July 14, 2021

Justin Lessler

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Education

2008	PhD	Epidemiology, Johns Hopkins Bloomberg School of Public Health
2008	MHS	Biostatistics, Johns Hopkins Bloomberg School of Public Health
2003	MS	Computer Science, Stanford University
1996	BS	Mathematical Sciences, University of North Carolina, Chapel Hill
1992	AA	Simon's Rock of Bard College

Professional Experience

2021-present	Professor	University of North Carolina Chapel Hill
2016-2021	Director, Infectious Disease Track	Johns Hopkins Bloomberg School of Public Health
2015-2021	Associate Professor	Johns Hopkins Bloomberg School of Public Health
2015	RAPIDD Member	Fogarty International Center
2011-2015	Assistant Professor	Johns Hopkins Bloomberg School of Public Health
2008-2011	Research Associate	Johns Hopkins Bloomberg School of Public Health
2004-2008	Research Assistant	Johns Hopkins Bloomberg School of Public Health
2007-2008	Epidemiologic Consultant	IBM
1999-2004	Staff Software Engineer	IBM Almaden Research Center
1996-1999	Software Engineer	Tivoli (an IBM company)
1996	Summer Research Fellow	National Institute of Environmental Health Sciences

Honors and Awards

2017	Delta Omega Honor Society (Alpha Chapter), Johns Hopkins
2016	Golden Apple, small class size, Johns Hopkins
2016	Advising, Mentoring, and Teaching Recognition Award (AMTRA)
April 2016	Outstanding Course Recognition: Concepts and Methods in Infectious Disease Epidemiology, Johns Hopkins
June 2015	Outstanding Course Recognition: Infectious Disease Dynamics, Johns Hopkins
May 2014	Visiting Fellow, Program on Infectious Disease Dynamics Follow-up, Isaac Newton Institute.
Fall 2013	Visiting Fellow, Program on Infectious Disease Dynamics, Issac Newton Institute
2006	Doctoral Seminar Award for Scholarship, Creativity, and Conversational Courage, Johns Hopkins
April 2004	First Plateau Invention Achievement Award, IBM
June 2003	Bravo Award, IBM
December 2002	Research Division Award, IBM
August 2001	First Patent Application Invention Achievement Award, IBM
July 1998	Distinguished Contribution Award, IBM

Memberships

American Association for the Advancement of Science, since 2003
Society for Epidemiological Research, since 2004
American Society for Tropical Medicine and Hygiene, since 2012

Bibliography and Products of Scholarship

* indicates JHSPH student or trainee; ** indicates an GIDTRP student or trainee; † indicates corresponding authorship; ‡ indicates equal contribution

Peer-Reviewed Publications (172 total)

1. Yang B, Huang AT, Garcia-Carreras B, Hart WE, Staid A, Hitchings M, Lee EC, Howe CJ, Grantz KH*, Wesolowski A, Lemaitre JC, Rattigan SM, Moreno C, Borgert BA, Dale CL, Quigley NE, Cummings A, McLorg A, LoMonaco K, Schlossberg S, Barron-Kraus DW, Shrock HC, UFCOVID Interventions Team, **Lessler J**, Laird C, Cummings DAT (2021) Effect of specific non-pharmaceutical intervention policies on SARS-CoV-2 transmission in the counties of the United States. *Nature Communications*. *In Press*

2. Bi Q*, **Lessler J**, Eckerle I, Lauer SA*, Kaiser L, Vuilleumier N, Cummings DAT, Flahault A, Petrovic D, Guessous I, Stringhini S, Azman AS (2021) Household Transmission of SARS-COV-2: Insights from a Population-based Serological Survey. *Nature Communications*. *In Press*

3. **Lessler J**†, Grabowski MK, Grantz KH*, Badillo-Goicoechea E, Metcalf CJE, Lupton-Smith C, Azman AS, Stuart EA (2021) Household COVID-19 risk and in-person schooling. *Science*. [Epub ahead of print] doi:10.1126/science.abh2939

4. Grantz KH*, Lee EC, DAgostino McGowan L, Lee KH, Metcalf CJE, Gurley ES, **Lessler J**† (2021) Maximizing and evaluating the impact of test-trace-isolate programs: A modeling study. *PLoS Medicine*. 18(4):e1003585 doi:10.1371/journal.pmed.1003585

5. Borchering RK, Viboud C, Howerton E, Smith CP*, Truelove S, Runge MC, Reich NG, Contamin L, Levander J, Salerno J, van Panhuis W, Kinsey M, Tallaksen K, Obrecht RF, Asher L, Costello C, Kelbaugh M, Wilson S, Shin L, Gallagher ME, Mullany LC, Rainwater-Lovett K, Lemaitre JC, Dent J, Grantz KH*, Kaminsky J, Lauer SA*, Lee EC, Meredith HR*, Perez-Saez J*, Keegan LT, Karlen D, Chinazzi M, Davis JT, Mu K, Xiong X, Pastore Y, Piontti A, Vespignani A, Srivastava A, Porebski P, Venkatramanan S, Adiga A, Lewis B, Klahn B, Outten J, Schlitt J, Corbett P, Telionis PA, Wang L, Peddireddy AS, Hurt B, Chen J, Vullikanti A, Marathe M, Healy JM, Slayton RB, Biggerstaff M, Johansson MA, Shea K, **Lessler J**† (2021) Modeling of future COVID-19 cases, hospitalizations, and deaths, by vaccination rates and nonpharmaceutical intervention scenarios—United States, April–September 2021. *MMWR*. 70(19):719-724 doi:10.15585/mmwr.mm7019e3

6. Wiens KE*, Mawien PN, Rumunu J, Slater D, Jones FK*, Moheed S, Caflish A, Bior BK, Jacob IA, Lako RL, Guyo AG, Olu OO, Maleghemi S, Baguma A, Hassen JJ, Baya SK, Deng L, **Lessler J**, Demby MN, Sanchez V, Mills R, Fraser C, Charles RC, Harris JB, Azman AS, Wamala JF (2021) Seroprevalence of Severe Acute Respiratory Syndrome Coronavirus 2 IgG in Juba, South Sudan, 2020. *Emerging Infectious Diseases*. 27(6):1598-1606 doi:10.3201/eid2706.210568

