

Jessie K. Edwards

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ACADEMIC APPOINTMENTS

University of North Carolina at Chapel Hill

Associate Professor , Department of Epidemiology	2022 – present
Assistant Professor , Department of Epidemiology	2020 – 2022
Research Assistant Professor , Department of Epidemiology	2015 – 2020
Postdoctoral Research Associate , Department of Epidemiology	2013 – 2015

EDUCATION

PhD Epidemiology , <i>University of North Carolina at Chapel Hill</i>	2013
MSPH Epidemiology , <i>University of North Carolina at Chapel Hill</i>	2010
BS International Affairs , <i>Georgia Institute of Technology</i>	2007

AWARDS

Reviewer of the year <i>American Journal of Epidemiology</i>	2015
Berton H. Kaplan Student Publication Award <i>University of North Carolina at Chapel Hill</i>	2013
Sidney Kark Award for Distinguished Teaching Assistant <i>University of North Carolina at Chapel Hill</i>	2013
Delta Omega Public Health Honor Society, Theta Chapter	2013
Society for Epidemiologic Research Student Poster Award	2012
Graduate Merit Assistantship <i>University of North Carolina at Chapel Hill</i>	2008–2009
President's Scholarship <i>Georgia Institute of Technology</i>	2003–2007

PUBLICATIONS

PEER REVIEWED PAPERS

1. Htoo P, **Edwards JK**, Gokale M, Pate V, Buse JB, Jonsson-Funk ML, Stürmer T. Systematic Approach to the Evaluation of Instrumental Variable Assumptions: Applied Example of

- Glucose-lowering Medications and Risk for Hospitalized Heart Failure in Older Adults. *American Journal of Epidemiology*. 2024; *In Press*
2. Keil AP, Li Y, Lan Q, Bertke S, Daniels RD, **Edwards JK**, Kelly-Reif K. Inverse probability weighting to estimate impacts of hypothetical occupational limits on radon exposure to reduce lung cancer. *American Journal of Epidemiology*. 2024; *In Press*
 3. Duchesneau ED, Reeder-Hayes K, Stürmer T, Kim DH, **Edwards JK**, Lund JL. Longitudinal trajectories of a claims-based frailty measure during adjuvant chemotherapy in women with stage I-III breast cancer. *The Oncologist*. 2024; *In Press*
 4. Morgan CE, Ngimbi P, Boisson-Walsh AJN, Ntambua S, Matondo J, Tabala M, Kashamuka MM, Emch M, **Edwards JK**, Powers KA, James L, Mbonze N, Mampunza S, Yotebieng M, Thompson P, Parr JB. Hepatitis B virus prevalence and transmission in the households of pregnant women in Kinshasa, Democratic Republic of Congo. *Open Forum Infectious Diseases*. 2024; *In Press*
 5. Ren Y, Emerson MA, Maselko JA, Tan X, Olshan AF, Stover AM, Bennett AV, Reeder-Hayes KE, **Edwards JK**, Reeve BB, Troester MA. Emotional and functional well-being change in long term breast cancer survivorship. *Cancer Causes and Control*. 2024; *In Press*
 6. Duchesneau ED, Stürmer T, Kim DH, Reeder-Hayes K, **Edwards JK**, Faurot KR, Lund JL. Performance of a claims-based frailty proxy using varying frailty ascertainment lookback windows. *Medical Care*. 2024; *In Press*
 7. O'Brien KM, Wentzensen N, Ogunsina K, Weinberg CR, D'Aloisio, **Edwards JK**, Sandler DP. Intimate care products and incidence of hormone-related cancers: A quantitative bias analysis. *Journal of Clinical Oncology*. 2024; *In Press*
 8. Latour CD, Delgado M, Su I, Wiener C, Acheampong CO, Poole C, **Edwards JK**, Quinto K, Stürmer T, Lund JL, Li J, Lopez N, Concato J, Jonsson Funk M. "Use of Sensitivity Analyses to Assess Uncontrolled Confounding from Unmeasured Variables in Observational, Active Comparator Pharmacoepidemiologic Studies: A Systematic Review." *American Journal of Epidemiology*. 2024; *In Press*
 9. Zivich PN, Cole SR, **Edwards JK**, Shook-Sa BE, Breskin A, Hudgens MG. Bridged treatment comparisons: an illustrative application in HIV treatment. *American Journal of Epidemiology*. 2024; *In Press*
 10. Shook-Sa BE, Zivich PN, Rosin SP, **Edwards JK**, Adimora AA, Hudgens MG, Cole SR. Fusing Trial Data for Treatment Comparisons: Single versus Multi-Span Bridging. *Statistics in Medicine*. 2024; *In Press*
 11. Zivich PN, Cole SR, **Edwards JK**, Glidden DV, Das M, Shook-Sa BE, Shao Y, Mehrotra ML, Adimora AA, Eron JJ. HIV prevention among men who have sex with men: tenofovir alafenamide combination preexposure prophylaxis versus placebo. *Journal of Infectious Diseases*. 2024; *In Press*
 12. Zeno EE, Obala AA, Pence B, Freedman E, Mangeni JN, Lin JT, Abel L, **Edwards JK**, Gower EW, Taylor SM. Risk of malaria following untreated sub-patent Plasmodium falciparum infections: Results over 4 years from a cohort in a high transmission area in Western Kenya. *Journal of Infectious Diseases*. 2024; 229(4): 969–978
 13. LeMasters K, Ross RK, **Edwards JK**, Lee H, Robinson WR, Brinkley-Rubinstein L, Delamater P, Pence BW. Mass Probation: Effects of Sentencing Severity on Mental Health for Black and White Individuals. *Epidemiology*. 2024 Jan 1;35(1):74-83.
 14. Ross RK, Cole SR, **Edwards JK**, Zivich PN, Westreich D, Daniels J, Price J, Stringer JSA. Leveraging external validation data: the challenges of transporting measurement error parameters. *Epidemiology*. 2023; Dec 1:10-97.
 15. Zivich PN, **Edwards JK**, Lofgren ET, Cole SR, Shook-Sa BE, Lessler J. Transportability

