

Curriculum Vitae

Audrey Renson

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Work Address: Carolina Population Center
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Education

- PhD in Epidemiology (ABD, expected May 2022), Gillings School of Global Public Health, UNC-Chapel Hill
Dissertation title: Difference-in-differences for survival outcomes: Estimating minimum wage effects on Black-white disparities in cardiovascular disease
Committee: Allison E. Aiello, Christy L. Avery, Michael G. Hudgens, Alexander Keil, Whitney R. Robinson
- MPH in Epidemiology and Biostatistics, CUNY School of Public Health, New York, 2017
Thesis title: Sociodemographic variation in the oral microbiome
Committee: Levi Waldron, Heidi E. Jones, Jennifer B. Dowd
- BS in Community Health, CUNY Hunter College, New York, 2014

Positions

5/2019 to Present	Predocctoral Scholar Dr. Allison Aiello and Dr. Kathleen Mullan Harris Carolina Population Center Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina-Chapel Hill, Chapel Hill, NC
8/2018 to 4/2019	Graduate Research Assistant Dr. Allison Aiello Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina-Chapel Hill, Chapel Hill, NC
11/2016 to 5/2019	Graduate Research Assistant Dr. Jennifer Dowd and Dr. Levi Waldron Departments of Epidemiology and Biostatistics, CUNY School of Public Health, New York, NY Responsibilities: Design and analysis of observational studies on epidemiology of the human microbiota.

2/2016 to 7/2018	<p>Assistant Research Scientist</p> <p>Department of Population Health, Division of Biostatistics, NYU School of Medicine, New York, NY</p> <p>Responsibilities: Biostatistical and epidemiologic consulting for clinical research projects, initiated by clinicians or requested by departments. Designed and taught evidence-based medicine and epidemiology workshops for residents.</p>
3/2015 to 2/2016	<p>Positive Pathways Advocate</p> <p>The Osborne Association, Bronx, NY</p> <p>Responsibilities: Perform HIV testing in prisons, patient advocacy and case management for recently incarcerated HIV positive individuals, data collection and management.</p>
3/2014 to 12/2014	<p>Research Associate</p> <p>Dr. Nicholas Freudenberg</p> <p>Department of Community Health and Social Science, CUNY School of Public Health, New York, NY</p> <p>Responsibilities: Conducted community-based participatory research on neighborhood alcohol exposure. Taught quantitative research methods workshops for undergraduate interns.</p>
5/2013 to 1/2014	<p>Research Assistant</p> <p>Dr. Grace Sembajwe</p> <p>Department of Occupational and Environmental Health, CUNY School of Public Health, New York, NY</p> <p>Responsibilities: Designed a questionnaire and interview guide to assess occupational hazards of indoor sex work.</p>

Academic Awards

2020	Rosenau Book Award, EPID722 Advanced Epidemiologic Methods, UNC Gillings School of Global Public Health
2020	Best Presentation, UNC Carolina Population Center “Hackathon”
2018	Dean’s Merit Award for Research, CUNY SPH
2017	Best Oral Presentation, Master’s Thesis Presentations, CUNY SPH
2017	Caring for Health Quality and Research Award, NYU Langone Health, New York
2014	Graduated summa cum laude, CUNY Hunter College, New York
2012 to 2014	Recipient, Undergraduate Scholarship, Scholarship & Welfare Fund of the Alumni Association of Hunter College
2013	Recipient, Jennifer J. Raab Presidential Fellowship, CUNY Hunter College,

Publications (*=corresponding author)

Peer reviewed public health:

31. Mirzayi C, **Renson A**, Zohra F, Elsafoury S, Kasselmann L, van de Wijger J, Segata N, Beghini F, Dowd J, Jones H, Waldron L. Strengthening The Organizing and Reporting of Microbiome Studies (STORMS). *Nat Med*. In Press. doi: 10.1038/s41591-021-01552-x
30. **Renson A***, Chung EO, Lodge EK. Methods for estimating the effect of minimum wages on health should target policy-relevant parameters. *Am J Epidemiol*. In Press. doi: 10.1093/aje/kwaa117
29. Aiello A, **Renson A**, Zivich P. Social media and internet-based disease surveillance. *Annu Rev Public Health*. 2020;41:101-118. doi: 10.1146/annurev-publhealth-040119-094402
28. **Renson A***, Kasselmann LJ, Dowd JB, Waldron L, Jones HE, Herd P. Renson A, Kasselmann LJ, Dowd JB, Waldron L, Jones HE, Herd P. Gut bacterial taxonomic abundances vary with cognition, personality, and mood in the Wisconsin Longitudinal Study. *Brain Behav Immun – Health*. 2020;9:100155. doi: 10.1016/j.bbih.2020.100155
27. **Renson A**, Harris KM, Dowd JB, Gaydos L, McQueen MB, Krauter KS, Aiello AE. Early signals of gut microbiome aging: immune and cardiometabolic phenotypes in young adulthood. *J Gerontol A-Biol*. 2020;75(7):1258–1266. doi: 10.1093/gerona/glaa122
26. **Renson A**, Herd P, Dowd J. Sick individuals and sick (microbial) populations: Challenges in epidemiology and the microbiome. *Annu Rev Public Health*. 2020;41:63-80. doi: 10.1146/annurev-publhealth-040119-094423
25. Robinson W, **Renson A**, Naimi A. Teaching yourself about structural racism will enhance your machine learning. *Biostatistics*. 2019; 21(2):339–344. doi: 10.1093/biostatistics/kxz040
24. **Renson A***, Jones HE, Beghini F, Segata N, Zolnik CP, Usyk M, Thorpe L, Burk R, Waldron L, Dowd JB. Sociodemographic variation in the oral microbiome. *Ann Epidemiol*. 2019;35:73-80. doi: 10.1016/j.annepidem.2019.03.006
23. Beghini F, **Renson A**, Zolnik C, Geistlinger L, Usyk M, Moody TU, Thorpe L, Dowd JB, Burk R, Segata N, Jones HE, Waldron L. Tobacco exposure associated with oral microbiota oxygen utilization in the New York City Health and Nutrition Examination Study. *Ann Epidemiol*. 2019;34:18-25. doi: 10.1101/470286.
22. Dowd JB, **Renson A**. “Under the Skin” and into the gut: social epidemiology of the microbiome. *Curr Epidemiol Rep*. 2018;5(4):432-441. doi: 10.1007/s40471-018-0167-7

21. Pasolli E, Schiffer L, **Renson A**, Obenchain V, Manghi P, Tin Truong D, Beghini F, Malik F, Ramos M, Dowd JB, Huttenhower C, Morgan M, Segata N, Waldron L. Accessible, curated metagenomic data through ExperimentHub. *Nat Methods*. 2017 Oct 31;14(11):1023-1024. doi: 10.1038/nmeth.4468

20. Wolff M, Wells B, Ventura-Dipersia C, **Renson A**, Grov C. Measuring sexual orientation: a review and critique of U.S. data collection efforts and implications for health policy. *J Sex Res*. 2017;54(4-5):507–531. doi: 10.1080/00224499.2016.1255872

Peer-reviewed clinical research:

19. Michael J, Velazquez N, **Renson A**, Tan HJ, Rose TL, Osterman C, Milowsky M, Raynor M, Kang SK, Huang WC, Bjurlin MA. Overall survival of biopsy confirmed T1b and T2a kidney cancers managed with observation: Prognostic value of tumor histology. *Clin Genitourin Cancer*. 2021, In Press.

18. Siev M, **Renson A**, Tan H-J, Rose TL, Kang SK, Huang WC, Bjurlin MA. Prognostic value of histologic subtype and treatment modality for T1a kidney cancers. *Kidney Cancer*. 2020;49–58. doi: 10.3233/KCA-190072

17. Taylor J, Meng X, **Renson A**, Smith, A, Wysock J, Taneja S, Huang W, Bjurlin MA. Different Models for Prediction of Radical Cystectomy Post-Operative Complications and Care Pathways. *Therap Adv Urol*. 2019;11:1756287219875587.

16. **Renson A***, Bjurlin MA. The Charlson Index is insufficient to control for comorbidities in a national trauma registry. *J Surg Res*. 2019;236:319-25. doi: 10.1101/329581

15. **Renson A***, Schubert FD, Gabbe LJ, Bjurlin MA. Interfacility transfer is associated with lower mortality in undertriaged gunshot wound patients. *J Surg Res*. 2019;236:74-82. doi: 10.1016/j.jss.2018.11.011

14. Velazquez N, Press B, **Renson A**, Wysock JS, Taneja S, Huang WC, Bjurlin MA. Development of a novel prognostic risk score for predicting complications of penectomy in the surgical management of penile cancer. *Clin Genitourin Cancer*. 2019; 17(1):e123-9. doi: 10.1016/j.clgc.2018.09.018

13. Schubert FD, Gabbe L, Bjurlin MA, **Renson A***. Differences in trauma mortality between ACS-verified and state-designated trauma centers in the US. *Injury*. 2019;186:191-50. doi: 10.1016/j.injury.2018.09.038

12. Martingano D, **Renson A**, Rogoff S, Singh S, Kesavan Nasir M, Kim J, Carey J. Daily gentamicin using ideal body weight demonstrates lower risk of postpartum endometritis and increased chance of successful outcome compared with traditional 8-hour dosing for the treatment of

intrapartum chorioamnionitis. *J Matern Fetal Neonatal Med.* 2019; 32(19):3204-8. doi: 10.1080/14767058.2018.1460348

11. Kenigsberg AP, **Renson A**, Rosenkrantz AB, Huang R, Wysock JS, Taneja SS, Bjurlin MA. Optimizing the number of cores targeted during prostate magnetic resonance imaging fusion target biopsy. *Eur Urol Oncol.* 2018;1(5):418-25.

