

# NICK GRAETZ

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## ACADEMIC POSITIONS

2021-Present            Post-Doctoral Research Associate, Eviction Lab. Princeton University.

## EDUCATION

2021    Ph.D., Demography and Sociology (*with distinction*), University of Pennsylvania.

**Dissertation:** “The relational role of place in the production of racial stratification”

**Committee:** Irma Elo (chair), Courtney Boen, Xi Song, Tukufu Zuberi, Daniel Aldana Cohen

**Exams:** Structural racism and the political economy of place (*with distinction*); Demography

2018    M.A., Demography, University of Pennsylvania.

2016    M.P.H., Health Metrics and Evaluation, University of Washington.

2013    B.S., Psychology (*with distinction*) and Political Science, University of Wisconsin-Madison.

## RESEARCH AND TEACHING INTERESTS

Structural racism, housing, racial segregation, social policy, political economy, population health, causal inference, mediation analysis, Bayesian small area estimation, data visualization

## PROFESSIONAL POSITIONS

2021-Present            Research Affiliate, *Penn Population Studies Center*, Philadelphia, PA.

2020-Present            Member, *climate + community project*, Philadelphia, PA.

2019-Present            Junior Research Fellow, *Data for Progress*, New York City, NY.

2018-Present            Co-Principal Investigator, *Whole Community Climate Mapping*, Philadelphia, PA.

2018-2020                Technical Consultant, *Council on Foreign Relations*. Washington, D.C.

2016-2019                Researcher, *Institute for Health Metrics and Evaluation*, Seattle, WA.

2015-2015                Visiting Research Fellow, *University of Zambia*, Lusaka, Zambia.

2013-2016                Post-Bachelor Fellow, *Institute for Health Metrics and Evaluation*. Seattle, WA.

## SELECT PEER REVIEWED PUBLICATIONS

**Graetz, N.**, Ummel, K., Cohen, D.A. (2021). Small-area analyses using public American Community Survey data: A tree-based spatial microsimulation technique. *Sociological Methodology* (*forthcoming*).

Boen, C., Keister, L.A., **Graetz, N.** (2021). Household wealth and child body mass index: Patterns and mechanisms. *RSF: The Russell Sage Foundation Journal of the Social Sciences* 7(3): 80–100.

**Graetz, N.** et al. (2020). Mapping persistent local disparity in educational attainment across low- and middle-income countries. *Nature* 577: 235-238.

**Graetz, N.**, Preston, S.H., Peele, M., Elo, I.T. (2020). Ecological factors associated with suicide mortality among non-Hispanic whites. *BMC Public Health* 20(1339).

Friedman, J., York, H., **Graetz, N.** et al. (2020). Measuring and forecasting progress towards the education-related SDG targets. *Nature* 580: 636-639.

**Graetz, N.** et al. (2018). Mapping local variation in education across Africa, 2000-2015. *Nature* 555: 48-53.

Reiner, R. C., **Graetz, N.**, et al. (2018). Variation in childhood diarrheal morbidity and mortality in Africa, 2000-2015. *New England Journal of Medicine* 379: 1128-1138.

Friedman, J., **Graetz, N.**, Gakidou, E. (2018). Improving the estimation of educational attainment: New methods for assessing average years of schooling from binned data. *PLoS ONE* 13(11).

Haagsma, J., **Graetz, N.**, et al. (2015). The global burden of injury: Incidence, mortality, disability-adjusted life years and time trends from the Global Burden of Disease Study 2013. *Injury Prevention* 22(1): 3-18.

## MANUSCRIPTS UNDER REVIEW

**Graetz, N.**, Boen, C., Esposito, M.H. (2021). Structural racism and quantitative causal inference: A life-course mediation framework for decomposing racial health disparities. *Revise and resubmit*.

**Graetz, N.**, Elo, I.T. (2021). Decomposing county-level working-age mortality trends in the United States between 2000 and 2017. *Revise and resubmit*.

Boen, C., **Graetz, N.**, et al. (2021). Early life patterns of criminal justice involvement: Inequalities by race-ethnicity, gender, and socioeconomic status. *Revise and resubmit*.

Bollyky, T., **Graetz, N.**, et al. (2021). Growing up and moving out: Migration and the demographic transition in low-income nations. *Revise and resubmit*.

**Graetz, N.** (2021). Mechanisms connecting neighborhood disadvantage to child development: A life-course mediation analysis.

Cohen, Daniel A., **Graetz, N.**, Prins, Seth J., Esposito, M. (2021). American Eco-Apartheid: Mapping the links between racial disparities in longevity with political economy, state violence, and environmental exposure.

**Graetz, N.** (2021). Mechanisms maintaining Black-white trends and disparities in life-course wealth accumulation.

## MANUSCRIPTS IN PREPARATION

**Graetz, N.** (2021). Historical mechanisms connecting home values over three generations to contemporary Black-white disparities in health and wealth.