- without positivity: a synthesis of statistical and simulation modeling. *Epidemiology*. 2024 Jan 1;35(1):23-31.
16. Cole SR, **Edwards JK**, Zivich PN, Shook-Sa BE, Hudgens MG, Stringer JS. Reducing Bias in Estimates of Per Protocol Treatment Effects: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Network Open*. 2023 Jul 3;6(7):e2325907-.
 17. Lesko CR, Zalla LC, Joseph C, Heyward J, **Edwards JK**. Weighing risks and benefits in the presence of competing risks. *Current Epidemiology Reports*. 2023; 10 (4), 221-239
 18. Kasaie P, Stewart C, Humes E, Gerace L, Hyle EP, Zalla LC, Rebeiro PF, Silverberg MJ, Rubtsova AA, Rich AJ, Gebo K, Lesko CR, Fojo AT, Lang R, **Edwards JK**, Althoff KN. Impact of subgroup-specific heterogeneities and dynamic changes in mortality rates on forecasted population size, deaths, and age distribution of persons receiving antiretroviral treatment in the United States: a computer simulation study. *Annals of Epidemiology*; 2023; 87, 69-78. e32
 19. Virkud AV, Chang PP, Jonsson Funk M, Kshirsagar AV, **Edwards JK**, Pate V, Kosorok MR, Gower EW. Comparative Effect of Loop Diuretic Prescription on Mortality and Heart Failure Readmission. *American Journal of Cardiology*. 2024 Jan 1;210:208-16
 20. *Zalla LC, **Edwards JK**, Rudolph JE, Mulholland GE, Cole SR. Data movies: a tool for public health. *Epidemiology*. 2023; 2023 Nov 1;34(6):854-5
 21. *Mulholland GE, Herce ME, Okech BA, Kidola J, Bahemuka U, Kwena ZA, Nanyonjo G, Seeley J, Pettifor A, Emch M, Weir SS, **Edwards JK**. Clinic presentation delay and tuberculosis treatment outcomes in the Lake Victoria region of East Africa: a multi-site prospective cohort study. *PLoS Global Public Health*. 2023; 3(8), e0002259
 22. Filiatreau LM, **Edwards JK**, Masilela N, Gomez-Olive FX, Haberland N, Pence BW, Maselko J, Muessig KE, Whiteson Kabudula C, Kang Dufour M, Lippman SA, Kahn K, Pettifor A. Understanding the effects of Universal Test and Treat on longitudinal HIV care outcomes and temporally precise opportunities for re-engagement interventions among South African youth: a retrospective cohort study. *BMC Public Health*. 2023; 23(1), 1724
 23. *Zalla LC, Cole SR, Eron JJ, Adimora AA, Vines AI, Althoff KN, Marconi VC, Gill MJ, Horberg MA, Silverberg MJ, Rebeiro PF, Lang R, Kasaie P, Moore RD, **Edwards JK**. Evaluating Clinic-Based Interventions to Reduce Racial Differences in Mortality among People with HIV in the United States. *The Journal of Infectious Diseases*. 2023; 2023 Dec 15;228(12):1690-8
 24. Ross RK, Cole SR, **Edwards JK**, Westreich D, Daniels J, Stringer JSA. Accounting for Nonmonotone Missing Data using Inverse Probability Weighting. *Statistics in Medicine*. 2023; 42 (23), 4282-4298
 25. Keil AP, Zadrozny S, **Edwards JK**. A review and synthesis of multi-level models for causal inference with individual level exposures. *Current Epidemiology Reports*. 2023; Aug 10:1-9.
 26. *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
 27. *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 Jun 5;3(6):e0001992.
 28. 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 May 24;131(5):057006.
29. 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; 192(9):1425-1431
 30. 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; 77(2): 258-264
 31. 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; 192(8): 1341-1349
 32. *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; 34(5), 721-731
 33. 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; 192(7): 1224-1227
 34. Figgatt MC, Hincapie-Castillo JM, Schranz AJ, Dasgupta N, **Edwards JK**, Jackson BE, Marshall SW, Golightly YM. Medications for Opioid Use Disorder and Mortality and Hospitalization Among People With Opioid Use-related Infections. *Epidemiology*. 2024 Jan 1;35(1):7-15.
 35. Cole SR, Zivich PN, Edwards JK, Shook-Sa BE, Hudgens MG. Sensitivity Analyses for Means or Proportions with Missing Outcome Data. *Epidemiology*. 2023 Sep 1;34(5):645-51.
 36. 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.
 37. 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
 38. **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
 39. 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
 40. 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
 41. 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; 76: 83-90
 42. Gaber CE, Shaheen NJ, **Edwards JK**, Sandler RS, Nichols HB, Sanoff HK, Lund JL. Trimodal-