7. Lemaitre JC*, Grantz KH*, Kaminsky J, Meredith HR*, Truelove SA, Lauer SA*, Keegan LT, Shah S, Wills J, Kaminsky K, Perez-Saez J*, **Lessler J**, Lee EC (2021) A scenario modeling pipeline for COVID-19 emergency planning. *Scientific Reports*. *In Press*

8. Meredith HR*, Arehart E, Grantz KH*, Beams A, Sheets T, Nelson R, Zhang Y, Vinik RG, Barfuss D, Pettit JC, McCaffrey K, Dunn A, Good M, Frattaroli S, Samore MH, **Lessler J**, Lee EC, Keegan LT (2021) A coordinated strategy for a modeling-based decision support tool for COVID-19 in Utah. *Emerging Infectious Diseases*. 27(5):1259-1265 doi:10.3201/eid2705.203075

9. Theilen PM‡, Wohl S*‡, Mehoke T, Ramakrishnan S, Kirsche M, Falade-Nwulia O, Trovao NS, Erlund A, Howser C, Sadowski N, Morris P, Hopkins M, Schwartz M, Fan Y, Gniazdowski V, **Lessler J**, Sauer L, Schatz MC, Evans JD, Ray SC, Timp W, Mostafa HM (2021) Genomic diversity of SARS-CoV-2 during early introduction into the Baltimore–Washington metropolitan area. *JCI Insight*. 6(6):e144350 doi:0.1172/jci.insight.144350. *In Press*

10. Li X, Mukandavire C, Cucunuba ZM, Londono SE, Abbas K, Clapham HE, Jit M, Johnson HL, Papadopoulos T, Vynnycky E, Brisson M, Carter ED, Clark A, de Villiers MJ, Eilertson K, Ferrari MJ, Gamkrelidze I, Gaythorpe KAM, Grassly NC, Hallet TB, Hinsley W, Jackson ML, Jean K, Karachaliou A, Klepac P, **Lessler J**, Li X, Moore SM, Nayagam S, Nguyen DM, Razavi H, Razavi-Shearer D, Resch S, Sanderson C, Sweet

S, Sy S, Tam Y, Tanvir H, Tran QM, Trotter CL, Truelove S*, van Zandvoort K, Verguet S, Walker N, Winter A*, Woodruff K, Ferguson NM, Garske T, Vaccine Impact Modelling Consortium (2021) Estimating the health impact of vaccination against ten pathogens in 98 low-income and middle-income countries from 2000 to 2030: a modelling study. *The Lancet*. 397(10272):398-408
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11. Zhang Z‡, Bi Q*‡, Fang S‡, Wei L, Wang X, He J, Wu Y, Liu X, Gao W, Zhang R, Gong W, Su Q, Azman AS, **Lessler J**†‡, Zuan Zou‡ (2021) Insight into the practical performance of RT-PCR testing for SARS-CoV-2 using serological data: a cohort study. *Lancet Microbe*. 2(2):e79-e87
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12. Lee EC, Wada NI, Grabowski MK, Gurley ES, **Lessler J**† (2020) The engines of SARS-CoV-2 spread. *Science*. 370(6515):406-407
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13. Quandelacey TM*, Cummings DAT, Jiang CQ, Yang B, Kwok KO, Dai B*, Shen R, Read JM, Zhu H, Guan Y, Riley S, **Lessler J** (2020) Using serological measures to estimate influenza incidence in the presence of secular trends in exposure and immuno-modulation of antibody response.. *Influenza and Other Respiratory Viruses*. 15:235-244
doi:doi.org/10.1111/irv.12807

