

SARA N. LEVINTOW

Department of Epidemiology, The University of North Carolina at Chapel Hill
McGavran-Greenberg Hall, Campus Box 7435, Chapel Hill, NC 27599-7435
Phone: 240-750-5029 Email: levintow@email.unc.edu

EDUCATION

PhD	The University of North Carolina at Chapel Hill, Epidemiology Dissertation: The role of depression in HIV transmission among people who inject drugs in Vietnam	2020
MSPH	The University of North Carolina at Chapel Hill, Epidemiology Thesis: A risk score for depressive symptoms among HIV-positive men who inject drugs in Vietnam	2016
BS	Davidson College, Psychology	2011

PROFESSIONAL EXPERIENCE

Assistant Professor, Department of Epidemiology The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA	2021-present
Research Associate, Department of Epidemiology The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA	2020-2021
Epidemiologist NoviSci Inc., Durham, North Carolina, USA	2020-2021
Research Fellow NoviSci Inc., Durham, North Carolina, USA	2017-2020
Teaching Assistant, Department of Epidemiology The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA	2017-2019
Graduate Research Assistant, Institute for Global Health and Infectious Diseases The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA	2014-2020
Research Analyst, Public Health Research NORC at the University of Chicago, Bethesda, Maryland, USA	2013-2014
Research Assistant, Public Health Research NORC at the University of Chicago, Bethesda, Maryland, USA	2011-2012

HONORS

Lifespan/Brown Criminal Justice Research Training Program, Brown University	2023-present
Delta Omega Honorary Society in Public Health, UNC Gillings School of Global Public Health	2020
Pre-Doctoral Fellowship, ViiV Healthcare	2018-2019

T32 Pre-Doctoral Trainee, UNC Infectious Disease Epidemiology Training Grant	2016-2018
Travel Award, UNC Graduate and Professional Student Federation	2017
Graduate Poster Session Award Winner, American Public Health Association	2016
Annual Fund Scholarship, UNC Gillings School of Global Public Health	2014
Employee Recognition Award, NORC at the University of Chicago	2012, 2013
<i>Cum Laude</i> , Davidson College	2011
Undergraduate Research Travel Grant, Council on Undergraduate Research	2011
John D. Kelton Psychology Award, Davidson College	2011
Presidential Scholarship, Davidson College	2007-2011

BIBLIOGRAPHY

Peer-reviewed publications

1. **Levintow SN**, Nielson CM, Hernandez R, Breskin A, Pritchard D, Lash TL, Rothman KJ, Gilbertson D, Muntner P, Critchlow C, Brookhart MA, Bradbury BD. Pragmatic considerations for negative control outcome studies to guide non-randomized comparative analyses: A narrative review. *Pharmacoepidemiology and Drug Safety* 2023; 32(6): 599-606.
2. **Levintow SN**, DiRosa E, Carda-Auten J, Brown ME, Bradley-Bull S, Blue C, Powers KA, Rosen DL. SARS-CoV-2 mitigation strategies, testing, and cases at 254 jails in the US Southeast, October 2020 to May 2021. *American Journal of Public Health* 2022; 112(11): 1589-1598.
3. **Levintow SN**, Pence BW, Sripaipan T, Ha TV, Chu VA, Quan VM, Latkin CA, Go VF, Powers KA. The role of depression in secondary HIV transmission among people who inject drugs in Vietnam: A mathematical modeling analysis. *PLOS ONE* 2022; 17(10): e0275995.
4. **Levintow SN**, Reading SR, Noshad S, Mayer SE, Wiener C, Eledath B, Exter J, Brookhart MA. Lipid testing trends before and after hospitalization for myocardial infarction among adults in the United States, 2008-2019. *Clinical Epidemiology* 2022; 14: 737-748.
5. **Levintow SN**, Orroth KK, Breskin A, Park AS, Flores-Arredondo JF, Dluzniewski P, Navar AM, Sørensen HT, Brookhart MA. Use of negative control outcomes to assess the comparability of patients initiating lipid-lowering therapies. *Pharmacoepidemiology and Drug Safety* 2022; 31(4): 383-392.
6. Chen JS, **Levintow SN**, Ha TV, Sripaipan T, Nguyen MX, Nguyen SM, Miller WC, Go VF, Giang LM. HIV and STI prevalence and testing history among men who have sex with men in Hanoi, Vietnam. *International Journal of STD & AIDS* 2022; 33(2): 193-201.

