 31 March 2017
- 25. A geographic approach to extrapolating characteristics of key populations, Population Size Estimation Technical Consultation, CDC, Atlanta, GA, 31 January 2017
- 26. Estimating the size, location and key characteristics of most-at-risk populations, Measurement and Surveillance of HIV Epidemics Scientific Symposium, Tallinn, Estonia, 27 October 2016
- 27. Disparities in the HIV care continuum in the Dominican Republic, Social Epidemiology Seminar, UNC, Chapel Hill, NC, 12 October 2016
- 28. Extrapolation of data from key population surveys and programs, AIDS, Durban, South Africa, 18 July 2016
- 29. Scaling up interventions on the HIV care continuum: a practical example of meeting in the middle, Epidemiology Congress of the Americas, Miami, FL, 24 June 2016
- 30. External validity and the transportability of internally valid effects, Epidemiology Congress of the Americas, Miami, FL, 22 June 2016
- 31. Measurement error and causal inference: Incorporating measurement error into the potential outcomes framework, Workshop on Measurement Error and Complex Data, College Station, TX, 22 April 2016
- 32. Estimating risk functions for cause-specific mortality when cause of death may be misclassified, International Workshop on HIV Observational Databases, Budapest, Hungary, 8 April 2016
- 33. Quantitative methods to extrapolate size estimates: a geographic approach, Strategic information for key populations technical consultation, UNAIDS, Geneva, Switzerland, 9 March 2016
- 34. Benefits of unique identifiers for studying the HIV care and treatment cascade, Strategic information for key populations technical consultation, UNAIDS, Geneva, Switzerland, 8 March 2016
- 35. Age at entry into care, timing of antiretroviral therapy initiation, and 10-year mortality among HIV-seropositive adults in the United States, International Workshop on HIV Observational Databases, Catania, Sicily, 27 March 2015
- 36. Missing data in epidemiologic analyses, UNC Annual Epidemiologic Methods Workshop,10 October 2014
- 37. Estimating effects of interventions, Society for Epidemiologic Research, Seattle, WA, 27 June 2014
- 38. Loss to follow-up and mortality among US HIV-infected antiretroviral therapy initiators, Society for Epidemiologic Research, Seattle, WA, 26 June 2014
- 39. Missing data and causal inference, Causal inference research group, University of North Carolina, Chapel Hill, 7 February 2014
- 40. Incorporating retention in care into estimates from observational HIV cohort studies: impli-

- cations for evaluation and inference, Biostatistics seminar, University of California, Berkeley, School of Public Health, 13 November 2013
- 41. Methods to account for misclassification of cause-specific mortality, Society for Epidemiologic Research, Boston, MA, 21 June 2013
- 42. Comparison of three causal models to control time-varying confounding in a cohort of bone marrow transplant recipients, Causal inference research group, University of North Carolina, Chapel Hill, 7 September 2012

TEACHING

University of North Carolina at Chapel Hill

Gillings School of Global Public Health

Instructor

Advanced Epidemiologic Methods	2021 - 2023
Epidemiologic Analysis of Time to Event Data	2018, 2019
SAS Programming and Data Management	2012

Coinstructor

Epidemiologic Analysis of Time to Event Data 2020

Teaching Assistant

Epidemiologic Analysis of Time to Event Data	2012, 2013
Quantitative Methods in Epidemiology	2011
Fundamentals of Epidemiology	2009

Guest Lecturer

Epidemiologic Analysis of Time to Event Data	2013, 2015 - 2017
Analytic Methods in Observational Epidemiology	2014
Fundamentals of Epidemiology	2015
Clinical Trials	2018
Design of Clinical Research Studies	2022, 2023

School of Law

Guest Lecturer

Scientific Evidence 2021

OTHER SHORT COURSES, SEMINARS, AND WORKSHOPS

Guest lecturer, Advanced Topics in Epidemiologic Methods
University of Pennsylvania, Philadelphia, PA