14. Azman AS, Lauer SA*, Bhuiyan TR, Luquero FJ, Leung DT, Hegde ST*, Harris JB, Paul KK, Khaton F, Ferdous J, **Lessler J**, Salje H, Qadri F, Gurley ES (2020) Vibrio cholerae O1 transmission in Bangladesh: insights from a nationally representative serosurvey. *The Lancet Microbe*. 1(8):e336-e343
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15. Jones FK*, Wamala JF, Rumunu J, Mawien PN, Kol MT, Wohl S*, Deng L, Pezzoli L, Omar LH, **Lessler J**, Quilici ML, Luquero FJ, Azman AS (2020) Successive epidemic waves of cholera in South Sudan between 2014 and 2017: a descriptive epidemiological study. *Lancet Planetary Health*. 4(12):e577-e587
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16. Lee EC*, Chao DL, Lemaitre JC, Matrajit L, Pasetto D, Perez-Saez J*, Finger F, Rinaldo A, Sugimoto JD, Halloran ME, Longini IM, Ternier R, Vissieres K, Azman AS‡, **Lessler J**†‡, Ivers LC‡ (2020) Achieving coordinated national immunity and cholera elimination in Haiti through vaccination: a modelling study. *The Lancet Global Health*. 8(8):e1081-e1089
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17. Cummings DAT, Radonovich LJ, Gorse GJ, Gaydos CA, Bessesen MT, Brown AC, Gilbert CL, Hitchings MDT, **Lessler J**, Nyquist AC, Rattigan SM, Rodriguez-Barradas MC, Price CS, Reich NG, Simberkoff MS, Perl TM (2020) Risk Factors for Healthcare Personnel Infection with Endemic Coronaviruses (HKU1, OC43, NL63, 229E): Results from the Respiratory Protection Effectiveness Clinical Trial (ResPECT). *Clinical Infectious Diseases*. ciaa900
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18. Truelove SA*, Keegan LT*, Moss WJ, Chaisson LH*, Macher E, Azman AS, **Lessler J**† (2020) Clinical and Epidemiological Aspects of Diphtheria: A Systematic Review and Pooled Analysis. *Clinical Infectious Diseases*. 71(1):89-97
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19. Kucirka LM, Lauer SA*, Laeyendecker O, Boon D, **Lessler J** (2020) Variation in False-Negative Rate of Reverse Transcriptase Polymerase Chain Reaction-Based SARS-CoV-2 Tests by Time Since Exposure. *Annals of Internal Medicine*. 173(4):262-267
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21. Hay JA, Minter A, Ainslie KE, **Lessler J**, Yang B, Cummings DAT, Kucharski AJ, Riley S (2020) An open source tool to infer epidemiological and immunological dynamics from serological data: serosolver. *PLoS Computational Biology*. 16(5):e1007840
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22. Bi Q*, Wu Y, Mei S, Ye C, Zou X, Zhang Z, Liu X, Wei L, Truelove SA, Zhang T, Gao W, Cheng C, Tang X, Wu X, Wu Y, Sun B, Huang S, Sun Y, Zhang J, Ma T‡, **Lessler J**†‡, Feng T‡ (2020) Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: a retrospective cohort study. *Lancet Infectious Diseases*. 20(8):911-919
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23. Metcalf CJE, Wesolowski A, Winter AK*, **Lessler J**, Cauchemez S, Moss WJ, McLean AR, Grenfell BT (2020) Using Serology to Anticipate Measles Post-honeymoon Period Outbreaks. *Trends in Microbiology*. 28(8):597-600
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24. Huang AT, Garcia-Carreras B, Hitchings MDT, Yang B, Katzelnick LC, Rattigan SM, Brogert BA, Moreno CA, Solomon BD, Rodriguez-Barraquer I, **Lessler J**, Salje H, Burke D, Wesolowki A, Cummings DAT (2020) A systematic review of antibody mediated immunity to coronaviruses: antibody kinetics, correlates of protection, and association of antibody responses with severity of disease. *Nature Communications*. 11(1):1-16
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26. Lauer SA*, Grantz KH*, Bi Q*, Jones FK*, Zheng Q, Meredith HR*, Azman AS, Reich NG, **Lessler J**† (2020) The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application.. *Annals of Internal Medicine*. 172(9):577-582
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29. Ratmann O, Kagaayi J, Hall M, Golubchick T, Kigozi G, Xi X, Wymant C, Nakigozi G, Abeler-Dorner L, Bonsall D, Gall A, Hoppe A, Kellam P, Bazaale J, Kalibbala S, Laeyendecker O, **Lessler J**, Nalugoda F, Chang LW, de Oliveira T, Pillay D, Quinn TC, Reynolds SJ, Spencer SEF, Ssekubugu R, Serwadda D, Wawer MJ, Gray RH, Fraser C, Grabowski MK, the Rakai Health Sciences Program (2020) Quantifying HIV transmission flow between high-prevalence hotspots and surrounding communities: a population-based study in Rakai, Uganda. *Lancet HIV*. 7(3):e173-e183
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31. Wallace M*, Sharfstein J, **Lessler J** (2020) Performance and Priorities: A Cross-sectional Study of Local Health Department Approaches to Essential Public Health Services. *Public Health Reports*. 135(1):97-106
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Clapham HE*, Lowe R, Bailey T, Garcia-Diez M, Carvalho MS, Rodo X, Sardar T, Paul RE, Ray EL, Sakrejda K, Brown AC, Meng X, Osoba O, Vardavas R, Manheim D, Moore M, Rao DM, Porco TC, Ackley S, Lio F, Worden L, Covertino M, Liu Y, Reddy A, Ortiz E, Rivero J, Brito H, Joarrero A, Johnson LR, Gramacy RB, Cohen JM, Mordecai EA, Murdock CC, Rohr JR, Ryan SJ, Ibarra AS, Weikel DP, Jutla A, Khan R, Poutley M, Colwell RR, Rivera-Garcia B, Barker CM, Bell JE, Biggerstaff M, Swerdlow D, Mier-y-Teran-Romero L, Forshey B, Asher J, Clay MA, Trtanj J, Margolis H, Hebbeler A, George D, Chretien JP (2019) An open challenge to advance probabilistic forecasting for dengue epidemics. *PNAS*. 116(48):24268-24274
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35. Radonovich LJ Jr, Simberkoff MS, Bessesen MT, Brown AC, Cummings DAT, Gaydos CA, Los JG, Krosche AE, Gibert CL, Gorse GJ, Nyquist AC, Reich NG, Rodriguez-Barradas MC, Price CS, Perl TM, ResPECT investigators (including Lessler J) (2019) N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel: A Randomized Clinical Trial. *JAMA*. 322(9):824-833
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39. Graham M*, Winter AK*, Ferrari M, Grenfell B, Moss WJ, Azman AS, Metcalf CJE, **Lessler J**† (2019) Measles and the canonical path to elimination. *Science*.(6440) 584-587
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41. Hast MA*, Chaponda M, Muleba M, Kabuya JM, Lupiya J, Kobayashi T, Shields T, **Lessler J**, Mulenga M, Stevenson JC, Norris DE, Moss WJ (2019) The impact of three years of targeted IRS with pirimiphos-methyl on malaria parasite prevalence in a high-transmission area of northern Zambia. *American Journal of Epidemiology*. 188(12):2120–2130
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43. Utazi CE, Thorley J, Alegana VA, Ferrari MJ, Takahashi S, Metcalf CJE, **Lessler J**, Cutts FT, Tatem AJ (2019) Mapping vaccination coverage to explore the effects of delivery mechanisms and inform vaccination strategies. *Nature Communications*. 10:1633
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doi:10.1097/EDE.0b013e31821092b1

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Patents (7 total)

1. Method and system for knowledge repository exploration and visualization (No. 6,725,217). Chow AW, Kreulen JT, Lessler JT, Proctor LL, Spangler WS. *granted*

2. Managing activity reuse in a collaborative computing environment . Ruvolo J, Lessler J, Moran TP, Muller M, Tang JC, Gruen DM, Moody PB, Stachel RJ, Minassian SO. *published*

3. Method for synchronizing documents for disconnected operation (No. 9,104,689). Edlund SB, Ruvolo J, Lessler JT, Baratham SSS. *granted*