7. **Levintow SN**, Pence BW, Powers KA, Breskin A, Sripaipan T, Ha TV, Chu VA, Quan VM, Latkin CA, Go VF. Depression, antiretroviral therapy initiation, and HIV viral suppression among people who inject drugs in Vietnam. *Journal of Affective Disorders* 2021; 281: 208-215.
8. **Levintow SN**, Pence BW, Powers KA, Sripaipan T, Ha TV, Chu VA, Quan VM, Latkin CA, Go VF. Estimating the effect of depression on HIV transmission risk behaviors among people who inject drugs: A causal approach. *AIDS and Behavior* 2021; 25(2): 438-446.
9. **Levintow SN**, Reading SR, Saul BC, Yu Y, Reams DR, McGrath LJ, Philip K, Dluzniewski PJ, Brookhart MA. Lipid testing trends in the U.S. before and after the release of the 2013 cholesterol treatment guidelines. *Clinical Epidemiology* 2020; 12: 835-845.
10. McGrath LJ, Spangler L, Curtis JR, Ehrenstein V, Sørensen HT, Saul BC, **Levintow SN**, Reams DR, Bradbury BD, Brookhart MA. Using negative control outcomes to assess the comparability of osteoporosis treatment groups among women with osteoporosis in the United States. *Pharmacoepidemiology and Drug Safety* 2020; 29(8): 854-863.
11. Hershov RB, Gottfredson NC, Ha TV, Chu VA, Lancaster KE, Quan VM, **Levintow SN**, Sripaipan T, Gaynes BN, Pence BW, Go VF. Longitudinal analysis of depressive symptoms, perceived social support, and alcohol use among HIV-infected men who inject drugs in northern Vietnam. *Substance Use & Misuse* 2020; 55(8): 1237-1245.
12. Dennis AM, Hué S, Billock RM, **Levintow SN**, Sebastian J, Miller WC, Eron JJ. HIV-1 phylodynamics to detect and characterize active transmission clusters in North Carolina. *Journal of Infectious Diseases* 2020; 221(8): 1321-1330.
13. **Levintow SN**, Pence BW, Ha TV, Minh NL, Sripaipan T, Latkin CA, Vu PT, Quan VM, Frangakis C, Go VF. Depressive symptoms at HIV testing and two-year survival among men who inject drugs in Vietnam. *AIDS and Behavior* 2019; 23(3): 609-616.
14. **Levintow SN**, Okeke NL, Hué S, Mkumba L, Virkud A, Napravnik S, Sebastian J, Miller WC, Eron JJ, Dennis AM. Prevalence and transmission dynamics of HIV-1 transmitted drug resistance in a southeastern US cohort. *Open Forum Infectious Diseases* 2018; 5(8): ofy178.
15. **Levintow SN**, Pence BW, Ha TV, Minh NL, Sripaipan T, Latkin CA, Vu PT, Quan VM, Frangakis C, Go VF. Prevalence and predictors of depressive symptoms among HIV-positive men who inject drugs in Vietnam. *PLOS ONE* 2018; 13(1): e0191548.

Letters to the editor

1. Strassle PD, Rudolph JE, Harrington BJ, & **Levintow SN**. Lost opportunities concerning loss-to-follow-up: a response to Elul et al. *Journal of Acquired Immune Deficiency Syndromes* 2017; 75(2): e55-e56.