- ity therapy vs definitive chemoradiation in older adults with locally advanced esophageal cancer. *JNCI Cancer Spectrum*. 2022 Dec;6(6):pkac069
43. **Edwards JK**, Wohl D. Dying at Home Due to COVID-19. *Open Forum for Infectious Diseases*. 2022; 9(9): ofac439
 44. 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*. 2023 May;192(5):830-9.
 45. 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
 46. 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
 47. 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
 48. 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.
 49. Lesko CR, Fox MP, **Edwards JK**. A framework for descriptive epidemiology. *American Journal of Epidemiology*. 2022; Dec;191(12):2063-70
 50. 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
 51. **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
 52. 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.
 53. 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.
 54. 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
 55. 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.
 56. 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
 57. 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
58. 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.
 59. 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
 60. **Edwards JK**, Donastorg Y, Zadrozny S, Hileman S, Gomez H, Seamans MJ, Hecce 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
 61. Mitchell CL, Janko MM, Mwandagilirwa MK, Tshetu 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.
 62. 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.
 63. Romo ML, Patel RC, **Edwards JK**, Humphrey JM, Musick BS, Bernard C, Maina M, Brazier E, Castelnovo 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
 64. 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.
 65. 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
 66. 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.
 67. 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.
 68. *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.
 69. 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
70. **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
 71. 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.
 72. 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.
 73. *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
 74. 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
 75. 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.
 76. 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.
 77. 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.
 78. 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
 79. 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.
 80. 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
 81. 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
82. Chagomerana MB, **Edwards JK**, Zalla LC, Carbone NB, Banda GT, Mofolo IA, Hosseinipour MC, Hecce 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.
 83. 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, Bengtson 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
 84. 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.
 85. 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.
 86. *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
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COMMENTARIES, LETTERS, AND BOOK CHAPTERS