4. Method for automatically finding frequently asked questions in a helpdesk data set (No. 6,804,670). Kreulen JT, Lessler JT, Sanchez MP, Spangler WS. *granted*

5. Method of generating a context-inference search query and of sorting a result of the query (No. 7,853,574). Kraenzel CJ, Moody PB, Ruvolo J, Moran TP, Lessler JT. *granted*

6. Text Explanation for On-Line Analytic Processing Events (No. 7,383,257). Cody WF, Krishna V, Lessler JT, Spangler WS, Kreulen JT. *granted*

7. System and method for dynamically tracking user interests based on personal information (No. 8,838,588). Ruvolo J, Edlund SB, Krishna V, Lessler JT, Kraenzel CJ. *granted*

Published Articles and Editorials not Peer Reviewed (21 total)

1. Grabowski MK, **Lessler J** (2021) Anti-Vaxxers Aren't the Only Ones Selling Vaccines Short. *The Daily Beast*.

2. **Lessler J**, Graboski MK (2021) School reopening is risky. But it's important.. *The Washington Post*.

3. Fox MP, DAgostino McGowan L, James BD, **Lessler J**, Mehta SH, Murray EJ (2021) Concerns About the Special Article on Hydroxychloroquine and Azithromycin in High Risk Outpatients with COVID-19 by Dr. Harvey Risch. *American Journal of Epidmeiology*. 190(1):17-20
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4. Grantz KH*, **Lessler J** (2020) Understanding how 'overdispersion' works is key to controlling Covid. *The Guardian*.

5. **Lessler J**, D'Agostino McGowan L (2020) How to protect yourself and others from spreading COVID-19 at Thanksgiving dinner. *USA Today*.

6. **Lessler J**, D'Agostino McGowan L (2020) Why the 'COVID-19 killed only 6 percent' argument is wrong. *USA Today*.

7. **Lessler J** (2020) We don't need to reach herd immunity to begin to get the virus under control. *The Washington Post*.

8. **Lessler J** (2020) We still haven't decided what it means to 'beat' the pandemic. *The Washington Post*.

9. **Lessler J**† (2020) An overlooked role for fecal transmission of SARS-CoV-2?. *Clinical Infectious Diseases*. ciaa1575
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10. Edwards JK, **Lessler J** (2020) What Now? Epidemiology in the Wake of a Pandemic. *American Journal of Epidemiology*. 190(1):17-20
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11. **Lessler J** (2020) Coronavirus will linger after the pandemic ends. But it won't be as bad.. *The Washington Post*.

12. **Lessler J**†, Orenstein WA (2019) The Many Faces of Emerging and Re-Emerging Infectious Disease. *Epidemiologic Reviews*.
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13. Viboud C, **Lessler J** (2018) The 1918 Influenza Pandemic: Looking Back, Looking Forward. *American Journal of Epidemiology*. 187(12):2493-2497
doi:10.1093/aje/kwy207

14. **Lessler J**, Moore S, Azman A, Lee E, McKay M (2018) Who is at risk for cholera in Africa?. *Biomedical Science Journal for Teens*.

15. Prada J, Metcalf CJM, Takahashi S, **Lessler J**, Tatem A, Ferrari M (2018) How can we keep the world free of measles?. *Biomedical Science Journal for Teens*.

16. Grabowski MK, **Lessler J** (2016) Phylogenetic insights into age-disparate partnerships and HIV. *Lancet HIV*. 4(1):e8-e9
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17. **Lessler J**† (2014) Charting the life-course epidemiology of influenza. *Science*. 246(6212):919-920
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18. **Lessler J** (2013) MERS: Will it start the next global pandemic?. *The Guardian: The Observer Tech Monthly*.

19. **Lessler J**†, Metcalf CJE, Grenfell BT (2012) Measurement of vaccine-derived immunity: how do we use all the data?. *Expert Review Vaccines*. 11(7):747-749
doi:10.1586/erv.12.47

20. Cummings DAT, **Lessler J** (2011) Review of: Design and Analysis of Vaccine Studies By M. Elizabeth Halloran, Ira M. Longini, Jr., and Claudio J. Struchiner.. *American Journal of Epidemology*. 174(7):872-873
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21. Spangler S, Kreulen J, **Lessler J**, Johnson D (2003) Modeling Document Taxonomies. *IBM Research Report*. RJ10288

Books & Chapters (5 total)

1. Keegan LT*, Metcalf CJE, Bowles LA, **Lessler J** (2022) Transmission dynamics, modeling of outbreaks and interventions. *Preparing for Viral Outbreaks and Bioterrorism*, Elsevier.

2. Cummings DAT, **Lessler J** (2013) Chapter 6: Infectious Disease Dynamics. *Infectious Disease Epidemiology Theory and Practice, 3rd Edition*, Jones & Bartlett Learning.

3. **Lessler J** (2007) Likelihood Ratio. *Encyclopedia of Epidemiology*, SAGE Reference.

4. **Lessler J** (2007) Koch's Postulates. *Encyclopedia of Epidemiology*, SAGE Reference.

5. **Lessler J** (2007) Additive and Multiplicative Models. *Encyclopedia of Epidemiology*, SAGE Reference.

Preprints (11 total)

1. Lupton-Smith C, Goicoechea EB, Collins M, **Lessler J**, Grabowski MK, Stuart EA (2021) Consistency between household and county measures of K-12 onsite schooling during the COVID-19 pandemic. *arXiv*.

