

Jennifer R. Head

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Education

University of California, Berkeley Ph.D. in Epidemiology	Berkeley, California May, 2022
Emory University MPH in Global Environmental Health Graduate certificates in WASH (water, sanitation, hygiene) & complex humanitarian emergencies	Atlanta, Georgia 2016
Washington University in St. Louis B.S. in Chemical engineering with minors in Spanish and environmental engineering GPA: 3.98/4.0	St. Louis, Missouri 2013

Research appointments

University of California, Berkeley Division of Environmental Health Sciences Assistant Researcher, Transmission dynamics of emerging infectious diseases	Berkeley, CA 2022 - present
University of California, Berkeley Division of Epidemiology Graduate Student Researcher, Transmission dynamics of emerging infectious diseases	Berkeley, CA 2018 - 2022
Centers for Disease Control and Prevention Epidemiology, Informatics, & Surveillance Branch ASPPH Allen Rosenfield Fellow, Global surveillance of emerging and high-consequence pathogens	Atlanta, GA 2016 - 2018
Save the Children, CARE, Catholic Relief Services Consultant, Effect of nutrition and WASH programming on child growth	Lao PDR & Ethiopia 2016 - present
Emory University Department of Environmental Health Graduate Research Assistant, Movement of intermediate host populations	Atlanta, GA 2014 - 2016
Centers for Disease Control and Prevention Emergency Response and Recovery Branch Assistant, Healthcare access during the 2014-2016 Ebola Outbreak	Atlanta, GA 2014 - 2016
Fulbright Fellowship Program Research Scholar, Development of local technologies for fortification of foods with micronutrients	Ethiopia 2013 - 2014
Washington University in St. Louis Dept. of Energy, Environmental & Chemical Engineering Research Assistant, Application of nanotechnology for cancer pharmaceuticals	St. Louis, MO 2010 - 2013

Awards and Honors

UC Berkeley Biomedical Big Data Fellow	2017-2019
Emory Class of 2016 Robert W. Woodruff Fellow	2014-2016
Emory Environmental Health Dept, Top Thesis Award	2016
Fulbright Research Fellow, Ethiopia	2013-2014
Barry M. Goldwater Scholar	2013
Wash.U. Class of 2013 William H. Danforth Scholar	2009-2013
Wash.U. Class of 2013 John B. Ervin Scholar	2009-2013
Wash.U. Class of 2013 James M. McKelvey Scholar	2009-2013
Harriet K. Switzer Award for female leadership	2013

Grants

Integrating epidemiologic and environmental approaches to understand and predict <i>Coccidioides</i> exposure and coccidioidomycosis emergence NIH R01AI148336 Role: equivalent to co-PI but not eligible in 2019 Wrote proposal, supported by research advisor	\$3,750,012 Dec, 2019 - Nov, 2024
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Elucidating the role of rodent hosts in the lifecycle of *Coccidioides*

NIH F31AI152430

Role: PI

\$125,758

Aug, 2020 - July, 2022

Social Contact patterns among Bay Area Households with children: a serial cross-sectional survey

MIDAS COVID-19 Modeling Urgent Grant

Role: equivalent to co-PI but not eligible in 2020

Wrote proposal, supported by research advisor

\$10,000

Jan, 2020 - June, 2021

Epidemiologic and model-based assessments of K-12 public health policies for mitigation of SARS-CoV-2 variant transmission in schools

California Department of Public Health

Role: equivalent to PI but not eligible in 2020

Wrote proposal, supported by research advisor

\$60,000

Feb, 2022 - Jan, 2023

Using massive, multi-regional EHR data to estimate the impacts of climate change on fungal disease epidemiology in the U.S.

NIH R01

Role: co-I

submitted August 2022

Peer reviewed publications

Cheng Q, Collender PA, Heaney AK, McLoughlin A, Yang Y, Zhang Y, **Head JR**, Dasan R, Liang S, Lv Q, Liu Y, Yang C, Chang HH, Waller LA, Zelner J, Lewnard JA, Remais JV. Optimizing laboratory-based surveillance networks for monitoring multi-genotype or multi-serotype infections. *under review*.