Under review

1. Rennie S, Luseno W, Gilbertson A, **Levintow SN**. Ethics of mathematical modeling in public health: The case of medical male circumcision for HIV prevention in Africa. Revised and resubmitted to *Public Health Ethics*.

2. Chen JS, **Levintow SN**, Tran HV, Sibley AL, Blackburn NA, Sripaipan T, Hutton HE, Go VF, Chander G. Prevalence of hepatitis co-infection among antiretroviral therapy clinic clients with hazardous alcohol use in Vietnam. Under review at *PLOS Global Public Health*.
3. Bui HTM, Le Minh G, Chen JS, Sripaipan T, Nong HTT, Nguyen NTK, Bartels SM, Rossi SL, Hutton H, Chander G, Sohn H, Ferguson O, Tran HV, Nguyen MX, Nguyen KD, Rutstein SE, **Levintow SN**, Hoffman IF, Powell BJ, Pence BW, Go VF, Miller WC. A Brief Alcohol Intervention (BAI) to Reduce Alcohol Use and Improve PrEP Outcomes among Men who have Sex with Men in Vietnam: Study Protocol for a Randomized Controlled Trial. Under review at *Trials*.
4. **Levintow SN**, Serrano PA, Maierhofer CN, French AL, Hosek S, Powers KA. The impacts of substance use and depression on HIV pre-exposure prophylaxis use and adherence among sexual and gender minority adolescents and young adults in the Keeping it LITE-1 cohort. Under review at *AIDS and Behavior*.
5. **Levintow SN**, Remch M, LeMasters K, Rice DK. The role of epidemiologists in addressing the public health consequences of the United States criminal legal system. Under review at *American Journal of Epidemiology*.
6. Brinkley-Rubinstein L, LeMasters K, Berk J, **Levintow SN**, Martino S, Vanjani R. Substance use-related death post-release from incarceration: structural and healthcare factors. Under review at *International Journal of Drug Policy*.
7. LeMasters K, **Levintow SN**, Berk J, Martino S, Paquette C, Vanjani R, Brinkley-Rubinstein L. The Rhode Island Transitions Clinic: Connections to Healthcare and Social Services. Under review at *BMC Health Services Research*.
8. **Levintow SN**, Remch M, Jones EP, Lessler J, Edwards JK, Brinkley-Rubinstein L, Rice DK, Rosen DL, Powers KA. Models of respiratory infection transmission dynamics in carceral settings: A systematic review. Under review at *Epidemics*.

Oral presentations and abstracts

1. **Levintow SN**, Rice DK. The role of epidemiologists in addressing the harms of the US criminal legal system. Annual Meeting of the Society for Epidemiologic Research, Austin, TX, June 2024 (Symposium).
2. **Levintow SN**, Remch M, Powers KA, Rosen DL. Understanding jail incarceration dynamics during the SARS-CoV-2 pandemic using web-scraped public roster data. Academic Consortium on Criminal Justice Health Conference, Phoenix, AZ, April 2024 (Oral).
3. **Levintow SN**, Sadinski LM, Ning IK, Huang W, Baral S, Sullivan PS, Siegler AJ, Powers KA. The impact of pre-exposure prophylaxis interventions on HIV transmission among gay men and other men who have sex with men in China: A mathematical modeling analysis. International Workshop on HIV and Hepatitis Observational Databases, Vilamoura, Portugal, March 2024 (Oral).
4. **Levintow SN**, Remch M, Jones EP, Lessler J, Edwards JK, Brinkley-Rubinstein L, Rice DK, Rosen DL, Powers KA. Mathematical models of respiratory infectious disease dynamics in jails and prisons: A systematic review. Epidemics International Conference on Infectious Disease Dynamics, Bologna, Italy, November 2023 (Poster).