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4. Lesko CR, Fox MP, **Edwards JK**. Descriptive studies and descriptive statistics. *American Journal of Epidemiology*. 2022 Aug 25;kwac152-
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; 29(2), e14-e15

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. Outcome Measurement Error in Survival Functions. Karolinska Institute. Stockholm, Sweden, 24 October 2023
2. Measurement Error in Survival and Risk Functions. Boston University. Boston, MA, 5 September 2023
3. Merging statistical models, mechanistic models, and causal inference in outbreak response. Harvard School of Public Health. Boston, MA, 6 April 2023
4. Imputation approaches to account for measurement error in marginal structural models. Center for Outcomes Research. McGill University, Montreal Canada, 22 February 2023
5. Accounting for outcome misclassification in causal risk functions. Joint Statistical Meetings. Washington DC, 9 August 2022
6. Fusion designs for measurement error. Society for Epidemiologic Research. Chicago IL, 16 June 2022
7. 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
8. Fractional Imputation. Society for Epidemiologic Research. Online. 25 Jun 2021
9. 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
10. Exploring the elevation in mortality among people with HIV and interventions for mitigation. University of California - Davis, Department of Epidemiology. 10 May 2021
11. 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
12. Knowledge synthesis: informing decisions with incomplete data. University of Pennsylvania Seminar in Advanced Epidemiologic Methods. 23 April 2021
13. Exploring the elevation in mortality among people with HIV. University of Pennsylvania Center for Clinical Epidemiology and Biostatistics Departmental Seminar. 8 April 2021
14. Zen and the art of asking good questions, Society for Epidemiologic Research Annual Meeting. Online. 16 December 2020
15. 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
16. A flexible approach to account for exposure measurement error in counterfactual risk functions, Joint Statistical Meetings, Denver, CO, 31 July 2019
17. Competing events: practical illustrations, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 19 June 2019
18. Missing data, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 21 June 2019
19. Estimating policy relevant causal effects with inverse probability weights, Keynote address at the SERdigital symposium, 13 March 2019
20. A hitchhikers guide to causal inference, Causal Inference Research Group, University of North Carolina, Chapel Hill, 7 September 2018

21. Causal inference across space and time, Society for Epidemiologic Research Annual Meeting, Baltimore, MD, 23 June 2018
22. 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
23. Integrating data from key population surveys into surveillance efforts, Measurement and Surveillance of HIV Epidemics Scientific Symposium, Johannesburg, South Africa, 7 December 2017
24. Estimating sizes of key populations as a missing data problem, UNAIDS Reference Group Meeting, London, United Kingdom, 19 October 2017
25. A randomized trial of data adaptive doubly robust estimators versus standard practice, Society for Epidemiologic Research Annual Meeting, Seattle, WA, 22 June 2017
26. 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
27. A geographic approach to extrapolating characteristics of key populations, Population Size Estimation Technical Consultation, CDC, Atlanta, GA, 31 January 2017
28. 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
29. Disparities in the HIV care continuum in the Dominican Republic, Social Epidemiology Seminar, UNC, Chapel Hill, NC, 12 October 2016
30. Extrapolation of data from key population surveys and programs, AIDS, Durban, South Africa, 18 July 2016
31. 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
32. External validity and the transportability of internally valid effects, Epidemiology Congress of the Americas, Miami, FL, 22 June 2016
33. 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
34. 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
35. Quantitative methods to extrapolate size estimates: a geographic approach, Strategic information for key populations technical consultation, UNAIDS, Geneva, Switzerland, 9 March 2016
36. 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
37. 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
38. Missing data in epidemiologic analyses, UNC Annual Epidemiologic Methods Workshop, 10 October 2014
39. Estimating effects of interventions, Society for Epidemiologic Research, Seattle, WA, 27 June 2014
40. Loss to follow-up and mortality among US HIV-infected antiretroviral therapy initiators,

