EMILY RICOTTA

emily.ricotta@gmail.com · emily.ricotta@usuhs.edu

www.emilyricotta.com · www.linkedin.com/in/emilyricotta · www.github.com/ericotta

RESEARCH INTERESTS & EXPERTISE

Infectious disease epidemiology, epidemiologic methods, biostatistics, observational study design, data science, artificial intelligence/machine learning, big data, electronic health records, data management, data governance, science communication, social and behavioral determinants of health, public health ethics, biosafety and biosecurity

EDUCATION

April 2018	**Doctor of Philosophy**, Epidemiology – Infectious Disease Modeling
	Swiss Tropical and Public Health Institute, University of Basel, Basel, Switzerland
May 2012	**Master of Science**, Molecular Microbiology and Immunology
	Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
May 2009	**Bachelor of Science**, Biology
	Allegheny College, Meadville, PA

PROFESSIONAL EXPERIENCE

2024 – present	**Assistant Professor of Epidemiology**
	Department of Preventive Medicine and Biostatistics, School of Medicine, Uniformed Services University of the Health Sciences
2017 – 2024	**Chief, Epidemiology and Data Management Unit**
	Laboratory of Clinical Immunology and Microbiology, Division of Intramural Research, National Institute of Allergy and Infectious Diseases, National Institutes of Health
	Contractor (2017 – 2019); Research Fellow (2019 – 2022); Independent Research Scholar (2022 – 2024)
2018 – 2024	**Adjunct Assistant Professor**
	Department of Clinical Research and Leadership, George Washington University School of Medicine and Health Sciences
2013 – 2016	**Senior Research Data Analyst**
	Johns Hopkins Center for Communication Programs
2010 – 2013	**Epidemiologist**
	Emerging Infections Program, Office of Infectious Disease Epidemiology and Outbreak Response, Prevention and Health Promotion Administration, Maryland Department of Health
	Research Program Assistant, (2010 – 2012); Epidemiologist (2012 – 2013)
2010 – 2012	**Graduate Student Research Assistant**
	Johns Hopkins Malaria Research Institute, Johns Hopkins Bloomberg School of Public Health
2009 – 2010	**Research Specialist**
	Public Health Infectious Disease Lab, University of Pittsburgh

HONORS

- **NIH Director's Award** (2023).
  Awarded for "emerging leadership in the fields of epidemiology and data management."
- **National Institutes of Health Mid-Level Leadership Program** (2023).
  This program develops high-performing employees in GS12-14 and equivalent positions by preparing them to fulfill current and impending demands as front-line leaders. The program provides employees with individual leadership skills and knowledge that will aid them in leading from both supervisory and non- supervisory positions.
- **NIH Independent Research Scholars Program** (2022 – 2024).
  This highly competitive program selects research scientists based upon their readiness to conduct independent research and on their commitment to enhancing diversity within the biomedical workforce. Scholars are independent, non-tenure track Principal Investigators, and are provided funding, staff, and resources to establish an independent research program.
- **Johns Hopkins Center for Health Security Emerging Leaders in Biosecurity Initiative Fellowship** (2019 – 2020).
  A fellowship for career professionals to build and expand leadership skills in biosecurity, connecting them with current leaders in the field from both the private and public sectors and other professionals working on important biosecurity initiatives.
- **Kelly Government Solutions Distinguished Achievement Award for service to the National Institutes of Health** (2019).
- **National Science Foundation Graduate Research Fellowship, honorable mention** (2011).

FUNDING

- **National Institute of Environmental Health Sciences Intramural Targeted Climate Change and Health Award** (2023 – 2025). USD $400K. Role: Principal Investigator.
  The NIH Climate Change and Health Initiative is an urgent, cross-cutting NIH effort to reduce health threats from climate change across the lifespan and build health resilience in individuals, communities, and nations around the world, especially among those at highest risk.
- **National Institutes of Health Independent Research Scholar Program** (2022 – 2024). USD $855K. Role: Principal Investigator.
  IRS program scholars are independent, non-tenure track Principal Investigators. They are selected based upon their readiness to conduct independent research and on their commitment to enhancing diversity within the biomedical workforce.
- **National Institutes of Health COVID-19 Response Funds** (2021 – 2023). USD $1.7M. Role: Principal Investigator.
- **National Institutes of Health Loan Repayment Program Award** (2019 – 2023). USD $120K.
- **University of Basel Reisefonds Student Travel Award** (2015). CHF ₣1000.
- **United States Agency for International Development VectorWorks Project** (2014 – 2019). Cooperative Agreement Number AID-OAA-A-14-00057. USD $60M. Role: Research lead 2014 – 2017.
- **United States Agency for International Development NetWorks Project** (2009 – 2014). Cooperative Agreement Number GHS-A-00-09-00014. USD $100M. Role: Research lead 2012 – 2014.
- **Tropical Medicine Dinner Club of Baltimore Student Membership Award for Best Research Proposal** (2011). USD $500.

CLINICAL PROTOCOLS AND STUDIES

- **Analysis of data management capacity in regions with high infectious disease spillover risk.** NIAID/IM (AI001368). Role: Principal Investigator (2023 – present).
- **The study and improvement of data collection and management for infectious diseases and immunodeficiencies.** NIAID/IM (AI001367). Role: Principal Investigator (2022 – 2024).
- **Prospective Cohort Study to Determine the Response to COVID-19 Vaccination and Prevalence of COVID-19 in Subjects with Chronic Liver Disease.** NIDDK/LD (000118-DK). Role: Associate Investigator (2022 – present).
- **Analysis of the Immune Response to COVID-19 Vaccination and Outcomes in Individuals with and Without Immune Deficiencies and Dysregulations.** NIAID/IM (000384-I; NCT04852276). Role: Principal Investigator (2021 – present).
- **NIAID Centralized Sequencing Protocol.** NIAID/LISB (17-I-0122). Role: Associate Investigator (2020 – present).
- **Natural History of Bronchiectasis.** NHLBI/PB (09-H-0172). Role: Associate Investigator (2019 – present).
- **Serosurvey for Prevalence and Incidence of Lassa Virus Infection in Southern Mali.** NIAID/VB (19-I-N029). Role: Associate Investigator (2018 – present).