5. **Levintow SN**, Serrano PA, French A, Hosek S, Powers KA. The association of substance use and depressive symptoms with HIV pre-exposure prophylaxis use and adherence among sexual minority and transgender adolescents and young adults in the LITE-1 cohort. International Workshop on HIV and Hepatitis Observational Databases, Athens, Greece, March 2023 (Poster).
6. **Levintow SN**, Reading SR, Noshad S, Mayer SE, Wiener C, Eledath B, Exter J, Brookhart MA. Lipid testing trends before and after hospitalization for myocardial infarction among adults in the United States, 2008-2019. European Society of Cardiology Congress, Virtual Meeting, August 2021 (Oral).
7. **Levintow SN**, Orroth KK, Breskin A, Dluzniewski P, Park AS, Brookhart MA. Use of negative control outcomes to detect mismeasured confounders in administrative data. International Conference on Pharmacoepidemiology, Virtual Meeting, August 2021 (Poster, Spotlight Session).
8. **Levintow SN**, Orroth KK, Breskin A, Dluzniewski P, Park AS, Brookhart MA. Use of negative control outcomes to assess the comparability of treatments for hypercholesterolemia. American College of Cardiology Conference, Virtual Meeting, May 2021 (Poster).
9. **Levintow SN**, Wiener C, Orroth K, Gill K, Mullard A, Brookhart MA, McGrath LJ. History of lipid-lowering therapy use among adults initiating treatment with proprotein convertase subtilisin/kexin type 9 inhibitors (PCSK9i) in the United States, 2015-2019. International Conference on Pharmacoepidemiology, Virtual Meeting, September 2020 (Poster).
10. Wiener C, **Levintow SN**, Orroth K, Gill K, Mullard A, McGrath LJ, Brookhart MA. Real world treatment patterns following the initiation of proprotein convertase subtilisin/kexin type 9 inhibitors (PCSK9i) among adults in the United States, 2015-2019. International Conference on Pharmacoepidemiology, Virtual Meeting, September 2020 (Poster).
11. **Levintow SN**, Pence BW, Powers KA, Breskin A, Sripaipan T, Ha TV, Chu VA, Quan VM, Latkin CA, Go VF. Depression, antiretroviral therapy initiation, and HIV viral suppression in a cohort of people who inject drugs in Vietnam. International Workshop on HIV and Hepatitis Observational Databases, Sitges, Spain, March 2020 (Cancelled due to SARS-CoV-2 pandemic).
12. **Levintow SN**, Reading SR, Saul BC, Yu Y, Reams DR, McGrath LJ, Philip K, Dluzniewski PJ, Brookhart, M.A. Lipid testing trends in the U.S. before and after the release of the 2013 ACC/AHA cholesterol guidelines. American Heart Association Scientific Sessions, Philadelphia, PA, November 2019 (Poster).
13. McGrath LJ, Spangler L, Curtis JR, Ehrenstein V, Sørensen HT, Saul BC, **Levintow SN**, Reams DR, Bradbury BD, Brookhart MA. Using negative control outcomes to assess the comparability of osteoporosis treatment groups among women with osteoporosis in the United States. International Conference on Pharmacoepidemiology, Philadelphia, PA, August 2019 (Oral).
14. **Levintow SN**, Pence BW, Powers KA, Sripaipan T, Ha TV, Chu VA, Quan VM, Latkin CA, Go VF. The effect of depression on HIV transmission risk behaviors among people who inject drugs in Vietnam. International Workshop on HIV and Hepatitis Observational Databases, Athens, Greece, March 2019; and Annual Meeting of the Society for Epidemiologic Research, Minneapolis, MN, June 2019 (Posters).