10. Fakhoury MQ; Gordon B; Horter B; **Renson A**; Borofsky MS; Cohn MR; Cabezon E; Wysock JS; Bjurlin M. Perceptions of dietary factors promoting and preventing nephrolithiasis: a cross-sectional survey. *World J Urol.* 2018;1-9. doi: 10.1007/s00345-018-2562-6

9. **Renson A***, Schubert F, Bjurlin MA. Lack of health insurance associated with lower probability of head computed tomography among United States traumatic brain injury patients. *Med Care.* 2018;56(12):1035-1041. doi: 10.1097/MLR.0000000000000986

8. Armstrong BN, **Renson A**, Zhao LC, Bjurlin MA. Development of novel prognostic models for predicting complications of urethroplasty. *World J Urol.* 2018; 23:1-7. doi: 10.1007/s00345-018-2413-5

7. Bjurlin MA, **Renson A**, Fantus RJ, Fantus RJ. Impact of trauma center designation and interfacility transfer on renal trauma outcomes: evidence for universal management. *Eur Urol Focus.* 2018;S2405-4569(18)30154-8. doi:10.1016/j.euf.2018.06.006

6. Bjurlin MA, **Renson A**, Rais-Bahrami S, Truong M, Rosenkrantz AB, Huang R, Taneja SS. Predicting benign prostate pathology on magnetic resonance imaging/ultrasound fusion biopsy in men with a prior negative 12-core systematic biopsy: external validation of a prognostic nomogram. *Eur Urol Focus.* 2018;S2405-4569(18)30122-6. doi: 10.1016/j.euf.2018.05.005

5. **Renson A***, Musser B, Schubert F, Bjurlin MA. Seatbelt use is associated with lower risk of high grade hepatic injury in motor vehicle crashes in a national sample. *J Epidemiol Community Health.* 2018;72(8):746-751. doi:10.1136/jech-2018-210437

4. Meng X, Press B, **Renson A**, Wysock JS, Taneja SS, Huang WC, Bjurlin MA. Discriminative ability of commonly used indices to predict adverse outcomes after radical cystectomy: Comparison of demographics, ASA, modified Charlson comorbidity Index, and modified frailty index. *Clin Genitourin Cancer.* 2018;18(1):44-52. doi: 10.1016/j.clgc.2018.02.009

3. Martingano D, **Renson A***, Martingano AJ, Martingano FX. Variations in progression and regression of precancerous lesions of the uterine cervix on cytology testing among women of different races. *J Am Osteopath Assoc.* 2018;118(1):8–18. doi: 10.7556/jaoa.2018.003

2. Martingano D, Guan X, **Renson A**, Singh S, Kesavan Nasir M, Kim J, Carey J. Daily dosing of gentamicin using ideal body weight for the treatment of intrapartum chorioamnionitis: a pilot study. *J Matern Fetal Neonatal Med.* 2018;31(9):1194-1197. doi: 10.1080/14767058.2017.1311861

1. Gieniusz M, Nunes R, Saha V, **Renson A**, Schubert F, Carey J. Earlier goals of care discussions in hospitalized terminally ill patients and the quality of end-of-life care. *Am J Hosp Palliat Care*. 2018;35(1):21-27. doi: 10.1177/1049909116682470.

Under Review

Renson A, Dennis AC, Noppert G, McClure ES, Aiello AE. Interventions on socioeconomic and racial inequities in respiratory pandemics: a rapid systematic review. Under Review at Current Epidemiology Reports, November 2020.

Moussa M, **Renson A**, Reategui-Schwartz E, Otuonye A, Hayon J, Ha JE, Oikonomou K, Philips M. Assessing the impact of disposable stethoscope covers on reduction of stethoscope microorganisms: a pilot randomized, single-masked, crossover trial. Under Review at PLOS ONE, August 2021.

Conference Abstracts

Renson A, Zivich PN, Keil AP, Hummer RA, Harris KM, Aiello AE. The impact of a hypothetical cash transfer intervention on racial/ethnic hypertension disparities in young adults. Oral presentation at Society for Epidemiologic Research (digital), December 2020.