PUBLICATIONS

Peer-reviewed manuscripts

[†]Co-senior author; [*]Co-first author; [‡]Corresponding author

1. Manuelpillai B, Chang Rabley E, Zendt M, **Ricotta EE[‡]**. Stuck in Pandemic Uncertainty: A Review of the Persistent Effects of COVID-19 Infection in Immune Deficient People. *In Press, Clin Microbiol Infect.* doi: 10.1016/j.cmi.2024.03.027.
2. Dean SG, Blakney RA, **Ricotta EE**, Chalmers JD, Kadri-Rodriguez SS, Olivier KN, Prevots DR. Bronchiectasis-associated infections and outcomes in a large, geographically diverse electronic health record cohort in the United States. *Accepted, Mar 2024, BMC Pulmonary Medicine.*
3. Bayer D, Goldstein IH, Fintzi J, Lumbard L, **Ricotta E**, Warner S, Strich JR, Chertow DS, Busch LM, Parker DM, Boden-Albala B, Chhuon R, Zahn M, Quick N, Dratch AI, Minin VM. Semi-parametric modeling of SARS-CoV-2 transmission using tests, cases, deaths, and seroprevalence data. *Accepted, Feb 2024. Ann. Appl. Stat.*
4. Zendt M[*], Bustos Carrillo FA[*], Kelly S, Saturday T, DeGrange M, Ginigeme A, Wu L, Callier V, Ortega-Villa A, Bugal K, Khil P, Osei G, Regmi P, Anderson V, Daub J, DiMaggio T, Kreuzburg S, Pfister J, Treat J, Ulrick J, Faust M, Karkanitsa M, Sadtler K, Kalish H, Kuhns D, Long Priel D, Fink DL, Tsang JS, Sparks R, Uzel G, Zerbe CS, Delmonte OM, Bergerson JRE, Das S, Freeman AF, Lionakis MS, Van Doremalen N, Munster V, Notarangelo LD, Holland SM, **Ricotta EE[‡]**. Immune response to COVID-19 vaccines in people with immunodeficiencies. Sci Adv. 2023 Oct 13;9(41):eadh3150. doi: 10.1126/sciadv.adh3150. PMID: 37824621.
5. **Ricotta EE[‡]**, Rid A, IG Cohen, Evans NG. Observational studies must be reformed before the next pandemic. Nat Med (2023). doi: 10.1038/s41591-023-02375-8. PMID: 37286807.
6. Smith BA, **Ricotta EE**, Kwan JL, Evans NG. COVID-19 risk perception and vaccine acceptance in individuals with chronic disease. Allergy Asthma Clin Immunol. 2023 May 4;19(1):37. doi: 10.1186/s13223-023-00791-6. PMID: 37143092.

7. Mayer L, Lionakis MS, Kadri SS, Evans NG, Prevots DR, **Ricotta EE‡**. Assessment of a machine learning model to determine species and site-specific risk factors for invasive candidiasis in US hospitals, 2009-2017. Open Forum Infec Dis. 2022 Aug 3; ofac401. doi: 10.1093/ofid/ofac401. PMID: 36004317.

8. Blakney RA, **Ricotta EE**, Frankland TB, Honda S, Zelazny A, Mayer-Barber KD, Dean SG, Follman D, Olivier KM, Daida YG, Prevots DR. Incidence of Nontuberculous Mycobacterial Pulmonary Infection, by Ethnic Group, Hawaii, USA, 2005-2019. Emerg Infect Dis. 2022 Aug;28(8):1543-1550. doi: 10.3201/eid2808.212375. PMID: 35876462.

9. Drummond RA, Desai JV, **Ricotta EE**, Swamydas M, Deming C, Quinones M, Lee R, Green N, Zelazny A, Lionakis MS. Vancomycin Promotes Mortality Following Systemic Fungal Infection by Driving Escape of Commensal Bacteria and Lymphocyte Dysfunction. Cell Host Microbe. 2022 May 7. doi: 10.1016/j.chom.2022.04.013. PMID: 35568028.

10. **Ricotta EE**, Ferre E, Schmitt M, Lionakis MS. Prevalence of APECED-like clinical disease in an electronic health record database, United States. J Clin Immunol. 2022 Mar 21. doi: 10.1007/s10875-022-01254-0. PMID: 35312911.

11. Matson MJ*, **Ricotta EE***, Feldmann F, Massaquoi M, Sprecher A, Guiliani R, Edwards JK, Rosenke K, de Wit E, Feldmann H, Chertow DS, Munster VJ. Viral Load in Non-Surviving Liberian Ebola Virus Disease Patients Is Underestimated by Diagnostic qRT-PCR: A Retrospective Observational Study. Lancet Microbe. 2022 May 23. doi: 10.1016/S2666-5247(22)00065-9. PMID: 35617976.

12. **Ricotta EE‡**, Prevots DR, Olivier KN. Ivacaftor and Risk of Nontuberculous Mycobacteria Positivity in Cystic Fibrosis, 2011-2018. ERJ Open Research. Jan 2022, 00724-2021. doi: 10.1183/23120541.00724-2021. PMID: 35415188.

13. Blakney R, **Ricotta EE**, Follmann D, Drew J, Carey K, Glass L, Robinson C, MacDonald S, McShane PJ, Olivier KN, Fennelly K, Prevots DR. The 6-minute walk test predicts mortality in a pulmonary nontuberculous mycobacteria-predominant bronchiectasis cohort. BMC Infect Dis. 2022 Jan 21;22(1):75. doi: 10.1186/s12879-022-07054-6. PMID: 3506289.

14. Foote S, Lipner E, Prevots DR, **Ricotta EE‡**. Environmental predictors of pulmonary nontuberculous mycobacteria (NTM) sputum positivity among persons with cystic fibrosis in the state of Florida. PLoS One. 2021 Dec 9;16(12):e0259964. doi: 10.1371/journal.pone.0259964. PMID: 34882686.

15. Campione A, Lanzieri TM, **Ricotta E**, Grosse SD, Kadri SS, Nussenblatt V, Prevots DR. Missing diagnoses of congenital cytomegalovirus infection in electronic health records for infants with laboratory-confirmed infection. Curr Med Res Opin. 2021 Nov 13;1-8. doi: 10.1080/03007995.2021.2006536. PMID: 34775876.

16. Delmonte OM, Bergerson JRE, Burbelo PD, Durkee-Shock JR, Dobbs KA, Keller MD, McDermott DH, Ferre EMN, Lafeer C, Pfister J, Shaw D, Truong M, Ulrick J, Urban A, Holland SM, Lionakis MS, Cohen JI, **Ricotta EE‡**, Notarangelo LD†, Freeman AF†. Antibody responses to the SARS-Cov-2 vaccine in individuals with Inborn Errors of Immunity. J Allergy Clin Immunol. 2021 Sep 4;S0091-6749(21)01356-7. doi: 10.1016/j.jaci.2021.08.016. PMID: 34492260.

17. Kadri SS, Sun J, Lawandi A, Stritch JR, Busch LM, Keller M, Babiker A, Yek C, Malik S, Krack J, Dekker JP, Spaulding AB, **Ricotta E**, Powers III JH, Rhee C, Klompas M, Athale J, Boehmer TK, Gundlapalli AV, Bentley W, Datta SD, Danner RL, Demirkale CY, Warner S. Association between Caseload Surge and COVID-19 Survival in 558 U.S. Hospitals, March-August 2020. Ann Intern Med. 2021 Jul 6;M21-1213. doi: 10.7326/M21-1213. PMID: 34224257.

18. Ritter L, Britton N, Heil E, Teeter W, Murthi S, Chow J, **Ricotta E**, Chertow D, Grazioli A, Levine A. The

Impact of Corticosteroids on Co-infection and Mortality in Critically Ill COVID-19 Patients. J Intensive Care Med. 2021 Jul 12;8850666211032175. doi: 10.1177/08850666211032175. PMID: 34247526.