- Society for Epidemiologic Research, Seattle, WA, 26 June 2014
41. Missing data and causal inference, Causal inference research group, University of North Carolina, Chapel Hill, 7 February 2014
 42. Incorporating retention in care into estimates from observational HIV cohort studies: implications for evaluation and inference, Biostatistics seminar, University of California, Berkeley, School of Public Health, 13 November 2013
 43. Methods to account for misclassification of cause-specific mortality, Society for Epidemiologic Research, Boston, MA, 21 June 2013
 44. 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 - 2024
Epidemiologic Analysis of Time to Event Data	2018, 2019
SAS Programming and Data Management	2012

Coinstructor

Epidemiologic Analysis of Time to Event Data	2020
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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
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OTHER SHORT COURSES, SEMINARS, AND WORKSHOPS

Organizer , Course Development and Revision Workshop	2022 - 2023
Society for Epidemiologic Research Annual Meeting	

Guest lecturer , Advanced Topics in Epidemiologic Methods	2021 - 2023
University of Pennsylvania, Philadelphia, PA	

Co-instructor, Capture-Recapture Workshop 2019
North Carolina State Health Department, Raleigh, NC

Instructor, Priorities for local AIDS control efforts workshop 2016
Cape Town, South Africa

FUNDING

CURRENT

Co-Principal Investigator, NIH/NIGMS R01GM140564 (MPI: J. Edwards & J. Lessler)

2/1/2021 – 1/31/2025 \$1,533,472

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 R01AI157758 (MPI: J. Edwards & S. Cole)

8/1/2020 – 7/31/2025 \$3,609,505

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, UM1AI069423-15S1 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.

Co-investigator, R01AG077947 NIH (PI: C. Martin, T. Hargrove)

07/01/2022 - 03/31/2027

Multilevel Forms of Structural Racism and Racial Inequalities in ADRD Risk

The proposed study will create a database of multilevel, repeated, and prospective measures of structural racism; investigate the extent to which structural racism in education, residential, and criminal justice contexts shape Black-White inequalities in AD/ADRD risk; and use causal modeling techniques to evaluate the impact of structural interventions on documented racial inequalities in biological risk factors for AD/ADRD

Co-investigator, R61AI174285 NIH/NIAID (PI: S. Rustein, K. Muessig)

07/01/2022 - 06/30/2027

Meet me where I am: A multilevel strategy to increase PrEP uptake and persistence among young sexual and gender minority men in rural NC

This project partners with state and local health department sexually transmitted infection clinics to examine a multilevel intervention targeting PrEP use barriers at the policy, clinic, provider, and PrEP user levels, with the goal of increasing PrEP uptake and persistence among YSGM via an integrated, cost-effective, and scalable strategy.

Co-investigator, P01HD112215 NIH (PI: M. Hosseinipour)

04/01/2023 – 03/31/2028. Preventing Infant Infections with Implementation Science in Malawi
The Preventing infant infections by Implementation Science in Malawi (PRI3SM) project will conduct 3 related studies addressing the main reasons for pediatric HIV infections in Malawi, supported by administrative, implementation science and data science and analytical cores.

PAST

Principal Investigator, NIH/NIAID K01AI125087 (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 K01 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): 13

Current doctoral students (pre-dissertation phase): 3

Doctoral thesis committee chair (completed): 2

Masters thesis committees (completed): 2

Doctoral thesis committees (completed): 31

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Other Mentoring

EQUITY MPH Capstone adviser, 2022 - 2024

Curriculum Committee Member, MCH, 2022-2023

SERVICE

ACADEMIC SERVICE

Graduate Studies Committee, 2021 - Present

SARS-CoV-2 Return to Campus Modeling Group, 2020 - Present

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 2021-Present

Member 2009-Present

Publication committee member 2015–2018

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".

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"