

MATTHEW COATES

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EDUCATION

- PhD**, Epidemiology, University of California, Los Angeles • Los Angeles, CA Expected 2026
Advisor: Onyebuchi Arah
- MPH**, Global Health – Health Metrics and Evaluation, University of Washington • Seattle, WA 2016
Advisor: Haidong Wang
Thesis: Quantifying Selection Bias from Birth History Estimates of Child Mortality
- BA**, Neurobiology, minor in Global Health and Health Policy, Harvard University • Cambridge, MA 2013
Thesis: Association of Socioeconomic Status with Prefrontal Cortical Thickness and Subcortical Volumes in Children and Adolescents

RESEARCH EXPERIENCE

- University of California, Los Angeles**, Los Angeles, California
Graduate Student Researcher 6-8/2022
- Analyze prospective cohort data from the Sister Study estimating the association between experience of perceived job discrimination and incident hypertension using Cox proportional hazards regression
- Brigham and Women's Hospital, Division of Global Health Equity**, Remote in Los Angeles, California
Research Specialist 9/2019 - PRESENT
- Conduct research and draft manuscripts describing the epidemiology and burden of non-communicable diseases and injuries (NCDIs) and their risk factors among populations in extreme poverty from a range of data sources and global estimates
 - Develop models and tools for examining cost, impact, and equity considerations associated with scale-up of interventions to prevent and manage NCDIs in low- and middle-income countries
- Harvard Medical School, Department of Global Health and Social Medicine**
Program in Global Noncommunicable Disease and Social Change, Boston, Massachusetts
Associate 10/2016 - 8/2019
- Primary analyst supporting the work of the *Lancet* Commission on Reframing NCDIs for the Poorest Billion, providing technical support to affiliated national groups/commissions and carrying out analyses and writing for the global *Lancet* commission. Projects included:
 - Analyzed data from sources including Global Burden of Disease estimates, large population health surveys, and verbal autopsy data from health and demographic surveillance systems to quantify disease burden and risk factors exposures in the global poorest billion
 - Estimated potential mortality impact of health sector interventions in low- and middle-income countries in addressing NCDIs
 - Developed metrics to quantify disease severity as a component of equity to consider in intervention priority setting to inform national NCD Strategic Plans

Institute for Health Metrics and Evaluation, Seattle, Washington

Post-Bachelor Fellow

8/2013-8/2016

- Quantitative analytical experience with demographic methods, regression analysis, Gaussian process regression, imputation of missing data, small-area estimation methods, hierarchical mixed-effects models, estimation of population attributable fractions for risk factors of disease and death, and graphical representation of results
- Analyzed survey, vital registration, and sample registration data towards estimating all-cause mortality by age, sex, country, and year, for 188 countries and territories as part of Global Burden of Disease (GBD) 2013 and 195 countries and territories as part of GBD 2015
- Conducted the small area spatial statistical analyses, working with collaborators at the Maternal and Child Health Surveillance program in China to estimate under-5 mortality rates for 2851 China counties
- Updated analytical methods used to calculate disease burden attributable to alcohol consumption as a risk factor of disease and death for GBD 2013 and 2015

University Teaching Hospital, University of Zambia, Lusaka, Zambia

MPH Practicum- Research Assistant

SUMMER 2015

- Merged and formatted patient-level data from pharmacy database, electronic medical records of patient visits, and test results to conduct analysis of factors contributing to adolescent HIV outcomes at antiretroviral therapy (ART) clinic
- Contributed to assessment of current reporting systems and electronic health records to plan early warning indicator reporting system for drug resistance across Zambian ART facilities