19. Rosenke K, Hansen F, Schwarz B, Feldmann F, Haddock E, Rosenke R, Meade-White K, Okumura A, Leventhal S, Hawman D, **Ricotta E**, Bosio K, Saturday G, Feldmann H, Jarvis MA. Orally delivered MK-4482 inhibits SARS-CoV-2 replication in the Syrian hamster model. Nat Commun. 2021 Apr 16;12(1):2295. doi: 10.1038/s41467-021-22580-8. PMID: 33863887.

20. **Ricotta EE‡**, Adjemian J, Lai YL, Blakney R, Kadri S, Prevots DR. Extrapulmonary Nontuberculous Mycobacterial Infections among Hospital-Based Patients in the United States, 2010-2015. Emerg Infect Dis. 2021 Mar;27(3):845-852. doi: 10.3201/eid2703.201087. PMID: 33622461.

21. Abers MS*, Delmonte OM*, **Ricotta EE***, Fintzi J*, et al. An immune-based biomarker signature may predict mortality in COVID-19 patients. JCI Insight. 2020 Nov 24;144455. doi: 10.1172/jci.insight.144455. PMID: 33232303.

22. Dean SG, **Ricotta EE**, Fintzi J, Lai YL, Kadri SS, Olivier KN, Zelazny A, Prevots DR. Mycobacterial Testing Trends in the United States, 2009-2015. Emerg Infect Dis. 2020 Sep. doi: 10.3201/eid2609.200749. PMID: 32818422.

23. Kadri SS, Lai YL, Warner S, Strich J, Babiker A, **Ricotta E**, Demirkale CY, Dekker JP, Palmore TN, Rhee C, Klompas M, Klompas M, Hooper DC, Powers III JH, Srinivasan A, Danner RL, Adjemian J. Inappropriate empirical antibiotic therapy for bloodstream infections based on discordant in-vitro susceptibilities: a retrospective cohort analysis of prevalence, predictors, and mortality risk in US hospitals. Lancet Infect Dis. 2020 Sep 8. doi: 10.1016/S1473-3099(20)30477-1. PMID: 32916100.

24. **Ricotta EE‡**, Lai YL, Babiker A, Strich JR, Kadri SS, Lionakis MS, Prevots DR, Adjemian J. Invasive candidiasis species distribution and trends, United States, 2009-2017. J Infect Dis. 2020 Aug 15. doi: 10.1093/infdis/jiaa502. PMID: 32798221.

25. Strich JR, **Ricotta E**, Warner S, Lai YL, Demirkale CY, Hohmann SF, Rhee C, Klompas M, Palmore R, Powers III JH, Dekker JP, Adjemian J, Matsouaka R, Woods CW, Danner RL, Kadri SS, NIH Antimicrobial Research Outcomes Initiative. Pharmacoepidemiology of Ceftazidime-avibactam Use: A Retrospective Cohort Analysis of 210 US Hospitals. Clin Infect Dis. 2020. doi: 10.1093/cid/ciaa061. PMID: 32107536.

26. **Ricotta E‡**, Oppong S, Yukich J, Briët O. Determinants of bed net use conditional on access in population surveys in Ghana. Malaria J. 2019 Mar 8;18:63. doi: 10.1186/s12936-019-2700-7. PMID: 30849976.

27. Monroe A, Koenker H, Lynch M, Moore S, **Ricotta E**. Measuring and characterizing night time human behaviour as it relates to residual malaria transmission in sub-Saharan Africa: a review of the published literature. Malar J. 2019 Jan 11;18(1):6. doi: 10.1186/s12936-019-2638-9. PMID: 30634963.

28. Lai YL, Adjemian J, **Ricotta E**, Matthew L, O'Grady NP, Kadri SS. Dwindling Utilization of Central Venous Catheter Tip Cultures: An Analysis of Sampling Trends and Clinical Utility at 128 US Hospitals, 2009-2014. Clin Infect Dis. 2019 Mar 18. doi: 10.1093/cid/ciz218. PMID: 30882880.

29. Kadri SS, Lai YL, **Ricotta EE**, Strich JR, Babiker A, Rhee C, Klompas M, Dekker JP, Powers JH III, Danner RL, Adjemian J, NIH Antimicrobial Resistance Outcomes Research Initiative (ARORI). External validation of Difficult-to-Treat Resistance prevalence and mortality risk in gram-negative bloodstream infections using electronic health record data from 140 US hospitals. Open Forum Infect Dis. 2019 Feb 28;6(4):ofz110. doi: 10.1093/ofid/ofz110. PMID: 31240236.

30. **Ricotta EE‡**, Prevots DR, Lai YL, Olivier, KN, Adjemian J. Hospital-based antibiotic use in patients

with Mycobacterium avium complex. ERJ Open Res. 2018 Nov 2;4(4). doi: 10.1183/23120541.00109-2018. PMID: 30402451.

31. Kadri SS, Adjemian J, Lai YL, Spaulding AB, **Ricotta E**, Prevots DR, Palmore TN, Rhee C, Klompas M, Dekker JP, Powers III JH, Suggredini AF, Hooper DC, Fridkin S, Danner RL. Difficult-to-treat Resistance (DTR) in gram-negative bacteremia at 173 US hospitals: Retrospective cohort analysis of prevalence, predictors and outcome of co-resistance to all first-line agents. Clin Infect Dis. 2018 Jul 23. doi: 10.1093/cid/ciy378; PMID: 30052813.

32. Storey JD, Babalola S, **Ricotta E**, Fox KA, Toso M, Lewicky N, Koenker H. Associations between ideational variables and bed net use in Madagascar, Mali, and Nigeria. BMC Public Health. 2018 Apr 11;18(1):484. doi: 10.1186/s12889-018-5372-2; PMID: 29642883.

33. Gingrich C, **Ricotta E**, Kahabuka C, Kahwa A, Koenker H. Demand and Willingness-to-Pay for Bednets in Tanzania: Results from a Choice Experiment. Malaria J. 2017 Jul 14;16(1):285. doi:10.1186/s12936-017-1929-2; PMID: 28705241.

34. Heiman KE, Garalde VB, Gronostaj M, Jackson KA, Beam S, Joseph L, Saupe A, **Ricotta E**, et al. Multistate outbreak of listeriosis caused by imported cheese and evidence of cross-contamination of other cheeses, USA, 2012. Epidemiol Infect. 2016 Oct;144(13):2698-708. doi: 10.1017/S095026881500117X; PMID: 26122394.

35. Babalola S, **Ricotta E**, Awantang G, Lewicky N, Koenker H, Toso M. Correlates of intra-household net use in Liberia: A multilevel analysis of household survey data. PLoS ONE. 2016 Jul 12;11(7): e0158331. doi:10.1371/journal.pone.0158331; PMID: 27403877.

36. Monroe A, Asamoah O, Yam Y, Koenker H, Psychas P, Lynch M, **Ricotta EE**, Hornston S, Berman A, Harvey S. Outdoor sleeping and other nighttime activities in Upper West and Northern Regions of Ghana: implications for malaria prevention. Malaria J. 2015 Jan 28;14:35. doi: 10.1186/s12936-015-0543-4; PMID: 25627277.