Phillips S, Jones I, Sondermyer-Cooksey G, Yu A, Heaney AK, Zhou B, Bhattachan A, Mgbara W, Wagner R, Taylor J, Lettenmaier D, Okin G, Jain S, Vugia DJ, Remais JV, **Head JR**. Most wildfires are not associated with increased coccidioidomycosis transmission in California, 2000-2018. *submitted*.

1. **Head JR**, Sondermyer-Cooksey G, Heaney AK, Yu A, Jones I, Bhattachan A, Campo S, Wagner R, Mgbara W, Phillips S, Keeney N, Taylor J, Eisen E, Hubbard, A, Vugi DJ, Jain S, Remais JV. (2022). Drought in Western United States displaces and amplifies coccidioidomycosis, an emerging fungal disease: longitudinal analysis of surveillance data. **Lancet Planetary Health**. *accepted*.
2. **Head JR**, Chanthavilay P, Catton H, Vongsitthi A, Khamphouxay K, Simphaly N. (2022). Changes in household food security, access to health services, and income in northern Lao PDR during the COVID-19 pandemic. **BMJ Open**. 12, e055935.
3. Andrejko KL, **Head JR**, Lewnard JA, Remais JV. (2022). Longitudinal social-contact patterns among school-aged children during the COVID-19 pandemic: The Bay Area Contacts among Kids (BACK) study. **BMC Infectious Diseases**. 22(1), 1-14.
4. Weaver, AK, **Head, JR**, Gould, CF, Carlton, EJ, Remais, JV. (2022). Environmental factors influencing COVID-19 incidence and severity. **Annual Reviews in Public Health**, 43(27), 27.
5. Yale G, Lopes M, Isloor S, **Head JR**, Mazeri S, Gamble L, Gongal G, Gibson AD. (2022). Review of oral rabies vaccination of dogs and its application in India. **Viruses**. 14(1), 155.
6. Wagner R, Montoya L, Cheng G, **Head JR**, Remais JV, Taylor J. (2022). The air mycobiome is decoupled from the soil mycobiome in the California San Joaquin Valley. **Molecular Ecology**.
7. Ross YB, Hoque M, Blanton JB, Kennedy ED, Tahmina S, **Head JR**, Wallace RM, Rana MS, Bonaparte S. (2022). Rabies healthcare-seeking behaviors of urban and peri-urban residents: results from a rabies knowledge, attitudes, and practices survey, Bangladesh, 2018. **PLoS Neglected Tropical Diseases**. *accepted*.
8. Bryant-Genevier J, Bumburidi Y, Kazazian L, Seffren V, **Head J**, Berezovskiy D, Zhakipbayeva B, Salyer S, Knust B, Klena J, Chiang CF, Mirzabekova G, Rakhimov K, Koekeev J, Kartabayev K, Mamadaliyev S, Guerra M, Blanton C, Shoemaker T, Singer D, Moffett D. (2022). Prevalence of Crimean-Congo hemorrhagic fever virus among livestock and ticks in Zhambyl region, Kazakhstan, 2017. **American Journal of Tropical Medicine and Hygiene**. 106(5), 1478-1485.