PUBLICATIONS

37. Adler AJ, Drown L, Boudreaux C, **Coates MM**, Marx A, Akala O, Waqanivalu T, Xu H, & Bukhman G. (2023). Understanding integrated service delivery: a scoping review of models for noncommunicable disease and mental health interventions in low-and-middle income countries. *BMC Health Services Research*, 23(99).
36. Matthews S, **Coates MM**, Bukhman A, et al. (2022). Health system capacity to manage diabetic ketoacidosis in nine low-income and lower-middle income countries: A cross-sectional analysis of nationally representative survey data. *eClinicalMedicine*, 55: 101759.
35. Haakenstad A, **Coates M**, Bukhman G, McConnell M, & Verguet S. (2022). Comparative health systems analysis of differences in the catastrophic health expenditure associated with non-communicable vs communicable diseases among adults in six countries. *Health Policy and Planning*, 37(9): 1107-1115.
34. **Coates MM**, Ezzati M, Robles Aguilar G, et al. (2021). Burden of disease among the world's poorest billion people: An expert-informed secondary analysis of the Global Burden of Disease estimates. *PLoS ONE* 16(8): e0253073.
33. Gupta N, Mocumbi A, Arwal SH, et al., including **Coates MM** (as part of NCDI Poverty Network Secretariat). (2021). Prioritizing health-sector interventions for noncommunicable diseases and injuries in low- and lower-middle income countries: National NCDI Poverty Commissions. *Global Health Science and Practice*, 9(3).
32. **Coates MM**, Sliwa K, Watkins DA, et al. (2021). An investment case for the prevention and management of rheumatic heart disease in the African Union 2021-30: a modelling study. *Lancet Global Health*, 9(7): E957-E966.
31. Mwangi KJ, Gathecha G, Nyamongo M, et al. including **Coates M**. (2020) Reframing non-communicable diseases and injuries for equity in the era of universal health coverage: findings and recommendations from the Kenya NCDI Poverty Commission. *Annals of Global Health*, 87(1): 3, 1-16.

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30. Boudreaux, C, Noble C, **Coates MM**, et al. (2020). Noncommunicable disease (NCD) strategic plans in low- and lower-middle income Sub-Saharan Africa: framing and policy response. *Global Health Action*, 13(1): 1805165.
29. **Coates MM**, Kintu A, Gupta N, et al. (2020). Burden of noncommunicable disease from infectious risks in 2017: a modelling study. *Lancet Global Health*, 8(12): E1489-E1498.
28. Gupta N, **Coates MM**, Bekele A, et al. (2020). Low availability of equipment and medications for non-communicable diseases and injuries at public first-referral level hospitals in eight low-income countries. *BMJ Open*, 10: e038842.
27. Bukhman G, Mocumbi AO, et al. including **Coates MM**. (2020). The *Lancet* NCDI Poverty Commission: bridging a gap in universal health coverage for the poorest billion. *The Lancet*, 396(10256), 991-1044.
26. Johansson KA, **Coates MM**, Økland J-M, Tsuchiya A, Norheim OF, Haaland Ø. (2020). Health by disease categories. In Cookson, R, Griffin, S, Norheim, O and Culyer, A. *Distributional Cost-Effectiveness Analysis: A Handbook of Equity-Informative Health Economic Evaluation*. Oxford University Press.
25. Johanssen KA, Økland J-M, Skaftun EK, Bukhman G, Norheim OF, **Coates MM**, Haaland Ø. (2020). Estimating health adjusted age at death (HAAD). *PLOS ONE* 15(7): e0235955.
24. **Coates MM**, Kamanda M, Kintu A et al. (2019). A comparison of all-cause and cause-specific mortality by household socioeconomic status across seven INDEPTH Network health and demographic surveillance systems in sub-Saharan Africa. *Global Health Action*, 12(1): 1608013.
23. Haakenstad A, **Coates M**, Marx A, Bukhman G, Verguet S. (2019). Disaggregating catastrophic health expenditure by disease area: cross-country estimates based on the World Health Surveys. *BMC Medicine*, 17: 36.
22. Liang J, Li X, Kang C, et al. including **Coates MM**. (2018). Maternal mortality ratios in 2852 Chinese counties, 1996-2015, and achievement of Millennium Development Goal 5 in China: a subnational analysis of the Global Burden of Disease Study 2016. *The Lancet*, 393(10168): 241-252.
21. Bui AL*, **Coates MM***, Matthay EC*. (2018). Years of life lost due to encounters with law enforcement in the USA, 2015-2016. *Journal of Epidemiology and Community Health*, 72(8): 715-718.
20. Rabiee R, Agardh E, **Coates MM**, Allebeck P, Danielsson A-K. (2017). Alcohol-attributed disease burden and alcohol policies in the BRICS-countries during the years 1990-2013. *J Global Health*, 7(1): 010404.
19. Gething PW, Casey DC, Weiss DJ, et al. including **Coates MM**. (2016). Mapping *Plasmodium falciparum* malaria mortality in Africa between 1990 and 2015. *New England Journal of Medicine*, 375(25): 2435-2445.
18. GBD 2015 Risk Factors Collaborators including **Coates MM**. (2016). Global, regional and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 195 countries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053): 1659-1724.
17. GBD 2015 SDG Collaborators including **Coates MM**. (2016). Measuring the health-related Sustainable Development Goals in 188 countries: An analysis from the Global Burden of Disease Study 2015. *The Lancet*, 388(10053): 1813-1850.
16. GBD 2015 DALYs and HALE Collaborators including **Coates MM**. (2016) Global, regional, and national disability-adjusted life years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2015: a systematic analysis for the Global Burden of Diseases, Injuries, and Risk Factors (GBD) 2015 Study. *The Lancet*, 388(10053): 1603-1658.
15. GBD 2015 Maternal Mortality Collaborators including **Coates MM**. (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(10053): 1775-1812.
14. The Global Burden of Disease 2015 Child Mortality Collaborators including **Coates MM**. (2016). Global,