37. **Ricotta EE‡**, Boulay M, Ainslie R, Babalola S, Koenker H, Lynch M. The use of mediation analysis to assess the effects of a behaviour change communication strategy on bed net ideation and household universal coverage in Tanzania. Malaria J. 2015 Jan 21;14:15. doi:10.1186/ s12936-014-0531-0; PMID: 25603882.

38. **Ricotta EE‡**, et al. Epidemiology and Antimicrobial Resistance of International Travel-Associated Campylobacter Cases in the United States, 2005-2011. American Journal of Public Health. Am J Public Health. 2014 Jul;104(7):e108-114. doi: 10.2105/AJPH.2013.301867; PMID: 24832415.

39. **Ricotta EE‡**, Koenker H, Kilian A, Lynch, M. Are pregnant women prioritized for nets? An assessment using survey data from 10 African countries. Glob Health Sci Pract. 2014 May 13;2(2):165-172. http://dx.doi.org/10.9745/GHSP-D-14-00021; PMID: 25276574.

40. **Ricotta EE‡**, Frese SA, Choobwe C, Louis TA, Shiff CJ. Evaluating local vegetation cover as a risk factor for malaria transmission: A new analytical approach using ImageJ. Malaria J. 2014 Mar 13;13:94. doi:10.1186/1475-2875-13-94; PMID: 24620929.

41. **Ricotta EE**, Wang N, Cutler R, Lawrence JG, Humphreys TL. Rapid divergence of two classes of *Haemophilus ducreyi*. J Bacteriol. 2011 Jun;193(12):2941-2947. doi: 10.1128/JB.01400-10; PMID: 21515774.

Manuscripts in preparation

1. Martoma RA, Omar H, Sege RD, DeSouza R, Kumar S, Martoma A, Washam MC, **Ricotta EE**, Majumder MS. 2022 - 2023 Central Ohio Measles Outbreak — An Underimmunized Somali Community. *Manuscript under review.*

2. **Ricotta EE**[‡], Barugahare J, Benton A, Carlson C, Dean N, Duda S, Federer L, Fill M, LeRoy B, Linton N, Lipsitch M, Mathur M, Phelan A, Rid A, Rosen J, Sauer L, Sullivan S, Evans NG. Expert recommendations for standardizing nonrandomized trials in epidemic settings. *Manuscript under review.*

3. Fathi P, Karkanitsa M, Rupert A, CoV2 Trauma Serology Team, Sereti I, **Ricotta EE**, Sadtler K. Conserved and divergent immune response to traumatic injury in humans and mice. *Manuscript in preparation, estimated submission April 2024.*

4. Evans NG, Angelli-Nichols S, Chang-Rabley E, Omar Y, **Ricotta EE**[‡]. The use of Natural Language Processing to assess substantive changes between preprint and published manuscripts utilized in COVID-19 government policies. *Manuscript in preparation, estimated submission May 2024.*

5. Zendt M, Callier V, Ortega-Villa A, Bugal K, Khil P, Osei G, Regmi P, Ghedin E, **Ricotta EE**[‡]. Post-vaccination SARS-CoV-2 infections and immune response in people with immune disorders. *Manuscript in preparation, estimated submission April 2024.*

6. Chang-Rabley E, van Zelm MC, **Ricotta EE**[‡], Edwards ESJ[‡]. New insights into immune memory to COVID-19 vaccination, and strategies to boost SARS-CoV-2 immunity in people with inborn errors of immunity. *Manuscript in preparation, estimated submission April 2024.*

7. Bents S, Lawler B, **Ricotta EE**[†‡], Majumder M[†‡]. Search interest in purported COVID-19 treatments over the pandemic period: the influence of mass media and other considerations. *Manuscript in preparation.*

8. Ngo TB, Karkanitsa M, Adusei KM, Graham LA, **Ricotta EE**, et al. SARS-CoV-2 Seroprevalence and Drug Use in Trauma Patients from Six Sites in the United States. *Manuscript in preparation. Preprint available: medRxiv 2021.08.10.21261849; doi: 10.1101/2021.08.10.21261849. PMID: 34401892.*

Book Chapters

1. **Ricotta E**[‡], Kwan J. "Artemisinin resistant malaria as a global threat". Global Catastrophic Biologic Risk. Curr Top Microbiol Immunol. 2019. doi: 10.1007/82_2019_163; PMID: 31218504.

2. Adjemian J, Daniel-Wayman S, **Ricotta E**, Prevots DR. "Epidemiology of Nontuberculous Mycobacteriosis". Semin Respir Crit Care Med. 2018;39:325-335.

Technical Documents

1. **Ricotta EE**[‡]. Report: Workshop on Standardizing the Conduct of Observational Studies in Epidemic Settings. OSF. Published online December 29, 2023. doi: 10.17605/OSF.IO/XPZAC

2. **Ricotta EE**[‡]. NIH Data Management and Sharing Plan Rubric. OSF. Published online September 23, 2023. doi: 10.17605/OSF.IO/WHDXF

3. Chang-Rabley E, Livinski A, **Ricotta EE**. Towards standardized observational data collection in early epidemics: a scoping review protocol. Published September 29, 2023. https://osf.io/e9stp/

4. **Ricotta E, Koenker H. Mapping areas** potentially suitable for piloting of long-lasting insecticidal nets (ITNs) treated with a pyrethroid insecticide and the synergist piperonyl butoxide per WHO Evidence Review Group guidelines. VectorWorks Project. 2016.

5. Kilian A, **Ricotta E**. Vector Control Update. VectorWorks Project. 2015-2016.

6. Koenker H, **Ricotta E**. President's Malaria Initiative Insecticide Treated Net Access and Use Report. VectorWorks Project. 2015-2016.

7. **Ricotta E**, Koenker H, Lynch M. Uganda Culture of Net Use, Phase 3 Topline Report – Focus Group Discussion with Pregnant Women. NetWorks Project. 2014.

Datasets

1. **Ricotta E**. October 2023. Characterization of the anti-spike IgG immune response to COVID-19 vaccines in people with a wide variety of immunodeficiencies [Dataset]. Dryad. doi: 10.5061/dryad.6hdr7sr68

Other Scientific Contributions

1. **Ricotta EE**. NIH Data Management and Sharing Plan Rubric. September 23, 2023. doi: 10.17605/OSF.IO/WHDXF
2. Chang-Rabley E, Livinski A, **Ricotta EE**. Towards standardized observational data collection in early epidemics: a scoping review protocol. September 29, 2023. doi: 10.17605/OSF.IO/E9STP

INVITED SUBJECT MATTER EXPERTISE

- **Science Policy After the COVID-19 Crisis.** American Enterprise Institute (2023). https://youtu.be/Ky3AryeC13M
- **Prioritizing Actions for Epidemic and Pandemic Preparedness.** National Academies of Sciences, Engineering, and Medicine (2023). https://tinyurl.com/yahfpb3r
- **Predictive Intelligence for Limiting Outbreak Threats.** Boston Children's Hospital; National Science Foundation Predictive Intelligence of Pandemic Prevention Phase I initiative award #2200228 (2022 – present).
- **Building Perspective Across Ecological and Biosecurity Communities on Pandemic Prevention Research in High-Risk Spillover Regions.** Council on Strategic Risks (2022 – 2023).
- **Congressional subject matter expert.** NIAID Division of Intramural Research on the immune response to COVID-19 vaccines in people with immune disorders. (2021).
- **Kaggle COVID-19 Open Research Dataset Challenge Judge.** An AI challenge with AI2, CZI, MSR, Georgetown, NIH & The White House. (2020).