9. **Head JR**, Andrejko KL, Remais JV. (2021). Model-based assessment of SARS-CoV-2 Delta variant transmission dynamics within partially vaccinated K-12 school populations. **The Lancet Regional Health-Americas**. 5, 10013.
10. **Head JR**, Andrejko KL, Cheng Q, Collender PA, Phillips S, Boser A, Heaney AK, Hoover CM, Wu SL, Northrup GR, Click, K, Bardach, NS, Lewnard, JA, Remais, JV. (2021). School closures reduced social mixing of children during COVID-19 with implications for transmission risk and school reopening policies. **Journal of the Royal Society Interface**. 18(177), 20200970.
11. Heaney AK, **Head JR**, Broen K, Click K, Taylor J, Balmes JR, Zelner J, Remais JV. (2021). Coccidioidomycosis and COVID-19 Co-Infection, United States, 2020. **Emerging Infectious Diseases**. 27(5), 1266.
12. Bumburidi Y, Utepbergenova G, Yerezhpov B, Berdiyaraova N, Kulzhanova K, **Head J**, Moffett M, Singer D, Angra P, Whistler T, Sejvar J. (2021). Etiology of acute meningitis and encephalitis from hospital-based surveillance in South Kazakhstan oblast, February 2017—January 2018. **PLoS One**. 16(5), e0251494.
13. **Head JR**, Collender PA, Lewnard JA, Skaff NK, Li L, Cheng Q, Baker JM, Li C, Chen D, Ohringer A, Liang S, Yang C, Hubbard A, Lopman B, Remais JV. (2020). Early evidence of inactivated enterovirus 71 vaccine impact against hand, foot, and mouth disease in a major center of ongoing transmission in China, 2011–2018: a longitudinal surveillance study. **Clinical Infectious Diseases**. 71(12), 3088-3095.
14. **Head JR**, Bumburidi Y, Mirzabekova G, Rakhimov K, Dzhumankulov M, Salyer SJ, Knust B, Berezovskiy D, Kulatayeva M, Zhetibaev S, Shoemaker T, Nicholson WL, Moffett D. (2020). Risk Factors for and Seroprevalence of Tickborne Zoonotic Diseases among Livestock Owners, Kazakhstan. **Emerging Infectious Diseases**. 26(1), 70.
15. Cheng Q, Trangucci R, Nelson KN, Fu W, Collender PA, **Head JR**, Hoover CM, Skaff NK, Li T, Li X, You Y, Fang L, Liang S, Yang C, He J, Zelner J, Remais JV. (2020). Prenatal and early-life exposure to the Great Chinese Famine increased the risk of tuberculosis in adulthood across two generations. **Proceedings of the National Academy of Sciences**. 117(44), 27549-27555.
16. Skaff NK, Cheng Q, Clemesha RE, Collender PA, Gershunov A, **Head JR**, Hoover CM, Lettenmaier DP, Rohr JR, Snyder RE, Remais JV. (2020). Thermal thresholds heighten sensitivity of West Nile virus transmission to changing temperatures in coastal California. **Proceedings of the Royal Society B**. 287(1932), 20201065.
17. Gribble MO, **Head JR**, Prabhakaran D, Kapoor D, Garg V, Mohan D, Anjana RM, Mohan V, Vasudevan S, Kadir MM, Tandon N, Narayan NK, Patel SA, Jaacks, LM. (2020). Potentially Heterogeneous Cross-Sectional Associations of Seafood Consumption with Diabetes and Glycemia in Urban South Asia. **International Journal of Environmental Research and Public Health**. 17(2), 459.
18. Barbosa Costa G, Ludder F, Monroe B, Dilius P, Crowdis K, Blanton JD, Pieracci EG, **Head JR**, Wallace R. (2020). Barriers to attendance of canine rabies vaccination campaigns in Haiti, 2017. **Transboundary and Emerging Diseases**. 67(6), 2679-2691.
19. **Head JR**, Vos A, Blanton J, Müller T, Chipman R, Pieracci EG, Cleaton J, Wallace R. (2019). Environmental distribution of certain modified live-virus vaccines with a high safety profile presents a low-risk, high-reward to control zoonotic diseases. **Scientific Reports**. 9(1), 1-12.
20. **Head J**, Pachón H, Tadesse W, Tesfamariam M, Freeman M. (2019). Integration of water, sanitation, hygiene and nutrition programming is associated with lower prevalence of child stunting and fever in Oromia, Ethiopia. **African Journal of Food, Agriculture, Nutrition and Development**. 19(4).
21. **Head JR**, Chang H, Li Q, Hoover CM, Wilke T, Clewing C, Carlton EJ, Liang S, Lu D, Zhong B, Remais JV. (2016). Genetic evidence of contemporary dispersal of the intermediate snail host of *Schistosoma japonicum*: movement of an NTD host is facilitated by land use and landscape connectivity. **PLoS Neglected Tropical Diseases**. 10(12), e0005151.
22. **Head JR**, Getachew B, Gabrehiwot M. (2014). Harnessing local technology: Manufacturing small scale mixers for the fortification of edible oils and wheat flours in northern Ethiopia. **IEEE Global Humanitarian Technology** 207-214.
23. Wu SG, Huang L, **Head J**, Ball M, Tang YJ, Chen DR. (2014). Electrospray facilitates the germination of plant seeds. **Aerosol and Air Quality Research** 14(3), 632-641.