regional, national and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality during 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053): 1725-1774.

13. The Global Burden of Disease 2015 Mortality and Cause of Death Collaborators including **Coates MM**. (2016). Global, regional, and national life expectancy, all-cause and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053): 1459-1544.

12. Mokdad AH, Forouzanfar MH, Daoud F, et al. including **Coates MM**. (2016). Health in Times of Uncertainty: a systematic analysis for the Global Burden of Disease Study 2013 in the Eastern Mediterranean Region, 1990-2013. *Lancet Global Health*, 4(10): e704-13.

11. Agardh E, Danielsson A-K, Ramstedt M, et al. including **Coates MM**. (2016). Alcohol-attributed disease burden in four Nordic countries: A comparison using the Global Burden of Disease, Injuries and Risk Factors 2013 study. *Addiction*, 111(10): 1806-13.

10. Kellerborg K, Danielsson A-K, Allebeck P, **Coates MM**, and Agardh E. (2016). Alcohol attributed disease burden: How methodological advances in the GBD 2013 study have changed the estimates in Sweden. *Scandinavian Journal of Public Health*, 44(6): 604-610.

9. The Global Burden of Disease 2015 HIV Collaborators including **Coates MM**. (2016). Estimates of global, regional, and national incidence, prevalence, and mortality of HIV, 1980-2015: the Global Burden of Disease Study 2015. *The Lancet HIV*, 3(8) e361-e387.

8. Wang Y, Li X, Zhou M, et al., including **Coates MM**. (2016). Under-5 mortality in 2851 Chinese counties, 1996-2012: a subnational assessment of achieving MDG 4 goals in China. *The Lancet*, 387(10015): 273-283.

7. Zhou M, Wang H, Zhu J, et al., including **Coates MM**. (2016). Cause-specific mortality for 240 causes in China during 1990-2013: a systematic subnational analysis for the Global Burden of Disease Study 2013. *The Lancet*, 387(10015): 251-272.

6. Newton JN, Briggs ADM, Murray CJL, et al., including **Coates MM**. (2015). Changes in health in England with analysis by region and areas of deprivation: findings of the Global Burden of Disease Study 2013. *The Lancet*, 386(10010): 2257-2274.

5. GBD 2013 Risk Factors Collaborators, including **Coates MM**. (2015) Global, regional and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*, 386(10010): 2287-2323.

4. GBD 2013 DALYs and HALE Collaborators, including **Coates MM**. (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(10009): 2145-2191.

3. GBD 2013 Mortality and Causes of Death Collaborators, including **Coates MM**. (2014). Global, regional, and national levels of 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(9963):117-171.

2. Memish ZA, Jaber S, Mokdad AH, AlMazroa MA, Murray CJL, Al Rabeiah AA, and the Saudi Burden of Disease Collaborators, including **Coates MM**. (2014). Burden of Disease, Injuries, and Risk Factors in the Kingdom of Saudi Arabia, 1990–2010. *Preventing Chronic Disease*, 11, E169.

1. Wang H, Liddell CA, **Coates MM** et al. (2014). Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*, 384(9947):957-79.