INVITED SPEAKING

1. Invited speaker, Penn State Center for Infectious Disease Dynamics, "**An epidemiologist's guide to mathematical modeling**", November 2023.
2. Invited speaker, Georgetown University, "**Conducting an observational study in an epidemic**", October 2023.
3. Invited speaker, WHO R&D Blueprint global consultation on Improving Vaccine Effectiveness Studies: A vital step before the next pandemic "**Reporting: The need for discussions of reproducibility and generalizability**", September 2023. https://tinyurl.com/4cxmxs7r
4. Invited speaker, Uniformed Services University of the Health Sciences, "**Considerations for the use of AI/ML in the Military Health System**", August 2023.
5. Invited chair, Society for Epidemiologic Research Annual Meeting 2023 Oral Abstract Speed Session, "**The use of unique data sources for epidemiologic analysis during the COVID-19 pandemic**", June 2023.
6. Invited speaker, American Society for Microbiology Microbe 2023, "**Can machine learning be used to aid infectious disease diagnosis?**", June 2023.
7. Invited speaker, National Institutes of Health Women Scientists Advisors, "**Turn Data into Science with the Epidemiology and Data Management Unit**", April 2023. https://videocast.nih.gov/watch=49029

8. Invited speaker, Immune Deficiency Foundation Primary Immunodeficiency Conference, "**The Importance of Clinical Studies**", October 2022.
9. Invited speaker, UTMB/FDA Clinical Course: Achieving Data Quality and Integrity in Clinical Trials Involving High Consequence Pathogens, "**Challenges of Emerging Infectious Disease Clinical Studies in an Epidemic Setting**", July 2022, October 2023.
10. Invited panelist, MJH Life Sciences COVID-19 Coalition, "**Fact or Fiction? COVID-19 Myths and Controversies**", September 2020.
11. Invited moderator, Society for Epidemiologic Research 2020 Annual Meeting, "**Critical Topics in COVID-19 Epidemiology**", June 2020.
12. Invited moderator, Society for Epidemiologic Research Annual Meeting 2020, "**GovEpi: Perspectives on Public Health Careers in Government**", June 2020.
13. Invited speaker, Johns Hopkins Bloomberg School of Public Health, Spotlight Series, "**Understanding Infectious Disease Transmission: Using Mathematical Models to Predict the Spread of COVID-19**", June 2020.
14. Invited speaker, Emmes Corporation, "**The Epidemiology of Modern Pandemics**", March 2020.
15. Malaria Modeling Technical Advisory Group Meeting, "**LLIN Access and Use**", October 2015.
16. Roll Back Malaria – Malaria in Pregnancy Working Group Meeting, "**Draft Global Malaria in Pregnancy Advocacy Strategy**", July 2015.
17. Roll Back Malaria – Malaria in Pregnancy Working Group Meeting, "**Are Pregnant Women Prioritized for Nets? An Assessment of Net Use by Pregnant Women Using Survey Data from 10 African countries**", July 2014.
18. Invited speaker, Maryland Department of Health and Mental Hygiene – Infectious Disease Update, "**Epidemiology and Antimicrobial Resistance of International Travel-Associated Campylobacter Cases in the United States, 2005-2011**", June 2014.
19. Invited speaker, Maryland Department of Health and Mental Hygiene – Zoonotic and Vectorborne Disease Update, "**Campylobacter Surveillance and Cluster Associated with Dogs – Maryland, 2013**", June 2013.
20. Invited speaker, UPMC Center for Health Security, "**The Good, The Bad, and The Ugly: Day-to-Day Foodborne Disease Surveillance at the State Level**", May 2013.

CONFERENCE ABSTRACTS

1. Chang-Rabley E, Livinski A, **Ricotta EE**. Towards standardized observational data collection of infectious disease outbreaks: a scoping review. oSTEM Annual Conference. 2023. *Received a travel award to attend*
2. Zendt M, Bustos Carrillo FA, Subramanian R, Callier V, Ortega-Villa A, **Ricotta EE.** Post-vaccination SARS-CoV-2 infections and immune response in people with immune disorders. Infectious Disease Society of America IDWeek. 2023.
3. Bustos Carrillo FA, Lake C, **Ricotta EE**. The influence of COVID-19 pandemic restrictions on Respiratory Syncytial Virus in young children in the United States. Society for Epidemiologic Research. 2023.
4. Moodie A, Kelley E, **Ricotta E**, Lancaster M, Popescu S, Lim Y. Modernizing the Biological Weapons Convention's Article X Database of Assistance Cooperation. Emerging Leaders in Biosecurity Summer Research Symposium. 2022.

5. **Ricotta EE**, Shin C, Prevots DR. The use of "phecodes" for electronic phenotyping of primary immune deficiencies in a large electronic health record database. Society for Epidemiologic Research. 2020.

6. Kadri S, Lai YL, Warner S, Strich JR, Babiker A, **Ricotta E**, Dekker JP, Palmore T, Rhee C, Klompas M, Hooper D, Powers JH, Danner RL, Adjemian K. Population-level burden of delayed or in vitro discordant empiric antibiotics among bacteremia patients at US hospitals. International Conference on Healthcare-Associated Infections. 2020.

7. **Ricotta E**, Olivier K, Prevots DR. Association of Ivacaftor Treatment and Incident Nontuberculous Mycobacteria in Patients with Cystic Fibrosis, 2010-2017. American Thoracic Society Annual Meeting. 2020 [Canceled due to SARS-CoV-2].

8. **Ricotta E**, Lai YL, Babiker A, Strich JR, Kadri SS, Adjemian J, Lionakis MS, Prevots DR. Predictors of invasive candidiasis among laboratory positive Candida encounters: machine learning applied to a large US electronic health record (EHR) database. Society for Epidemiologic Research. 2019.

9. Meister L, Zerbe C, Notarangelo LD, Kadri SS, Prevots DR, **Ricotta E**. Developing Digital Phenotypes of Primary Immune Deficiencies Using Machine Learning on a Large Electronic Health Record Database. Infectious Disease Society of America IDWeek. 2019.

10. Lai YL, **Ricotta E**, Olivier K, Kadri SS, Prevots DR. Acid-Fast Bacilli Testing Trends at 43 In- and Outpatient Facilities and Nontuberculous Mycobacterial Pulmonary Isolation Rate, United States, 2009-2015. Infectious Disease Society of America IDWeek. 2019.