Zhu D, **Renson A**, Ye A, Zivich P, Volfovsky A, Aiello AE. Contagion and homophily of mental health status in a social network of university students. Poster presentation at International Conference on Infectious Disease Dynamics, Charlston, SC, December 2019.

Renson A, Harris KM, Dowd JB, Gaydos L, McQueen MB, Krauter KS, Aiello AE. Microbiome-immune system interactions in Add Health. Poster presentation at Interdisciplinary Association for Population Health Sciences Annual Meeting, Seattle, WA, October 2019.

Mcnary J, Blyth M, DeCano A, Schubert F, **Renson A**, Carey J. A retrospective chart review of emergent antibiotic use. Poster presentation at International Society for Evolution, Medicine, and Public Health, Zurich, Switzerland, August 2019.

Blyth M, McNary J, Schubert F, **Renson A**, Carey J. Evolutionary Predictions and Understanding of Sepsis. Poster presentation at International Society for Evolution, Medicine, and Public Health, Zurich, Switzerland, August 2019.

Renson A, Kasselmann LJ, Beghini F, Jones HE, Waldron L, Herd P, Dowd JB. Cognition, mood, and fecal microbiota composition in a population-based sample of older adults. Poster presentation at Society for Epidemiologic Research Annual Meeting, Minneapolis, MN. June 2019.

Renson A, Aiello AE, Yang YC. Cohort effects in C-reactive protein. Oral presentation at the NIA-Sponsored Biomarker Network Meeting, Austin, TX, April 2019.

Renson A, Beghini F, Dowd J, Jones H, Waldron L. Sociodemographic variation in the oral microbiome. Oral presentation at Interdisciplinary Association for Population Health Sciences, Washington, D.C., Sept 2018.

Wolff M, Ventura-Dipersia C, **Renson A**. Data collection on sexual orientation and gender identity within national health surveys for two English-speaking nations: a comparison between the United States and the United Kingdom. Oral presentation at American Public Health Association Annual Meeting, Chicago, IL, Oct 2015.

Rafatnia F, **Renson A**, Obeidat A, Rajmane R. Successfully decreasing sepsis mortality in an academic community hospital. Poster presented at NYU School of Medicine, Department of Medicine Annual Research Day, New York, NY, May 2017.

Al-Kadhi A, **Renson A**, Morgan DC. Evaluating ethnic differences in the labor curve in Arabic women: a retrospective cohort study. Poster presented at American Congress of Obstetricians and Gynecologists Annual Clinical and Scientific Meeting, San Diego, CA, May 2017.

Renson A, Schubert FD. Access to needed health care, race/ethnicity, and sexual orientation: Using R to analyze the New York City Community Health Survey. Poster presented at New York City Epidemiology Forum, New York, NY, Feb 2016.

Renson A, Sembajwe G. Criminalization of sex work as structural violence: a literature review. Poster presented at the CUNY Graduate Center Sexuality and Public Health Symposium, New York, NY, Sep 2013.

Research Support

5/2019 to Present Eunice Kennedy Shriver National Institute of Child Health and Human Development
5 T32-HD091058-02
Predoctoral Trainee
Principal Investigators: Allison Aiello & Kathleen Mullan Harris
Grant Title: Interdisciplinary Training in Life Course Research

Workshops

2016-2017 Epidemiology and Biostatistics for Clinicians, series of five 1-hour lectures
NYU School of Medicine, New York
2017 Microbiome Data Analysis Workshop Using R/Bioconductor
Weill Cornell Medicine, New York

Professional Society Memberships

2019 to Present	Member, Interdisciplinary Association for Population Health Sciences
2019 to Present	Member, Population Association of America
2017 to Present	Member, Society for Epidemiologic Research

Ad hoc referee

International Journal of Epidemiology, American Journal of Infection Control, PLOS ONE, Applied Sciences, British Journal of Cancer

Skills

Epidemiologic methods

Statistical/data analysis (causal inference with complex longitudinal data, machine learning, Bayesian and frequentist, survival analysis, high dimensional, data visualization, geospatial)

Strong scientific writing ability

Programming languages: R (expert), Stan (proficient), Python (proficient),

SAS (proficient), Stata (conversational), VBA (intermediate), SQL (intermediate)

Data science: R markdown, Git/Github, R package creation, machine learning, data visualization

Experience working with large clinical and population-based datasets: Add Health, Health and Retirement Study, NHANES, NYC-HANES, National Cancer Database, National Trauma Data Bank, National Surgical Quality Improvement Program, electronic health records