15. **Levintow SN**, McGrath LJ, Cole SR, Brookhart MA. Estimating cumulative risk in the presence of competing events and dependent censoring in pharmacoepidemiology studies. International Conference on Pharmacoepidemiology and Therapeutic Risk Management, Prague, Czech Republic, August 2018 (Oral).
16. **Levintow SN**, Powers KA, Golin CE, Knight K, Flynn PM, Carda-Auten J, Groves JS, Pence BW, White BL, Napravnik S, Wohl DA. A mathematical modeling analysis of HIV transmission following release from prisons in the US among participants in the imPACT intervention trial. International AIDS Conference, Amsterdam, Netherlands, July 2018 (Poster).
17. **Levintow SN**, Pence BW, Ha TV, Minh NL, Sripaipan T, Latkin CA, Vu PT, Quan VM, Frangakis C, Go VF. Depressive symptoms at HIV testing and two-year survival among men who inject drugs in Vietnam. Annual Meeting of the Society for Epidemiologic Research, Baltimore, MD, June 2018 (Poster).
18. **Levintow SN**, Okeke NL, Mkumba L, Virkud A, Davy-Méndez T, Napravnik S, Sebastian J, Hué S, Miller WC, Eron JJ, Dennis AM. Prevalence and transmission dynamics of HIV-1 transmitted drug resistance in central North Carolina. International AIDS Society Conference on HIV Science, Paris, France, July 2017 (Poster).
19. **Levintow SN**, Powers KA, Pence BW, Meshnick SR, Latkin CA, Go VF. Forward HIV transmission among people who inject drugs in Vietnam. Clinic on Meaningful Modeling of Epidemiological Data, African Institute for Mathematical Sciences, Muizenberg, South Africa, June 2017 (Poster).
20. **Levintow SN**, Pence BW, Ha TV, Minh NL, Sripaipan T, Latkin CA, Vu PT, Quan VM, Frangakis C, Go VF. A risk score for depressive symptoms among HIV-positive men who inject drugs in Vietnam. Annual Meeting of the American Public Health Association, Denver, CO, October 2016 (Poster).
21. Tonidandel A, **Levintow SN**, Tonidandel S, Thomas, J. The effectiveness of high fidelity simulation in the training of anesthesia providers: A meta-analysis of prospective trials. Annual Conference of the Society for Obstetric Anesthesia and Perinatology, Las Vegas, NV, April 2011 (Poster).

Doctoral dissertation

Levintow SN. The role of depression in HIV transmission among people who inject drugs in Vietnam. Dissertation, the University of North Carolina at Chapel Hill. Ann Arbor: ProQuest/UMI, 2020 (ProQuest document ID 27833745).

GRANTS

Current

Principal Investigator

K01 AI171088

Investigating SARS-CoV-2 transmission dynamics in jails to address the COVID-19 public health emergency

National Institute of Allergy and Infectious Diseases

August 22, 2022 – July 30, 2027

Co-Investigator (co-PIs: Vivian Go, William Miller)

R01 DA047876

Scaling up HPTN 074: a Cluster Randomized Implementation Trial of an Evidence-based Intervention for Antiretroviral Therapy for PWID in Vietnam

National Institute on Drug Abuse

September 1, 2018 – June 30, 2024

Co-Investigator (co-PIs: Vivian Go, William Miller, Giang Le)

R01 AA030479

A brief alcohol intervention to reduce alcohol use and improve PrEP outcomes among men who have sex with men: A randomized controlled trial in Vietnam

National Institute on Alcohol Abuse and Alcoholism

September 20, 2022 – July 31, 2027

Completed

Co-Investigator (PI of UNC sub-contract: Kimberly Powers)

R01 AI143875 (co-PIs: Aaron Siegler, Patrick Sullivan)

Integrating a combination HIV prevention intervention into a widely used geosocial networking app for Chinese men who have sex with men

National Institute of Allergy and Infectious Diseases

January 23, 2019 – December 31, 2023

Co-Investigator (PI: Kimberly Powers)

R21 NR018805

The impacts of COVID-19 on the HIV care continuum, HIV care trajectories, and HIV transmission in North Carolina

National Institute of Nursing Research

July 1, 2020 – June 30, 2023

Co-Investigator (PI of UNC sub-contract: Kimberly Powers)

UH3 AI133676 (co-PIs: Sybil Hosek, Audrey French)