2. Cramer RY, Ray EL, Lopez VK, Bracher J, Brennen A, Castro Rivadeneira AJ, Gerding A, Gneiting T, House KH, Huang Y, ..., Gratz KH*, Kaminsky J, Kaminsky K, Keegan LT, Lauer SA*, Lemaitre JC, **Lessler J**, Meredith HM*, Perez-Saez J*, Shah S, Smith CP*, ..., Slayton RB, Johansson M, Biggerstaff M, Reich NG (2021) Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the US. *medRxiv*.
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3. Garcia-Carreras B, Yang B, Grabowski MK, Sheppard LW, Huang AT, Salje H, Clapham HE, Iamsirithaworn S, Doung-Ngern P, **Lessler J**, Cummings DAT (2021) Periodic synchronization of dengue epidemics in Thailand: the roles played by temperature and immunity. *bioRxiv*.
doi:10.1101/2021.03.01.433325

4. DAgostino McGowan L, Lee EC, Gratz KH*, Kucirka LM, Gurley ES, **Lessler J** (2021) Testing out of Quarantine. *medRxiv*.
doi:10.1101/2021.01.29.21250764

5. Quandelacy TM*, Zimmer S, **Lessler J**, Vukotich C, Bieltz R, Gratz KH*, Galloway D, Read JM, Zheteyeva Y, Gao H, Uzicanin A, Cummings DAT (2021) Predicting virologically-confirmed influenza using school absences in Allegheny County, Pennsylvania, USA during the 2007-2015 influenza seasons. *Authorea*.
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6. Ekeng E, Tchatchouang S, Akenji B, Issaka BB, Akintayo I, Chukwu C, Dano ID, Melingui S, Sani O, Popoola1 MO, Nzouankeu A, Boum Y, Luquero FJ, Ahumibe A, Naidoo D, Azman AS, **Lessler J**, Wohl S* (2020) Persistence of the T12 Vibrio cholerae O1 lineage in West Africa: Insights from a Regional Sequencing Workshop. *medRxiv*.
doi:10.1101/2020.09.24.20199026

7. Wohl S*, Giles JR*, **Lessler J**† (2020) Sample Size Calculation for Phylogenetic Case Linkage. *medRxiv*.
doi:10.1101/2020.07.10.20150920

8. Truelove SA*, Mier-y-Teran-Romero L, Gastanaduy A, Walker AT, Berro A, **Lessler J**, Johansson MA (2020) Epidemics, Air Travel, and Elimination in a Globalized World: The Case of Measles. *medRxiv*.
doi:10.1101/2020.05.08.20095414

9. Bi Q*, Hong C, Meng J, Wu Z, Zho P, Ye C, Sun B, Kucirka LM, Azman AS, Wang T, Chen J, Wang Z, Liu L, **Lessler J**, Edwards JK, Ma T, Zhang G (2020) Characterizing clinical progression of COVID-19 among patients in Shenzhen, China: an observational cohort study. *medRxiv*.
doi:10.1101/2020.04.22.20076190

10. Joshi K, **Lessler J**, Olawore O, Loevinsohn G*, Bushey S, Tobian AAR, Grabowski MK (2020) Declining HIV incidence in sub-Saharan Africa: a systematic review and meta-analysis of empiric data. *medRxiv*.
doi:10.1101/2020.12.08.20246066

11. Bi Q*, Cummings DAT, Reich NG, Keegan LT*, Kaminsky J, Salje H, Clapham HE, Doungngern P, Iamsirithaworn S, **Lessler J**† (2020) Seasonal patterns of dengue incidence in Thailand across the urban-rural gradient.. *medRxiv*.
doi:10.1101/2020.11.25.20186056

Letters (4 total)

1. Lee EC, Ternier R, **Lessler J**, Azman AS, Ivers LC (2020) Cholera in Haiti–Authors' reply. *Lancet Global Health*.(12) e1470-e1471

2. Azman AS*, Legros D, **Lessler J**, Luquero FJ, Moore SM* (2015) Outbreaks of cholera in the time of Ebola: preemtive action needed. *The Lancet*. 385(9971):851
doi:10.1016/S0140-6736(15)60178-7

3. Cutts FT, Metcalf CJE, **Lessler J**, Grenfell BT (2012) Rubella vaccination: not business as usual. *The Lancet*. 380(9838):217-218
doi:10.1016/S0140-6736(12)61215-X

4. Kucirka LM, **Lessler J**, Segev DL (2011) Race, Age, and Mortality Among Patients Undergoing Dialysis – Reply.. *JAMA*. 306(20):2215-2216
doi:10.1001/jama.2011.1716

Posters and Presentations at Scientific Meetings (27 total)