**Graetz, N.** & Esposito, M. (2021). Historical redlining and contemporary racial disparities in neighborhood life expectancy.

**Graetz, N.** & Song, X. (2021). G-computation for decomposing population disparities: Three-way effect decomposition with a new R package multmed.

Boen, C., **Graetz, N.**, Venkataramani, A., Peele, M., Ortiz, R. (2021). The roles of state and local immigration policy in shaping population patterns of health inequality.

**Graetz, N.**, Boen, C., Pedroza, J. (2021). Geographic variation in levels and trends of ICE activity.

## CONFERENCE PRESENTATIONS (\* = presenter)

### PAA (Population Association of America) Annual Meeting

**Graetz, N.\*** (2021). Historical mechanisms connecting home values over three generations to contemporary Black-white disparities in wealth and health. *Intergenerational Transmission of Poverty and Human Capital*.

**Graetz, N.\***, Song, X. (2021). G-computation for decomposing population health disparities: 3-way effect decomposition with a new R package multmed. *Debate and Innovation in Global Population and Health Methods and Metrics*.

Boen, C.\*, **Graetz, N.**, et al. (2021). The roles of state and local immigration policy in shaping spatial and age patterns of health inequality. *Immigrant and Immigration Policy: Changes and Effects*.

Boen, C.\*, **Graetz, N.**, et al. (2021). Early life patterns of criminal justice involvement: Inequalities by race-ethnicity, gender, and socioeconomic status. *The Collateral Consequences of Punishment*.

**Graetz, N.\*** (2019). The direct and indirect psychosocial consequences of neighborhood disadvantage on cognitive development: A novel application of the parametric g-formula. *Neighborhood Influences on Children and Youth*.

**Graetz, N.\***, Elo, I. (2019). The role of changing socioeconomic conditions, healthcare, and health behaviors in U.S. county-level mortality trends, 2000-2015. *Spatial Distribution of Diseases and Deaths*.

**Graetz, N.**, Woyczynski, L.\* (2019). Local variation in educational attainment in low- and middle-income countries, 2000-2017. *Education Outcomes in Low- and Middle-Income Countries*.

Friedman, J.\*, **Graetz, N.**, et al. (2018). Measuring the distribution of education: Global trends, forecasts, and inequality metrics. *Global Trends in Educational Stratification*.

**Graetz, N.\***, et al. (2017). Measuring the geographic distribution of maternal education in Africa. *Sustainable Development Goals and Demography*.

### ASA (American Sociological Association) Annual Meeting

**Graetz, N.\*** (2021). Cohort variation in the life course mechanisms producing Black-white wealth gaps, 1968-2017. *New Approaches to Understanding and Addressing Inequality*.

Boen, C.\*, **Graetz, N.**, et al. (2021). The roles of state and local immigration policy in shaping spatial and age patterns of health inequality. *Social Processes, Aging, and Health*.

Boen, C.\*, **Graetz, N.**, et al. (2021). Early life patterns of criminal justice involvement: Inequalities by race-ethnicity, gender, and socioeconomic status. *Aging and the Life Course at a Time of Multiple Crises*.

**Graetz, N.\***, Boen, C. (2020). Racism and causal inference: Identifying the life course determinants of racial disparities in adult cardiometabolic risk. *Expanding Diversity of Biosocial Research: Opportunities and Challenges*.

**Graetz, N.\***, Elo, I. (2019). The role of changing socioeconomic conditions, healthcare, and health behaviors in U.S. county-level mortality trends, 2000-2015. *Mortality and Morbidity*.

IAPHs (Interdisciplinary Association of Population Health Science) Annual Conference

**Graetz, N.**, Esposito, M. (2021). Historical redlining and contemporary racial disparities in neighborhood life expectancy.

Boen, C.\*, **Graetz, N.**, Venkataramani, A., Peele, M., Ortiz, R. (2020). The roles of state and local immigration policy in shaping population patterns of health inequality.

PHS (Population Health Sciences) Annual Workshop

**Graetz, N.\*** (2019). Identifying early-life leverage points for change: A longitudinal decomposition of Black-White adult health disparities using the parametric g-formula.

## INVITED PRESENTATIONS

“Comments on Entwisle (2007): Putting people into place.” Population Association of America webinar. *PAA Presidential Address Topics: Where Are They Now?* December 8, 2020.

## REPORTS AND POLICY BRIEFS

Johanna Bozuwa, Thea Riofrancos, Sarah Knuth, Patrick Robbins, Suzy Baker, A.L. McCullough, Kira McDonald, Chelsea Mackin, Daniel Aldana Cohen, Billy Fleming, **Nick Graetz**, and Neilay Shah (2021). A New Era of Public Power: A vision for New York Power Authority in pursuit of climate justice. *climate + community project*.