Co-instructor, Capture-Recapture Workshop January 2019

North Carolina State Health Department, Raleigh, NC

Instructor, Priorities for local AIDS control efforts workshop

January 2016

Cape Town, South Africa

FUNDING

CURRENT

Co-Principal Investigator, NIH/NIGMS Ro1GM140564 (MPI: J. Edwards & J. Lessler) 2/1/2021 – 1/31/2025 \$1,533,000 (direct) Merging machine learning and mechanistic models to improve prediction and inference in emerging epidemics

The purpose of the proposed project is to improve inference, forecasting and decision making in response to emerging infectious diseases by developing a framework to integrate mechanistic and statistical approaches to epidemic modeling and causal inference. Approaches developed will be validated and applied prospectively to reduce morbidity and mortality in emerging public health crises.

Co-Principal Investigator, NIH/NIAID Ro1AI157758 (MPI: J. Edwards & S. Cole)

8/1/2020 - 7/31/2025 \$2,500,000 (direct)

Improved analyses of experiments and observational studies in HIV

In this work, we propose new and improved estimators of the risk (or survival) function to improve inference from randomized and nonrandomized HIV studies using new methods at the interface of statistics, epidemiology, causal inference, and artificial intelligence.

Co-investigator, M163P365F001-S02 CIDRZ (PI: M Herce)

09/10/2020 - 8/31/2022 \$116,997 (direct)

Application of Implementation Science approaches to assess the effectiveness of Task-shifted WHO-PEN to address cardio metabolic complications in people living with HIV in Zambia

This study aims to apply empirically supported implementation science strategies, including task shifting, audit and feedback, and eHealth clinical decision support to integrate management of cardiovascular disease risk factors and cardiometabolic complications of HIV within a robust HIV service delivery platform in Lusaka, Zambia.

Co-investigator, UM1AIo69423-15S1 NIH/NIAID (MPI: J Eron, D Wohl, and M Herce) 02/01/2007 – 11/30-2027

HIV/AIDS Clinical Trials Unit (CTU) COVID-19 RadX-UP - Supplement

The major goals of this supplement are to improve testing access for underserved communities being missed by current testing approaches, and will generate new insights into a promising implementation strategy that can be leveraged to enhance ongoing pandemic response efforts and future delivery of COVID-19 vaccines and other prevention interventions once available.

Co-investigator, 2P30AI050410-24 NIH/NIAID (PI: R. Swanstrom, A. Adimora) 08/20/2001 – 05/31/2026

The University of North Carolina Center for AIDS Research

The UNC Center for AIDS Research provides essential infrastructure support for the wide range of HIV related research for its members. This research contributes to the major goals of Ending the HIV Epidemic and HIV prevention and cure, and has overarching public health impact.

PAST

Principal Investigator, NIH/NIAID Ko1AI125087 (PI: J. Edwards)

12/15/2016 - 12/14/2021 \$658,028 (direct)

Comparative effectiveness of tailored HIV treatment plans and mortality

The overall goal of this Ko1 application is to optimize clinical care decisions for people living with HIV. Specifically, this project will explore how antiretroviral therapy regimens affect cause-specific mortality and how treatment plans can be tailored or personalized based on patient characteristics to improve survival.

Co-Principal Investigator, NC State Legislature (MPI: J. Edwards & D. Westreich)

6/1/2020 - 12/31/2020 \$597,641 (direct)

The Gillings Epidemiology Dashboard for NC Policymakers

The overall goal of this project is to build develop a resource center for SARS-CoV-2 testing,

screening, and surveillance that will implement modern epidemiologic tools to enable better science and public health around SARS-CoV-2

Principal Investigator, NIH/NIAID CFAR Administrative Supplement (PI: J. Edwards)

8/1/2019 - 7/31/2020 \$100,000 (direct)

Developing novel tools to understand the HIV Epidemic in the United States using Big Data This project develops and illustrates tools to leverage novel fusions of detailed, rapidly updated HIV surveillance and cohort data. The project goals are to assess and track evolving demographics of HIV diagnoses and disparities in HIV treatment outcomes in the United States.