1. **Lessler J** (2020) What makes a test-trace-isolate program work: a modeling framework and evaluation tool. COVID-19 Dynamics and Evolution. (*Invited Oral*)
2. **Lessler J** (2020) Transmission and Control of COVID-19. AACR COVID-19 and Cancer Virtual Meeting. (*Invited Oral*)
3. **Lessler J** (2020) Leveraging public health response to understand COVID-19 dynamics in Shenzhen China. The 2nd Symposium on Global Health, Shanghai China. (*Inivited Oral*)
4. **Lessler J** (2020) Lessons in translational research from the COVID-19 pandemic. SER Digital. (*Invited Oral*)
5. **Lessler J** (2020) Practical Questions in COVID-19 Epidemiology and Control. Summer Sinus Symposium. (*Plenary*)
6. **Lessler J** (2019) Understanding Cholera Dynamics for Public Health. Epidemics[7]. (*Plenary*)
7. **Lessler J** (2019) Sample Design for Phylogenetic Inference: Thoughts and Basic Results. Applied Bioinformatics and Public Health Microbiology. (*Invited Oral*)
8. **Lessler J** (2018) Linking geospatial and molecular data: from dengue in Thailand to cholera in Africa. Bill and Melinda Gates Foundation Grand Challenges Meeting. (*Invited Oral*)
9. **Lessler J** (2018) Public health action in the face of uncertainty, where the rubber hits the road.. Society for Epidemiological Research Annual Meeting. (*Invited Oral*)
10. **Lessler J**, Moore SM, Graham M, Azman AS, McKay HS (2015) Beyond endemicity. Taxonimizing the epidemic dynamics of cholera and measles.. Epidemics[5]. (*Oral*)
11. **Lessler J**, Read JM, Jiang CQ, Tan L, Riley S, Cummings DAT (2015) Is it Groundhog Day? Year-to-year consistency of human contact patterns in southern China.. Epidemics[5]. (*Poster*)
12. **Lessler J**, The MERS-CoV Scenario and Modeling Working Group (2015) How Big Is the Iceberg? Estimating the severity and subclinical burden of MERS-CoV infection in the Kingdom of Saudi Arabia. Society for Epidemiological Research Annual Meeting. (*Invited Oral*)
13. **Lessler J** (2015) Recreating historic patterns of influenza incidence from cross-sectional serological data. Society for Epidemiological Research Annual Meeting. (*Oral*)
14. **Lessler J** (2013) Recreating historic patterns of influenza incidence from cross-sectional serological data. Epidemics[4]. (*Oral*)
15. **Lessler J**, Cummings DAT, Riley S, Read JM, Kucharski A, Zhu H, Guan Y, Jiang CQ (2013) Immune landscapes and small scale influenza dynamics in southern China: The fluscape study.. 141st APHA Annual Meeting and Expo. (*Invited Oral*)
16. **Lessler J** (2012) A Graphical Approach to Decision Making in Epidemics. Joint Statistical Meetings. (*Invited Oral*)
17. **Lessler J**, Metcalf CJE, Grais RF, Luquero FJ, Cummings AT, Grenfell BT (2012) The Coverage of Measles Vaccination Activities in Selected Countries of Africa and Asia. Epidemics[3]. (*Oral*)
18. **Lessler J**, Reich NG, Iamsirithaworn S, Cummings DAT (2011) Prediction and Imputation of Spatio-Temporal Data: Dengue Surveillance in Thailand. Society for Epidemiologic Research Annual Meeting. (*Poster*)
19. **Lessler J**, Reich N, Brookmeyer R (2010) Estimating case fatality ratios from infectious disease surveillance data. Society for Epidemiologic Research Annual Meeting. (*Poster*)
20. **Lessler J**, Reich NG, Iamsirithaworn S, Cummings DAT (2009) Early detection of dengue outbreaks in Thailand using a spatio-temporal hidden state surveillance model. Epidemics[2]. (*Oral*)

21. **Lessler J**, Read JM, Riley SR, Cummings DAT (2009) The use of satellite imagery in contact/travel questionnaires. Society for Epidemiologic Research Annual Meeting. (*Poster*)

22. **Lessler J**, Lowther SA, Moss WJ, Cummings DAT (2008) Achieving and Maintaining High Coverage of Measles Immunization in Zambia. Society for Epidemiologic Research Annual Meeting. (*Poster*)

23. **Lessler J**, Chartpituck P, Iamsirithaworn S, Cummings DAT (2008) Calculation of R in Outbreak Investigations: Influenza in Thailand. Society for Epidemiologic Research Annual Meeting. (*Poster*)

24. **Lessler J**, Brookmeyer R, Perl T (2007) Classifying Healthcare Associated Infections Using Date of Onset. International Biometrics Society, Eastern North American Region, Spring Meeting. (*Oral*)

25. **Lessler J**, Niina H, Kaufman J, Burke DS (2006) A Computational Model of Evolvable Viruses in Populations: Applications to Poliovirus Eradication. DIMACS Workshop on Facing the Challenge of Infectious Diseases in Africa: The Role of Mathematical Modeling. (*Poster*)

26. **Lessler J**, Kaufman J, Burke DS (2006) A Computational Model of Vaccine Derived Poliovirus Epidemics. Ninth Annual Conference on Vaccine Research. (*Poster*)

27. **Lessler J**, Cummings DAT, Burke D (2005) Stochastic Simulation of the "Swine Flu" Outbreak at Fort Dix. American Public Health Association 133rd Annual Meeting & Exposition. (*Poster*)

Invited Seminars (45 total)

February 2021	Understanding COVID-19 transmission: from households to populations Cincinnati Children's, Current Topics in COVID-19 Research.	Online
January 2021	Understanding SARS-CoV-2 using Contact Tracing and Household Data COPSS-NISS COVID-19 Webinar Series.	Online
September 2020	Insights into SARS-CoV-2 Transmission and Control McGill IHSP Policy Talks Webinar Series.	Online
June 2020	What models tell us about the past and future of COVID-19 University of Colorado Department of Medicine.	Online
March 2020	"Update on the COVID-19 Response: Insights and Activities" Johns Hopkins Welch Center.	Online
March 2020	Novel Coronavirus COVID-19:Early Insights into Epidemiology and Impact Johns Hopkins Tropical Medicine Dinner Club.	Baltimore MD
June 2019	An enemy or a friend? How spatial clustering of risk works for us and against us in infectious disease control. Imperial College.	London UK
March 2019	An enemy or a friend? How spatial clustering of risk works for us and against us in infectious disease control. Emory University.	Atlanta GA
October 2017	Maps, Models and Immunity: Practical Approaches to Heterogeneity in Infectious Disease Risk University of Georgia Athens.	Athens GA
February 2017	Maps, Models and Immunity: Practical Approaches to Heterogeneity in Infectious Disease Risk Duke University.	Durham NC
December 2016	Time to Key Events in the Natural History of Zika Virus Infection: Estimation and Implications Howard University.	Washington DC
December 2016	Time to Key Events in the Natural History of Zika Virus Infection: Estimation and Implications National Institutes of Health.	Washington DC
August 2016	Mysteries and Challenges in Measuring the Effectiveness of Oral Cholera Vaccines *Simulating Intervention Trials in Infectious Diseases.* MIDAS.	Seattle, WA
October 2015	Maps, Models and Immunity: Practical Approaches to Heterogeneity in Infectious Disease Risk University of North Carolina, Chapel Hill.	Chapel Hill NC