* Contributed equally

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MANUSCRIPTS UNDER REVIEW

2. Wang Z, Cao Y, Ahmed S, **Coates MM**, et al. (under review). Service readiness for non-communicable diseases in Malawi: an analysis of the 2019 Harmonized Health Facility Assessment Survey.
1. Adler AJ, Wroe EB, Atzori A, et al., including **Coates MM**. (accepted). A protocol for evaluation of the initiation of an integrated longitudinal outpatient care model for severe chronic noncommunicable diseases (PEN-Plus) at secondary care facilities (district hospitals) in ten lower-income countries. *BMC Health Services Research*.

MANUSCRIPTS IN PREPARATION

4. Ferrari G, Boti M, Nakotwa D, Gomber A, **Coates MM**, et al. Clinical insights from continuous glucose monitor use in patients with type 1 diabetes in rural Malawi.
3. **Coates MM**, Arah OA, Matthews TA, Sandler DP, Jackson CL, and Li J. Job discrimination and hypertension risk among women: Findings from the Sister Study.
2. **Coates MM**, Gupta N, et al. Expanding coverage of health services for severe, chronic non-communicable diseases: an investment case for the PEN-Plus delivery model among countries in the NCDI Poverty Network.
1. Gomber A, Valeta F, **Coates MM**, et al. Results from a randomized control trial of the feasibility of continuous glucose monitoring in patients with type 1 diabetes at a district hospital in rural Malawi.

HONORS AND AWARDS

Fellowship in Epidemiology, University of California, Los Angeles Fielding School of Public Health Department of Epidemiology (tuition and \$21,000 stipend for 2 years), 2021

Graduate Dean's Scholar Award, University of California, Los Angeles 2021-2023 (\$14,500 stipend), 2021

Distinguished Master's Thesis Award for Biology and Life Sciences, University of Washington, Quantifying Selection Bias from Birth History Estimates of Child Mortality, 2017

High Honors, Undergraduate Thesis, Harvard University, Association of Socioeconomic Status with Prefrontal Cortical Thickness and Subcortical Volumes in Children and Adolescents, 2013

Cum Laude, Harvard University, 2013

First Place Poster, Behavioral Research Advancements in Neuroscience (BRAIN) Summer Symposium, Center for Behavioral Neuroscience, Atlanta, GA

Robert C. Byrd Honors Scholarship, US Office of Postsecondary Education and Georgia Department of Education, 2009

CONFERENCE PRESENTATIONS

***Indicates presenter**

3. Bui AL*, **Coates MM**, & Matthay EC. (2017). Quantifying years of life lost due to encounters with law enforcement in the United States, 2015-2016. Poster presented at California Medical Association Conference 2017, Anaheim, CA, October 2017.
2. Bui AL*, **Coates MM**, & Matthay EC. (2017). Quantifying years of life lost due to encounters with law enforcement in the United States, 2015-2016. Poster presented at American College of Physicians Southern California 2017 Meeting. Marina del Rey, CA, September 2017.
1. Bommer CE*, **Coates MM***, Diaz MM*, Pallis TT*. (2011). Behavioral and neural plasticity following appendage loss in crayfish (*Procambarus clarkii*). Poster presented at Behavioral Research Advancements in Neuroscience (BRAIN) 2011 Research Symposium. Center for Behavioral Neuroscience. Atlanta, GA, July 2011.

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TEACHING AND MENTORSHIP EXPERIENCE

- *Mentor*, Epidemiologic Student Association Mentorship Program, 2022-2023 academic year
- *Lecturer*, Cardiovascular disease and global health equity, Continuing Medical Education course. Harvard Medical School, February 29, 2020.
- *Workshop instructor*, NCDI Poverty Commission Initiators Workshop. Dubai, December 5-8, 2018.
- *Lecturer*, Cardiovascular disease and global health equity, Continuing Medical Education course. Harvard Medical School, July 28, 2018.

PROFESSIONAL SERVICE

- Peer reviews for: Global Health Action, 2020-2022
- Peer review for: The Lancet Global Health, 2022

PROFESSIONAL MEMBERSHIPS

- California Center for Population Research, Student Affiliate, UCLA, 2022-present
- Society for Epidemiologic Research, member, 2022-present

COMPUTER SKILLS

- **Programming:** *Advanced Experience:* Stata, R *Intermediate Experience:* Bash (using computing cluster), RMarkdown/Knitr, *Some Experience:* SAS, Python, SQL, VBA in Excel, QGIS
- **Code Management and Version Control:** Git (GitHub, SourceTree/Bitbucket)
- **Microsoft Office:** PowerPoint, Word, Excel, Outlook, Access