Daniel Aldana Cohen, Rachel Mulbry, A.L. McCullough, Kira McDonald, **Nick Graetz**, Billy Fleming (2021). A Green New Deal for public housing to deliver racial, economic, and climate justice. *climate + community project*.

Suzy Baker, Johanna Bozuwa, Daniel Aldana Cohen, **Nick Graetz**, Sarah Knuth, Chelsea Mackin, A.L. McCullough, Thea Riofrancos, Patrick Robbins, Neilay Shah (2021). A new era of public power: A vision for New York Power Authority (NYPA) in pursuit of climate justice. *climate + community project (prepared for the New York Power Authority)*.

Akira Drake Rodriguez, Daniel Aldana Cohen, Kira McDonald, **Nick Graetz**, Erika Kitzmiller, Billy Fleming (2021). Green Stimulus for K-12 Schools. *climate + community project (prepared for the Office of Jamaal Bowman)*.

Daniel Aldana Cohen, J. Mijin Cha, **Nick Graetz**, and Raka Sen (2021). Securing Climate Justice Investments in New York’s Climate Leadership and Community Protection Act. *Socio-Spatial Climate Collaborative (prepared for the New York State Energy Research and Development Authority)*.

**Nick Graetz** (2020). COVID-19 in Philadelphia. *Socio-Spatial Climate Collaborative (prepared for the Office of Nikil Saval)*.

Steven Highside, Billy Fleming, Hayley Richardson, Emily Mangan, Scott Goldstein, Ben Fried, Ashley Pryce, Natalee Rivera, Daniel Aldana Cohen, Xan Lillehei, Katie Lample, **Nick Graetz**, Julian Brave NoiseCat (2020). A Green New Deal for City and Suburban Transportation. *Data for Progress*.

Billy Fleming, Daniel Aldana Cohen, **Nick Graetz**, Katie Lample, Alexandra Lillehei, Kira McDonald, Julian Brave NoiseCat, Mark Paul (2019). Public Housing at Risk: Adaptation through a Green New Deal. *Data for Progress*.

Daniel Aldana Cohen, Billy Fleming, Kira McDonald, Julian Brave NoiseCat, **Nick Graetz**, Katie Lample, Alexandra Lillehei, Mark Paul, Anunya Bahanda (2019). A Green New Deal for American Public Housing Communities. *Data for Progress*.

Daniel Aldana Cohen, Billy Fleming, Kira McDonald, Nick Graetz, Mark Paul, Alexandra Lillehei, Katie Lample, Julian Brave NoiseCat (2019). A Green New Deal for New York City Housing Authority (NYCHA) Communities. *Data for Progress*.

## RESEARCH SUPPORT

NICHD Training Grant T32 HD-007242-36A1. Graduate Student, Sept 2017 to present.

National Institute on Aging R01 AG060115. *Causes of Geographic Divergence in American Mortality Between 1990 and 2015: Health Behaviors, Health Care Access, and Migration*. Irma Elo (PI). Research Assistant, Sept 2017 to present.

Penn Institute on Aging Pilot Awards P30 020-0225-4-672038. *Psychosocial Stress Exposure, Biological Functioning, and Cognitive Change across the Life Course*. Irma Elo (Co-PI), Courtney Boen (Co-PI). Research Assistant, Sept 2018 to present.

## TEACHING

### Courses

*Panel Data Analysis*. Fall 2020 (Teaching Assistant). Graduate course in sociology covering statistical principles and methods in R for longitudinal data analysis, including random- and fixed-effects models, multilevel models, difference-in-difference models, covariance pattern models, survival analysis, and event history analysis.

### Workshops

*Introduction to G-Methods for Observational Causal Inference*. Feb 2020. Two-part workshop given at the Penn Population Studies Center focused on methods for counterfactual causal inference in the presence of time-varying confounding (marginal structural models, parametric g-formula).

*Introduction to R*. June 2019. Two-part workshop given at the Penn Population Studies Center focused on basics of the R programming language: data management (manipulation, cleaning), control flow, functions, generalized linear models, and visualization.

*Data visualization in R*. 2015-2017. Ongoing workshop for data analysts, researchers, and post-docs at the Institute for Health Metrics and Evaluation focused on *ggplot*, *leaflet*, and interactive applications in R-Shiny.

*Spatial statistics in R*. 2015-2017. Ongoing workshop for data analysts, researchers, and post-docs at the Institute for Health Metrics and Evaluation focused on residual analysis, spatial autocorrelation and space-time modelling using R-INLA.

*Introduction to R*. 2015-2017. Ongoing workshop for new data analysts, researchers, and post-docs at the Institute for Health Metrics and Evaluation focused on basics of the R programming language: data management (manipulation, cleaning), control flow, functions, generalized linear models, and visualization.