October 2015	Maps, Models and Immunity: Practical Approaches to Heterogeneity in Infectious Disease Risk Johns Hopkins Bloomberg School of Public Health.	Baltimore MD
September 2015	Model Motivated Study Design. *Workshop on Integrating mathematical models with the design and analysis of clinical trials to assess the efficacy of disease prevention and control interventions*.	Minneapolis MN
September 2015	Measles and Ebola: A case study in raising the alarm and supporting local response. *Learning from Ebola: Reflections from the Frontlines*. Johns Hopkins Bloomberg School of Public Health.	Baltimore MD
June 2015	Mapping and Classifying Cholera Incidence Africol.	Lome, Togo
February 2015	Measuring Measles Measles Immunity at the Edge of Elimination Immunization an Vaccine Access Center.	Baltimore MD
February 2015	Progress Toward a Lifecourse Approach to Influenza Epidemiology University of Pittsburgh Graduate School of Public Health.	Pittsburgh PA
December 2014	Mapping and Classifying Cholera Incidence *Cholera Round Table*.	Kinshasa DRC
October 2014	Methods for Reducing Spatial Uncertainty and Bias in Disease Surveillance (R01AI102939) *NIH Webinar*.	Online
May 2014	Cholera Modeling at Johns Hopkins: Linking Modeling and Public Heath Practice Bill and Melinda Gates Foundation.	Seattle WA
February 2014	Inferring Transmission Dynamics From Cross-sectional Serologies: Challenges and Results from the Fluscape Study. National Institutes of Health.	Bethesda MD
February 2014	The Incubation Period of Viral Gastroenteritis: Results of a Systematic Review and Implications *JHU-Water, Sanitation and Hygiene Meeting*.	Baltimore MD
April 2013	Fluscape, Patterns of Movement, Immunity and Infection *RAPIDD Meeting on Human Mobility*.	Princeton NJ
July 2013	Antibody Patterns After a Lifetime of Influenza Exposure *RAPIDD Meeting on Influenza Lifecourse Epidemiology*.	London, UK
May 2013	Analytic Approaches to Investigating HIV Transmission Dynamics. Johns Hopkins University Center for AIDS Research.	Baltimore MD
April 2013	Fluscape, Patterns of Movement, Immunity and Infection Harvard University.	Cambridge MA
March 2013	Measuring Vaccine use in Africa: Coverage and Spatial Patterns *RAPIDD Meeting on Vaccine Refusal*.	Princeton NJ
February 2013	Fluscape, Patterns of Movement, Immunity and Infection Oxford University.	Oxford, UK
October 2011	Model motivated data collection: The Fluscape Study University of California, Irvine.	Irvine CA
June 2011	Patterns of Influenza A Immunity in Southern China: Preliminary Results From the Fluscape Study Fogarty International Center.	Bethesda, MD
April 2011	Patterns of Influenza A Immunity in Southern China: Preliminary Results of the Fluscape Study New York University Medical Center.	New York NY
November 2011	Measuring the Performance of Vaccination Programs Using Cross-Sectional Surveys *RAPIDD Vaccine Refusal Workshop*.	Princeton NJ
December 2010	Making Inferences about Infection Using the Incubation Period *Hospital Epidemiology and Infection Control, Clinical Conundrum*. Johns Hopkins Hospital.	Baltimore MD

August 2010	Influenza A Neutralization Patterns by Age and Location: Preliminary Results from the Fluscape Project *Shanghai World Expo.*	Shanghai, China
July 2010	Missing and Coarsely Observed Data in Infectious Disease Studies: Three Vignettes New York City Department of Health and Mental Hygiene.	New York NY
May, 2010	Dynamics and Natural History of H1N1: Early Findings and Implications IBM Almaden Research Center.	San Jose CA
March, 2010	Dynamics and Natural History of H1N1: Early Findings and Implications Drexel University.	Philadelphia PA
November 2009.	Dynamics and Natural History of H1N1, Preliminary Findings Center for Biosecurity of UPMC.	Baltimore MD
October 2009	"Webinar: Swine Online '09" Center for Talented Youth.	Online
February 2009	Detecting Health Care-Associated Infections Using Date of Symptom Onset University of North Carolina, Chapel Hill.	Chapel Hill NC
March 2007	The Mathematics of Outbreak Investigations James Madison University Department of Mathematics.	Harrisonburg VA
February 2006	Modeling Emerging Influenzas: Fort Dix 1976 James Madison University Department of Mathematics.	Harrisonburg VA

Software (9 total)

1. McGowan L, Lee EC, Grantz K, **Lessler J** (2020) ConTESSA. Johns Hopkins
2. Lemaitre JC, Grantz KH, Kaminsky J, Meredith HR, Truelove SA, Lauer SA, Keegan LT, Shah S, Wills J, Kaminsky K, Perez-Saez J, **Lessler J**, Lee EC (2020) COVIDScenarioPipeline. github
3. McGowan L, Lee EC, Grantz K, **Lessler J** (2020) tti (test-trace-isolate). github
4. **Lessler J**, Giles J, Wohl S (2020) phylosamp. github
5. Cori C, Cauchemez S, Ferguson NM, Fraser C, Dahlquist E, Demarsh PA, Jombart T, Kamvar ZN, **Lessler J**, Li S, Polonsky JA, Stockwin J, Thompson R, van Gaalen R (2020) EpiEstim. Comprehensive R Archive Network
6. Kaminsky J, **Lessler J**, Reich NG (2017) ForecastFramework. Comprehensive R Archive Network
7. **Lessler J**, Salje H, Giles J (2016) IDSpatialStats. Comprehensive R Archive Network
8. **Lessler J**, Metcalf CJE (2012) vacem. Comprehensive R Archive Network
9. Reich NG, **Lessler J**, Andrew AS (2011) coarseDataTools. Comprehensive R Archive Network

Dissertation

Lessler J (2008) Detection and Characterization of Respiratory Viruses in Institutions. Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health

Teaching Record

Classroom Instruction (Past 3 Years)

2021	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar *Johns Hopkins Bloomberg School of Public Health* 35 students	co-Instructor
2021	Infectious Disease Dynamics *Johns Hopkins Bloomberg School of Public Health* 15 students	Instructor