24. Wu SG, Huang L, **Head J**, Chen DR, Kong I-Ch, Tang YJ. (2012). Phytotoxicity of metal oxide nanoparticles is related to both dissolved metals ions and adsorption of particles on seed surfaces. **Journal of Petroleum and Environmental Biotechnology**. 3(4), 126.

Select conference presentations

Head JR. (2022, June). *K-12 vaccination policy options in light of heterogeneity in infection- and vaccine-induced immunity across California counties*. Oral presentation at the UC-CDPH COVID modeling consortium (virtual).

Head JR. (2022, Apr). *Influence of meteorological factors and drought on coccidioidomycosis incidence in California, 2000-2020*. Oral presentation at the 66th Annual Coccidioidomycosis Study Group Meeting in Bakersfield, CA.

Head JR, Remais JV. (2021, Sept). *Model-based assessment of Delta transmission in K-12 schools*. Oral presentation at the UC-CDPH COVID modeling consortium (virtual).

Head JR, Andrejko, KL, Remais JV. (2021, May). *Schools modeling & examining longitudinal social contact patterns among households with children*. Oral presentation at the UC-CDPH COVID modeling consortium (virtual).

Andrejko KL, **Head JR**. (2021, Apr). *The effect of school closures and reopening strategies on COVID-19 infection dynamics in the San Francisco Bay Area: a cross sectional survey*. Oral presentation at the MIDAS Network Annual Meeting (virtual).

Head JR, Andrejko KL, Remais JV. (2020, Sept). *The effect of school closures and reopening strategies on COVID-19 infection dynamics in the San Francisco Bay Area* Panelist for MIDAS Webinar on 'The impact of school reopening on COVID-19 transmission: modeling studies in Indiana, the San Francisco Bay Area, and King County, WA' (virtual).

Head JR, Collender PA, Lewnard JA, Skaff NK, Li L, Cheng Q, Baker JM, Li C, Chen D, Ohringer A, Liang S, Yang C, Hubbard A, Lopman B, Remais JV (2019, Dec). *Early Evidence of Reduction in Hand, Foot, and Mouth Disease Caused by Enterovirus 71 Following Vaccination Introduction in Chengdu, China*. Poster presentation at the Epidemics⁷ International Conference on Infectious Disease Dynamics in Charleston, SC.

Head JR, Skaff NK, Hoover CM, Remais JV. (2019, March). *Spatiotemporal factors affecting dead bird reporting for West Nile Virus surveillance in California*. Poster presentation at the Bay Area Ecology and Evolution of Infectious Disease Conference in Stanford, CA.

Head JR, Vos A, Blanton J, Müller T, Chipman R, Pieracci EG, Cleaton J, Wallace R. (2018, November). *What's the harm? A risk model to quantify human and animal adverse events from environmentally distributed modified live-vaccine viruses*. Oral Presentation at the American Society of Tropical Medicine and Hygiene Conference in New Orleans, LA.

Head JR, Bumburidi Y, Salyer S, Knust B, Mirzabekovna MG, Moffett D. (2018, January). *Prevalence of CCHF Virus in Ticks and People and Public Awareness in Zhambyl Region, Kazakhstan*. Oral presentation at the International Society of Disease Surveillance Conference in Orlando, FL.