## PROFESSIONAL SERVICE AND MEMBERSHIP

Reviewer

American Sociological Review, Social Science & Medicine: Population Health, BioMed Central: Public Health, Research on Social Stratification and Mobility, Humanities and Social Sciences Communications, Journal of Racial and Ethnic Health Disparities

#### Member

Population Association of America, 2016-Present.

American Sociological Association, 2018-Present.

Interdisciplinary Association of Population Health Science, 2020-Present.

Special Sworn Status, US Census Bureau, 2019-Present.

TRAC Fellow, 2020-Present.

#### AWARDS AND FELLOWSHIPS

Institute for Health Metrics and Evaluation (IHME) Post-Bachelor Fellowship, 2013-2016.

University of Wisconsin – Madison Summer Internship Scholarship, 2012.

#### OTHER PEER-REVIEWED PUBLICATIONS

Friedman, J. et al. (2019). Structural vulnerability to narcotics-driven firearm violence: An ethnographic and epidemiological study of Philadelphia's Puerto Rican inner-city. *PLoS ONE* 14(11).

Burstein, R. et al. (2019). Mapping 123 million neonatal, infant and child deaths between 2000 and 2017. *Nature* 574: 353-358.

Reiner, R., et al. (2019). Identifying residual hotspots and mapping lower respiratory infection morbidity and mortality in Africa children from 2000 to 2017. *Nature Microbiology* 4: 2310-2318.

Mosser, J., Gagne-Maynard, W., Rao, P., Osgood-Zimmerman, A., Fullman, N., **Graetz, N.**, et al. (2019). Mapping diphtheria-pertussis-tetanus vaccine coverage in Africa, 2000-2017: A spatial and temporal modelling study. *The Lancet* 393: 1843-1855.

Osgood-Zimmerman, A., Milllear, R., Stubbs, R., Shields, C., Pickering, B., Earl, L., **Graetz, N.**, et al. (2018). Mapping child growth failure in Africa between 2000 and 2015. *Nature* 555: 41-47.

Golding, N., Burstein, R. et al. (2017). Mapping under-5 and neonatal mortality in Africa, 2000–15: A baseline analysis for the Sustainable Development Goals. *The Lancet* 390: 2171-2182.

Gakidou, E. et al. (2017). Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2016: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet* 390: 1345-1422.

Hay, S.I., et al. (2017). Global, regional, and national disability-adjusted life-years (DALYs) for 333 diseases and injuries and health life expectancy (HALE) for 195 countries and territories, 1990-2016: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet* 390: 1260-1344.

Wang, H., et al. (2017). Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet* 390, 1084-1150.

Barber, R., et al. (2017). Healthcare access and quality index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990-2015: A novel analysis from the Global Burden of Disease Study 2015. *The Lancet* 390, 231-266.

- Vos, T. et al. (2016). Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: A systematic analysis for the Global Burden of Disease Study 2015. *The Lancet* 388: 1545-1602.
- Kassebaum, N. et al. (2016). Global, regional, and national levels of maternal mortality, 1990-2015: A systematic analysis for the Global Burden of Disease Study 2015. *The Lancet* 388: 1775-1812.
- Kassebaum, N. et al. (2016). Global, regional, and national disability-adjusted life-years (DALYs) for 315 diseases and injuries and health life expectancy (HALE), 1990-2015: A systematic analysis for the Global Burden of Disease Study 2015. *The Lancet* 388: 1603-1658.
- Lim, S. et al. (2016). Measuring the health-related Sustainable Development Goals in 188 countries: A baseline analysis from the Global Burden of Disease Study 2015. *The Lancet* 388: 1813-1850.
- Morris, J., et al. (2016). Health metrics priorities in the SDG era and beyond: A perspective from young researchers. *The Lancet* 388: 2353-2354.
- Murray, C., Ortblad, K., Guinovart, C., Lim, S., Wolock, T., Roberts, A., Dansereau, E., **Graetz, N.**, et al. (2014). Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 384: 1005-1070.
- Ng, M., Fleming, T., Robinson, M., Thomson, B., **Graetz, N.**, et al. (2014). Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 384: 766-781.
- Naghavi, M. et al. (2015). Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 385: 117-171.
- Vos, T. et al. (2015). Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 386: 743-800.
- Murray, C. et al. (2015). Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition. *The Lancet* 386: 2145-2191.
- Hmwe, K. et al. (2016). Global and national burden of diseases and injuries among children and adolescents between 1990-2013: Findings from the Global Burden of Disease 2013 Study. *JAMA Pediatrics* 170: 267-287.
- Forscher, P.S., Cox, W.T., **Graetz, N.**, Devine, P.G. (2015). The motivation to express prejudice. *Journal of Personality and Social Psychology*. 109: 791-812.