Keeping it LITE: Exploring HIV Risk in Vulnerable Youth with Limited Interaction

National Institute of Allergy and Infectious Diseases

August 1, 2022 – July 31, 2023

Principal Investigator

R36 DA045569

The role of depression in HIV transmission among people who inject drugs in Vietnam

National Institute on Drug Abuse

August 1, 2018 – July 31, 2021

TEACHING RECORD

Course Instruction

Co-Instructor, UNC Chapel Hill

Problem Solving Seminar in Advanced Infectious Disease Epidemiology, EPID 799C (9 students)

2023

Fundamentals of Epidemiology, EPID 710 (online, 11 students)	2023
Problem Solving Seminar in Advanced Infectious Disease Epidemiology, EPID 799B (7 students)	2023
Data Management in SAS and R, EPID 700 (31 students)	2019
R for Epidemiologists, EPID 799C (20 students)	2018
<i>Guest Lectures, UNC Chapel Hill</i>	
Introduction to Infectious Disease Epidemiology, EPID 755	2019, 2020, 2024
Data in Public Health, EPID 795	2023
Data Management in SAS and R, EPID 700	2017, 2018, 2021, 2022
A Gentle Introduction to Simulations for Epidemiology, EPID 799A	2020
Analytic Methods in Observational Epidemiology, EPID 718	2018
Advanced Methods in Infectious Disease Epidemiology, EPID 754	2017
<i>Workshop Instructor</i>	
“Introduction to R for Population Health Sciences” half-day workshop (3 participants) Invited by Duke University	February 2024
“Introduction to R for Population Health Sciences” half-day workshop (7 participants) Invited by Duke University	March 2023
“Introduction to R: Tutorial” half-day workshop (14 participants) Invited by Center for Pharmacoepidemiology, UNC Chapel Hill	December 2022
“An Introduction to Data Analysis Using R” half-day workshop (12 participants) Invited by Washington University in St. Louis	March 2022
“R for Epi and Public Health” one-day workshop (cancelled due to SARS-CoV-2 pandemic) Sponsored by North Carolina Institute for Public Health	May 2020
“R for Population Health” one-day workshop (26 participants) Sponsored by Novartis Inc., Duke University, and American Underground	October 2019
“R Primer for Population Health Sciences” one-day workshop (12 participants) Sponsored by Duke University	August 2019
“R for Epi and Public Health” one-day workshop (20 participants) Sponsored by North Carolina Institute for Public Health	May 2019

Teaching Assistantships, UNC Chapel Hill

R for Epidemiologists, EPID 799C 2017
 Theory and Quantitative Methods in Epidemiology / Epidemiologic Data Analysis, EPID 715 / 716 2017

ADVISING

Doctoral Dissertation Committee Membership (Department, Graduation Year)

Cara Broshkevitch (UNC Department of Epidemiology, Current)

Kristen Cowan (UNC Department of Epidemiology, Current)

Molly Remch (UNC Department of Epidemiology, Current)

Olivia Vaz (UNC Department of Epidemiology, Current)

SERVICE

Peer Reviewer 2017-present
AIDS and Behavior, AIDS Care, AIDS Research and Treatment, American Journal of Epidemiology, American Journal of Tropical Medicine and Hygiene, BMC Infectious Diseases, Drug and Alcohol Dependence, International Journal of STD & AIDS, Journal of Acquired Immune Deficiency Syndromes, Journal of Correctional Health Care, Journal of Psychoactive Drugs, Microbial Drug Resistance, Nature Reviews, North Carolina Medical Journal, Open Forum Infectious Diseases, Virology

Class Ambassador, Davidson College 2021-2023

HIV/STI Counselor, Student Health Action Coalition, UNC Chapel Hill 2017-2020

Chair Search Committee Member, Department of Epidemiology, UNC Chapel Hill 2017

MEMBERSHIPS

American Society of Tropical Medicine and Hygiene 2022-Present

International Society for Pharmacoepidemiology 2018-Present

Society for Epidemiologic Research 2018-Present

International AIDS Society 2017-Present

American Public Health Association 2016-Present