11. Kadri SS, Lai YL, Warner S, Strich JR, **Ricotta E**, Prevots DR, Babiker A, Rhee C, Klompas M, Demirkale C, Danner RL, NIH Antibiotic Resistance Outcomes Research Initiative (NIH-ARORI). Utility of Admission Procalcitonin Level in Patients Presenting to the Hospital with Bloodstream Infection: Real World Evidence from 250 US Hospitals. Infectious Disease Society of America IDWeek. 2019.

12. Kadri SS, Baggs J, Yi SH, Strich JR, Lai YL, **Ricotta E**, Prevots DR, Danner RL, Wolford H, Babatunde O, Hatfield K, Reddy S, Jernigan J. Burden of Difficult-to-Treat Antibiotic-Resistant (DTR) Gram-negative Infections in the United States, 2012-2017. Infectious Disease Society of America IDWeek. 2019.

13. Matson MJ, Massaquoi M, Sprecher A, Giuliani R, Edwards JK, Dekker JP, **Ricotta E**, Feldmann F, Feldmann H, Munster VJ, Chertow DS. Bacteremia Is Not Commonly Detected in Ebola Virus Disease. Infectious Disease Society of America IDWeek. 2019.

14. **Ricotta E**, Olivier K, Prevots DR, Adjemian J. Epidemiology and Spatial Analysis of Pulmonary Nontuberculous Mycobacteria in Patients with Cystic Fibrosis in Florida, 2010-2014. American Thoracic Society International Conference. 2019.

15. Drew J, Carey K, Olivier KN, **Ricotta E**, Kwan J, Robinson C, MacDonald S, Fennelly K, Prevots DR. The Risk of Mortality among Patients with Bronchiectasis at a Tertiary Care Center: Quality of Life and 6MWD. American Thoracic Society International Conference. 2019.

16. **Ricotta E**, Olivier K, Prevots DR. Treatment Regimens Prescribed for Pulmonary Mycobacterium abscessus Infections Among Hospitalized Patients in the United States, 2000-2015. American Thoracic Society Annual Meeting. 2018.

17. **Ricotta E**, Lai YL, Kadri SS, Lionakis M, Prevots DR, Adjemian J. Species Distribution and Trends of Invasive Candidiasis in the United States, 2009-2015, Using a Large Electronic Medical Record Database. Infectious Disease Society of America IDWeek. 2018.

18. Strich J, **Ricotta E**, Lai YL, Hohmann S, Hussain S, Rhee C, Klompas M, Palmore TN, Powers III JH,

Dekker JP, Adjemian J, Danner RL, Kadri SS, NIH Antimicrobial Resistance Outcomes Research Initiative (ARORI). Utilization Practices of Ceftazidime-avibactam at Academic Medical Centers in the United States. Infectious Disease Society of America IDWeek. 2018.

19. Adjemian J, Lai YL, **Ricotta E**, Prevots DR. Regional Differences in Trends of Hospitalizations Associated with Tick-Borne Diseases in the United States, 2009-2014. Infectious Disease Society of America IDWeek. 2018.

20. Kadri SS, Lai YL, **Ricotta E**, Strich J, Babiker A, Rhee C, Klompas M, Dekker JP, Powers III JH, Danner RL, Adjemian A, NIH Antimicrobial Resistance Outcomes Research Initiative (ARORI). Impact of Difficult-to-treat Resistance on Survival in Gram-negative Bacteremia: A Risk-adjusted Analysis Using Electronic Health Record–based Clinical Data from 140 US Hospitals. Infectious Disease Society of America IDWeek. 2018.

21. Lai YL, Adjemian J, **Ricotta E**, Mathew L, O'Grady N, Kadri SS. Dwindling Utilization of Central Venous Catheter Tip Cultures: An Analysis of Sampling Trends and Clinical Utility at 128 US Hospitals 2009-2014. Infectious Disease Society of America IDWeek. 2018.

22. **Ricotta EE**, Lai YL, Prevots DR, Olivier KN, Adjemian J. Treatment Regimens Prescribed for Pulmonary Mycobacterium abscessus Infections Among Hospitalized Patients in the United States, 2000-2015. American Thoracic Society International Conference. 2018.

23. Adjemian J, Lai Y, **Ricotta E**, Prevots DR. Epidemiology of Extrapulmonary Nontuberculous Mycobacterial Infections among Hospitalized Patients in the United States. American Thoracic Society International Conference. 2018.

24. Kadri SS, Lai YL, Spaulding AB, **Ricotta EE**, et al. Difficult-to-treat Resistance in Gram-negative Bacteremia among ICU In-patients at 162 US Hospitals. Society of Critical Care Medicine 47th Critical Care congress. 2018.

25. **Ricotta EE**, Prevots DR, Olivier, KN, Adjemian J. Treatment regimens prescribed for Mycobacterium avium complex infections diagnosed in hospitalized patients throughout the United States, 2008-2013. Infectious Disease Society of America IDWeek. 2017.

26. Adjemian J, Prevots DR, **Ricotta E**, et al. Epidemiology of Nontuberculous Mycobacterial Lung Disease among Cystic Fibrosis Patients Residing in Hawaii, USA. Infectious Disease Society of America IDWeek. 2017.

27. Lai YL, Adjemian J, **Ricotta EE**, Dekker J, Danner RL, Kadri SS. Comparative effectiveness of Trimethoprim-Sulfamethoxazole vs. Levofloxacin for Stenotrophomonas maltophilia Bacteremia: Analysis of targeted therapy at 90 US Hospitals, 2000-2014. Infectious Disease Society of America IDWeek. 2017.

28. Kadri SS, Lai YL, **Ricotta E**, Strich J, Babiker Am, Dekker JP, Palmore TN, Rhee C, Klompas M, Hooper DC, Powers III JH, Danner RL, Adjemian J, NIH Antimicrobial Resistance Outcomes Research Initiative (ARORI). Epidemiology of Inappropriate Empiric Antibiotic Therapy for Bacteremia Based on Discordant In vitro Susceptibilities: Risk factors and Taxon-level Variation in Burden and Outcome in 156 US hospitals, 2000-2014. Infectious Disease Society of America IDWeek. 2017.

29. **Ricotta EE**, Yukich J, Koenker H, Briët O. Exploring the relationship between climatic factors and ITN use in 17 African countries. European Congress on Tropical Medicine and International Health 9th Annual Meeting. 2015

30. **Ricotta EE**, Harvey S, Koenker H, Lynch M. Understanding intra-household decision making for insecticide-treated mosquito net allocation in Uganda. American Society of Tropical Medicine and

Hygiene 63rd Annual Meeting. 2014.

31. Monroe A, Asamoah O, Yam Y, Koenker H, Psychas P, Lynch M, **Ricotta E**, Hornston S, Berman A, Harvey S. Potential implications of outdoor-sleeping behaviors and nighttime activities for malaria control in the Upper West and Northern Regions of Ghana. American Society of Tropical Medicine and Hygiene 63rd Annual Meeting. 2014.