Head J, Bumburidi Y, Salyer S, Knust B, Mirzabekovna MG, Moffett D. (2017, November). *Serovalence and Knowledge, Attitudes, and Practices of Crimean Congo Hemorrhagic Fever among People who Interact with Livestock in Zhambyl, Kazakhstan*. Poster presentation at the American Society of Tropical Medicine and Hygiene Conference in Baltimore, MD.

Head J, Tadesse W, Pachón H, Freeman M. (2016, September). *Plausibility Evaluation of Combined WASH, Health and Nutrition Programming on Childhood Growth and Maternal and Child Illness in Oromia, Ethiopia*. Oral presentation at CityMatCH Leadership and MCH Epidemiology Conference in Philadelphia, PA.

Head J, Howard C, Remais J. (2015, October). *Determinants of Schistosoma japonicum intermediate host migration in Sichuan, China*. Oral presentation at the American Society of Tropical Medicine and Hygiene Conference in Philadelphia, PA.

Head J, Getachew B, Gabrehiwot M. (2014, October). *Harnessing Local Technology: Manufacturing Small Scale Mixers for Fortification of Edible Oils and Wheat Flour in Northern Ethiopia*. Oral presentation at the IEEE Global Humanitarian Conference in San Jose, CA.

Teaching

Advanced Epidemiologic Methods

Lead Graduate Student Instructor for a course of 25 students, PH250C (graduate course); led weekly discussion sessions *UC Berkeley*
Spring, 2020

Epidemiologic Methods I

Graduate Student Instructor for a course of >100 students, PH250A (graduate course); led weekly discussion sessions *UC Berkeley*
Fall, 2019

A roadmap for the analysis of time series data on environmentally-mediated infectious disease *UC Berkeley*
Guest lecture *Fall, 2018, 2019 & 2020*

Introduction to epidemiologic analysis of surveillance data

Designed seminar on basic epidemiological concepts for analysis of surveillance data *Kazakhstan*
Jan, 2017

Introduction to anthropometric survey analysis with R and WHO Anthro

Designed and led week-long course on analysis of anthropometric and nutrition survey data *Lao PDR*
Summer, 2016

Service to the profession

Conducted peer review for:

- American Journal of Epidemiology *2022*
- American Journal of Epidemiology; Frontiers in Public Health *2021*
- PLoS Neglected Tropic Diseases; Parasite & Vectors; EcoHealth; PLoS One (x2) *2020*
- Scientific Reports; Sokoto Journal of Veterinary Sciences *2019*
- PLoS Neglected Tropic Diseases *2018*

Vice President, Emory SPH Environmental Health and Action Committee *2015 - 2016*

Community engagement

Court Appointed Special Advocate (CASA) - judge appointed advocate for two foster youth *June, 2019 - present*

Washington University East Bay Alumni Coordinator *Jan, 2021 - present*

International Rescue Committee – Volunteer English instructor *2016-2018*

Engineers without Borders *Dec, 2009 - May, 2013*

- Project lead: led efforts to improve the water storage and distribution system at the Mekelle School for the Blind in Ethiopia by rebuilding a water tower and installing a water distribution piping network
- Fundraising Officer: Organized on-campus fundraisers that raised over 4,000 USD and coordinated grant writing nights that raised over 18,000 USD.

Technical Skills

Statistical fluency:: compartmental and agent-based mathematical models, synthetic controls, hierarchical models, Bayesian analysis, meta-analysis, interrupted time series, ensemble models, G-computation, inverse probability weighting, regression discontinuity.

Advanced user of R/RStudio/RShiny, \LaTeX , ArcGIS/QGIS, SAS, and high performance computing environments.

Familiar with Python, MATLAB, bash, Unix.

Languages:

- English: native
- Spanish: proficient
- French: advanced
- Amharic, Lao, Russian: beginner