Principal Investigator, UNC CFAR Developmental Award (PI: J. Edwards)

11/1/2015 - 10/31/2016 \$30,000 (direct)

Examining causes of death among patients with HIV in the United States

To present critical information on trends in causes of death among patients with HIV in the United States.

MENTORING

Doctoral thesis committee chair (in progress): 1

Doctoral thesis committees (in progress): 2

Current doctoral students (pre-dissertation phase): 2

Doctoral thesis committee chair (completed): 2

Masters thesis committees (completed): 2

Doctoral thesis committees (completed): 31

Other Mentoring

EQUITY MPH Capstone adviser, 2022 - 2023 Curriculum Committee Member MCH, 2022-2023: 1 student

SERVICE

ACADEMIC SERVICE

Graduate Studies Committee, 2021 - Present SARS-CoV-2 Return to Campus Modeling Group, 2020 - 2022 Sidney Kark Distinguished Teaching Assistant Award Committee, 2015 External dissertation reader, Yale School of Public Health, 2021

EDITORIAL RESPONSIBILITIES

Associate editor, Epidemiology, 2022 - present
Associate editor, Frontiers in Epidemiology, Infectious Diseases, 2021 - present
Associate editor, American Journal of Epidemiology, 2020 - present
Associate editor, BMC Infectious Diseases, 2018 - 2022
Statistical advisor, PLoS Medicine, 2019 - present

Reviewer for American Journal of Epidemiology, Epidemiology, Biometrics, Statistics in Medicine, Annals of Applied Statistics, Journal of Applied Statistics, Journal of Causal Inference, Epidemiologic Methods, Journal of Acquired Immune Deficiency Syndromes Pharmacoepidemiology and Drug Safety, Journal of Clinical Epidemiology, Annals of Epidemiology, Occupational and Environmental Medicine, Antiviral Therapy, Computational and Mathematical Methods in Medicine Lifetime Data Analysis, PLOS One, Scientific Reports, Environmental Health Perspectives, Paediatric and Perinatal Epidemiology, PLoS Medicine, Brazilian Journal of Infectious Diseases, and others

Professional service

- 1. Key Population Surveillance and Estimates: Recent Advances and Future Directions Technical Working Group. CDC, Atlanta, GA, 24 May 2021
- 2. Co-investigator, Chatham County Community Cohort Study, Chatham County, NC, 2018 present
- 3. UNAIDS Reference Group Meeting on Key Populations, Atlanta, GA, June 2, 2018
- 4. UNAIDS Reference Group Meeting on Estimates, Modeling and Projections, London, United Kingdom, 19 October 2017
- 5. Population Size Estimation Technical Consultation, CDC, Atlanta, GA, 31 January 2017
- 6. Strategic information for key populations technical consultation, UNAIDS, Geneva, Switzerland, 9 March 2016

Society for Epidemiologic Research

Executive Committee, Member-at-large & Liaison to Education Committee Member

2021-Present 2009-Present 2015–2018

Publication committee member

Symposium session chair at annual meeting:

2023 - "Transforming education in a constantly evolving field: A multi-school perspective on how epidemiological curricula evolve and diversify over time in North America". 2022 - "On teaching advanced epidemiologic methods" (scheduled)

2019 - "The elephant in the room: Causal inference in the face of competing events"

2018 - "Epidemiologic research with incomplete and imperfect data: making progress in the face of uncertainty"

2017 - "Putting the 'Implementation' back into Implementation Science: Moving beyond the 'Implications' of Epidemiologic Research"

2016 - "Meeting in the middle: systems science and causal inference"

2015 - "Bayesian methods and causal inference"

2014 - "Selection bias due to loss: An old and often ignored problem revisited"

2013 - "Recording nature's answers: Measurement bias in epidemiology"

Symposium session chair at mid-year meeting:

2022 - "Methods to address the dual pandemics of COVID-19 and health disparities"