32. Boulay M, Loll D, **Ricotta E**, et al. Impact of Malaria Community Change Agents on LLIN Norms and Use in Tanzania. American Society of Tropical Medicine and Hygiene 62nd Annual Meeting. 2013.

33. Heiman KE, Gronostaj M, Garalde V, Adams-Cameron M, Beam S, Joseph L, Kucerova Z, LeBlanc P, Metz M, Ray G, **Ricotta E**, et al. A multistate outbreak of listeriosis associated with imported cheese. Council of State and Territorial Epidemiologists Annual Conference. 2013.

34. Gronostaj M, Heiman K, Garalde B, Adams-Cameron M, Joseph L, Kucerova Z, Lando J, LeBlanc P, Metz M, Ray G, **Ricotta E**, et al. Who Cut the Cheese? Investigation of a Multistate Outbreak of Listeriosis — United States, March–October 2012. Epidemic Intelligence Service Conference, Centers for Disease Control and Prevention. 2013.

35. **Ricotta EE**, Frese SA, Louis TA, Shiff CJ. Evaluating local vegetation cover as a risk factor for malaria transmission: A new analytical approach. World Malaria Day, Johns Hopkins Bloomberg School of Public Health. 2012.

36. **Ricotta EE**, Kamanga A, Mharakurwa S, Castillo-Salgado C, Shiff CJ. Identification of risk factors for malaria infection in Macha, Zambia during the dry season for epidemiological modeling and outbreak prediction. American Society of Tropical Medicine and Hygiene 60th Annual Meeting. 2011.

37. Salangsang J, **Ricotta EE**, et al. Utility of a combination of molecular typing methods for characterizing methicillin resistant Staphylococcus aureus (MRSA) isolates and detecting USA 300. Society for Healthcare Epidemiology of America 21st Annual Meeting. 2010.

38. Marsh JW, **Ricotta EE**, Harrison LH. Quantitative Real-Time Reverse Transcription PCR (qRT-PCR) of the Clostridium difficile Pathogenicity Locus. National Institutes of Health. 2009.

39. **Ricotta EE**, Wang N, Humphreys TL. Sequence comparison of pal, wecA, lspA1, and lspA2 in Class I and II strains of Haemophilus ducreyi. 18th Sigma Xi Undergraduate Student Research Conference. 2009.

40. **Ricotta EE**, Baros BL. Progress toward the development of Felix 01 as a reporter phage for Salmonella. Washington and Jefferson Undergraduate Research Symposium. 2008.

TEACHING

- Clinical Research in Integrative Medicine (INTM 6212) – George Washington University School of Medicine and Health Sciences, 2021 – 2024
- Global Health and Infectious Diseases (PBHL450) – National Institutes of Health, Foundation for Advanced Education in the Sciences, 2021
- Biostatistics for Clinical and Translational Research (HSci 6263) – George Washington University School of Medicine and Health Sciences, 2018 – 2023
- Epidemiology for Clinical and Translational Research (HSci 6264) – George Washington University School of Medicine and Health Sciences, 2018
- "Emerging Infectious Diseases: Determinants and Impacts on Global Development" – Short course, Allegheny College, April 2016

MENTORSHIP

Postdoctoral Fellowship
- 2023-present – Fausto Bustos Carrillo, PhD, MA.

NIH Postbaccalaureate Intramural Research Training Award
- 2023-2024 – Emma Rabley, BS.
- 2021 – Milann Cox, BS, Clinical fellow. Currently matriculated to Pennsylvania State College of Medicine.
- 2021 – Austin Michael Stack, BSc, Clinical fellow. Current position: Founder, XLA Life patient advocacy group.
- 2019-2020 – Samantha Dean, BA. Currently matriculated to Yale School of Medicine, Biostatistics PhD.
- 2018-2019 – Jessi Drew, MPH. Current position: Scientific Policy Analyst, Office of Strategic Planning, Initiative Development, and Analysis, NIAID.

NIAID/ORISE Emerging Leaders in Data Science and Technologies Program
- 2023 – Rahul Subramanian, PhD. Current position: Data Scientist, Office of Data Science, NIAID.
- 2022 – Diego Seira, MS. Current position: Biostatistician, Division of Intramural Research, NIAID.
- 2022 – Fausto Bustos Carrillo, PhD, MA. Current position: Postdoctoral fellow, Division of Intramural Research, NIAID.
- 2022 – Mark Rustad, PhD. Current position: Postdoctoral fellow, NIH Clinical Center.
- 2021 – Lisa Mayer, MPH. Current position: Data Scientist, Office of Data Science, NIAID.
- 2020 – Kyle Webb, MS. Current position: Bioinformatics Scientist, National Human Genome Research Institute.
- 2020 – Sydney Foote, MPH. Current position: NIAID Data Sharing Coordinator, Office of Data Science, NIAID.
- 2019 – Chris Shin, BS. Currently matriculated to University of Michigan, Biostatistics MPH.
- 2019 – Leo Meister, MS. Current position: Analyst, Office of Data Enterprise and Analytics, CMS.
- 2018 – Kelly Carey, MPH. Current position: Epidemiologist, Center for Surveillance, Epidemiology, and Laboratory Services, CDC.

Presidential Management Fellowship
- 2021 – Mackenzie Zendt, MPH. Current position: Epidemiologist, United States Agency for International Development.

Graduate Student Supervision
- 2024-present – Elizabeth LeRoy, MPH. DrPH dissertation supervisor, Johns Hopkins Bloomberg School of Public Health.
- 2023 – Bevin Manuelpillai. MPH practicum supervisor, Emory Rollins School of Public Health.

LEADERSHIP AND SERVICE

- Committee leadership: NIAID Data Management and Sharing Working Group (co-creator and chair, 2023 – 2024); NIH COVID-19 Scientific Interest Group (board member, 2021 – 2023); NIAID Data Science Working Group (nominated member, 2023); NIAID Data Sharing Point of Contact (nominated, 2023); NIAID Laboratory of Clinical Immunology and Microbiology Scientific Review Data Management and Sharing Plan reviewer (2023)
- Society leadership: Society of Epidemiologic Research (Communications Committee, 2019 – 2022)
- Editorial: Frontiers in Antimicrobial Resistance (Review Editor), Frontiers in Public Health (Associate Editor), Frontiers in Tropical Diseases (Editorial Board)
- Journal review: American Journal of Epidemiology, Emerging Infectious Diseases, Epidemiology and Infection, Frontiers In Journals, Health Security, Journal of Clinical Immunology, Malaria

Journal, Nature Communications, Public Library of Science One, Vaccine
- General service: Developed Data Management and Sharing Plan guide for NIAID DIR along with Scientific Review rubrics and score sheets; Volunteer in the NIH Clinical Center Division of Laboratory Medicine; Fellows Committee (FelCom) Fellows Award for Research Excellence (FARE) Competition – Study section chief judge

MEDIA INVOLVEMENT

1. Podcast episode: "Episode 7: Dr. Emily Ricotta COVID-19 Vaccine questions." Cystinosis Research Network. Cystinosis Rare: A Journey into the Unknown Podcast. September 21, 2021. https://open.spotify.com/episode/3MY8VhmEF10vE889CfgLoN
2. Interview: "Should People With Immune Problems Get Third Vaccine Doses?" Apoorva Mandavilli. New York Times. July 4, 2021. https://www.nytimes.com/2021/07/04/health/coronavirus-immunity-vaccines.html
3. Interview: "No, antibody tests can't prove if you're protected by the COVID-19 vaccines." Gabe Cohen. Verify/ABC News. June 7, 2021. https://www.abc10.com/article/news/verify/coronavirus-verify/antibody-tests-can-prove-if-youre-protected-by-the-covid-19-vaccines/536-31124a1e-3268-4224-aef2-1359148f4c15
4. External review: "There are more immunocompromised Americans than we think, and that's a problem with COVID-19 vaccines." Ellie Shechet. Popular Science. May 21, 2021. https://www.popsci.com/health/immunocompromised-covid-19-vaccine/
5. Interview: "Covid vaccines may not protect people with immune disorders. NIH trial seeks answers." Akshay Syal. NBC News. May 13, 2021. https://www.nbcnews.com/health/health-news/covid-vaccines-may-not-protect-people-immune-disorders-nih-trial-n1266886
6. Interview: "Incidence of non-bloodstream invasive candidiasis increases in US." Caitlyn Stulpin. Infectious Disease News. August 23, 2020. https://www.healio.com/news/infectious-disease/20200821/incidence-of-nonbloodstream-invasive-candidiasis-increases-in-us
7. Quoted in: "9 Expert Tips for Safe Road Trips This Summer." Ellen Gutoskey. Mental Floss. July 28, 2020. https://www.mentalfloss.com/article/626881/coronavirus-road-trip-expert-tips
8. Interview: "Why COVID-19 death predictions will always be wrong." Alexandra Appolonia and Victoria Barranco. Business Insider/Science Insider. April 29, 2020. https://www.businessinsider.com/covid-19-death-predictions-analysis-modeling-pandemic-2020-4
9. Quoted in: "While the world is focused on containing the new coronavirus, we could lose our fight against other infectious diseases, some that were on their way to being eradicated." Sarah Al-Arshani. Business Insider. April 18, 2020. https://www.businessinsider.my/other-infectious-disease-spread-amidst-efforts-stop-covid-19-2020-4
10. Quoted in: "Is it ethical to hire babysitters, delivery services, and cleaners right now?" Anna Davies. Vox. April 6, 2020. https://www.vox.com/the-highlight/2020/4/6/21207579/coronavirus-hiring-babysitters-delivery-services-cleaners-maids-okay
11. Quoted in: "The coronavirus may run rampant in some countries least prepared to deal with it. If that happens experts say the virus could become endemic." Sarah Al-Arshani. Business Insider. February 22, 2020. https://www.businessinsider.com/coronavirus-covid-19-threat-places-least-equipped-to-handle-2020-2
12. Quoted in: "While the world focuses on the coronavirus, people in China with other illnesses

may pay a price long after the outbreak ends." Sarah Al-Arshani. Business Insider. February 20, 2020. https://www.businessinsider.com/people-with-other-illnesses-pay-price-coronavirus-containment-2020-2

13. Interview: "How EHR Data Can ID Immune Deficiency Disorders." MedPage Today Staff. MedPage Today. December 5, 2019. https://www.medpagetoday.com/meetingcoverage/idweekvideopearls/83715

14. Expert external evaluator and quoted in: "We Found Dozens of Uncounted Deaths During the Flint Water Crisis. Here's How." Sarah Childress, with reporting from Kayla Ruble, Jacob Carah and Abby Ellis. PBS Frontline. September 10, 2019. https://www.pbs.org/wgbh/pages/frontline/interactive/how-we-found-dozens-of-uncounted-deaths-during-flint-water-crisis/

15. Interview: "Candida Epidemiology: Non-albicans Infections Are On the Rise." Contagion® Editorial Staff. Contagion Live. January 25, 2019. https://www.contagionlive.com/videos/candida-epidemiology--nonalbicans-infections-are-on-the-rise

ASSOCIATION MEMBERSHIPS

- Society for Epidemiologic Research, 2018 – present; Communications committee 2019 – 2022
- Tropical Medicine Dinner Club of Baltimore, 2010 – 2020; Board member 2013 – 2020
- Infectious Disease Society of America, 2017 – 2019
- American Society of Tropical Medicine and Hygiene, 2011 – 2013, 2017 – 2018
- Beta Beta Beta National Biology Honors Society, 2006 – 2009; Chapter president 2008 – 2009

TRAINING

Leadership
- Leading High-Performing Teams – NIH (2022)
- How to Mentor Employees – NIH (2022)
- Writing Impactful PMAP Accomplishments – NIH (2022)
- Grant Writing Training and Mentorship Program – NIAID/Grant Writing Mentors (2021)
- Workplace Dynamics I/II: Self Awareness, the Key to Professional Success – NIH Office of Intramural Training and Education (2020)
- Workplace Dynamics III: Conflict and Management – NIH Office of Intramural Training and Education (2020)
- Workplace Dynamics IV: Team Skills – NIH Office of Intramural Training and Education (2020)

Ethics
- Biomedical 101 – CITI (expires 2025)
- Biomedical 101: Community Engaged and Community Participatory Research – CITI (expires 2025)
- Good Clinical Practice (US FDA Focus) – CITI (expires 2025)
- Community Engaged and Community-based Participatory Research – CITI (expires 2025)
- Social & Behavioral Education Modules – CITI (expires 2025)
- Artificial Intelligence (AI) and Human Subjects Protections – CITI (expires 2025)
- Social Media and Research Recruiting – CITI (expires 2025)

Laboratory

- Shipping Infectious Substances and Related Materials – Saf T Pak (2021, 2024)
- Introduction to Lab Safety – NIH (2021, 2022)
- Working Safely with HIV and Other Bloodborne Pathogens – NIH (2021)
- Clinical Center Patient Confidentiality and Privacy – NIH (2021)
- Clinical Center Fire Safety – NIH (2021)
- Clinical Center Emergency Procedures for the Hospital – NIH (2021)

Other
- CDISC for Newcomers – Clinical Data Interchange Standards Consortium (2022)
- Introduction to Health Survey Research Methods – Johns Hopkins Bloomberg School of Public Health (2014)
- Outbreak Investigation Fundamentals: A Team Approach – Mid-Atlantic Public Health Training Center, Johns Hopkins Bloomberg School of Public Health (2011)

SOFTWARE COMPETENCIES

- <u>Advanced:</u> ArcGIS, Asana project management software, BSI sample management, R/R Studio (base, tidyverse, data.table), Microsoft 360 Suite, Slack, Zoom, Zotero/EndNote/Mendeley reference managers
- <u>Proficient:</u> Github, Graphpad Prism, MSSQL/T-SQL, SAS, SaTScan, STATA
- <u>Beginner:</u> ATLAS.ti, Bash (Linux), LaTeX, Python