2021	Concepts and Methods in Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 22 students	Instructor
2020	Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 60+ students, 2 lectures	Lecturer
2020	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar *Johns Hopkins Bloomberg School of Public Health* 35 students	co-Instructor
2020	Concepts and Methods in Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 18 students	Instructor
2020	Emerging Infectious Diseases *Johns Hopkins Bloomberg School of Public Health* 64+ students, 1 lectures	Lecturer
2019	Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 60+ students, 2 lectures	Lecturer
2019	Concepts and Methods in Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 31 students	Instructor
2018	Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 60+ students, 2 lectures	Lecturer
2018	Infectious Disease Dynamics *Johns Hopkins Bloomberg School of Public Health* 27 students	Instructor
2018	Concepts and Methods in Infectious Disease Epidemiology *Johns Hopkins Bloomberg School of Public Health* 30 students	Instructor

Advisees

Claire Smith, PhD — August 2020-present
Johns Hopkins Bloomberg School of Public Health

Kyra Grantz, PhD (co-advisor) — August 2018-present
Johns Hopkins Bloomberg School of Public Health

Theodore (Louie) Gold, MHS (co-advisor) — May 2020-June 2021
Johns Hopkins Bloomberg School of Public Health

Katelyn Dinkle, MHS (advisor) — May 2020-June 2021
Johns Hopkins Bloomberg School of Public Health

Lauren Norris, MHS (academic advisor) — May 2020-June 2021
Johns Hopkins Bloomberg School of Public Health

Hanmeng Xu, ScM (advisor) — May 2020-June 2021
Johns Hopkins Bloomberg School of Public Health

Victor Popoola, PhD (co-advisor) — February 2018-present
Johns Hopkins Bloomberg School of Public Health

Forrest Jones, PhD (co-advisor) — August 2017-present
Johns Hopkins Bloomberg School of Public Health

Qifang Bi, PhD (advisor) — August 2016-October 2020
Uncovering the Epidemiology of COVID-19: Just-in-time Science in a Pandemic
Johns Hopkins Bloomberg School of Public Health

Laura Bowles, ScM (advisor) — August 2018-June 2020
Assessing the Risk Posed by Rubella to Pregnant Travelers

Johns Hopkins Bloomberg School of Public Health

Juan Dent Hulse, ScM (advisor) May 2019-June 2020
Analyzing the Micro-Scale Spatial Dynamics of HIV Transmission in Lake Victoria Fishing Communities

Isabella Gomes, MPH (academic advisor) July 2018-June 2019
Prevalence and Correlates of Intimate Partner Violence Among Sexual-Minority Men Over a Ten-Year Period: Findings from the Multicenter AIDS Cohort Study
Johns Hopkins Bloomberg School of Public Health

Qulu Zeng, MHS June 2018-June 2019
Cholera Outbreaks in sub-Saharan Africa: 1996-2016
Johns Hopkins Bloomberg School of Public Health

Jennifer Brophy, ScM (co-advisor) September 2016-June 2018
HIV Risk in Partners of Migrants and Residents in Rakai, Uganda: An Observational Cohort Study
Johns Hopkins Bloomberg School of Public Health

Rachel E. Kinney, MPH (part time) June 2015-May 2017
Stress as it Effects Vaccine Efficacy
Johns Hopkins Bloomberg School of Public Health

Dianna Higuerra, ScM August 2014-May 2017
The Path to Measles Elimination in the Americas: A Retrospective Analysis
Johns Hopkins Bloomberg School of Public Health

Talia M. Quandelacy, PhD (co-advisor) July 2015-October 2017
Characterizing micro-scale transmission dynamics of influenza
Johns Hopkins Bloomberg School of Public Health

Megan Wallace, DrPH September 2013-August 2017
Local Public Health Performance and its Impact on Population Health
Johns Hopkins Bloomberg School of Public Health

Kathryn Risher, PhD (co-advisor) August 2013-April 2017
Sexual Behavior and Sexual Networks in South Africa: Implications for HIV Transmission.
Johns Hopkins Bloomberg School of Public Health

Rebecca Pierce, PhD December 2012-June 2017
Infectious Outcomes Associated with an Active Surveillance Culture and Decolonization Programs in the Neonatal Intensive Care Unit
Johns Hopkins Bloomberg School of Public Health

Shaun Truelove, PhD August 2012-November 2017
The Outbreak Potential for Measles and its Implications for Elimination.
Johns Hopkins Bloomberg School of Public Health

Arwa Altaf, MPH (capstone advisor) December 2015-June 2016
Literature Review of SARS versus MERS
Johns Hopkins Bloomberg School of Public Health

Rebecca C. Ehrenkranz, MPH (academic advisor) June 2015-June 2016
Johns Hopkins Bloomberg School of Public Health

Cassandara Ott, MHS (thesis research advisor) December 2014-June 2016
Age and Seroprotection to Influenza A in Humans: a Systematic Review
Johns Hopkins Bloomberg School of Public Health

Qifang Bi, MHS (thesis research advisor) September 2012-June 2014
Microscale Spatial Clustering of Behavioral and Environmental Risk Factors for Cholera Transmission in Arich-

pur Tongi, Bangladesh
Johns Hopkins Bloomberg School of Public Health

Fatmata Daramy, MPH (capstone advisor) August 2012-June 2013
Assessing Effectiveness of Interventions in Sierra Leone based on Case Fatality Ratios(CFRs) for the 2012 Cholera Epidemic
Johns Hopkins Bloomberg School of Public Health

Saki Takahashi, ScM (thesis research advisor) August 2012-June 2013
Spatial Cohesion in Measles Vaccination Rates Within and Across National Borders.
Johns Hopkins Bloomberg School of Public Health

Kathryn Risher, MHS August 2011-June 2013
The determinants of perceived and enacted stigma among men who have sex with men in Swaziland.
Johns Hopkins Bloomberg School of Public Health

Andrew Azman, PhD August 2011-January 2013
Heterogeneities in Cholera Transmission and their Implications for Vaccination
Johns Hopkins Bloomberg School of Public Health

Rachel Lee, MHS (thesis research advisor) August 2011-June 2012
Incubation periods of viral gastroenteritis: a systematic review.
Johns Hopkins Bloomberg School of Public Health

Pasri Maharom, MPH August 2011-June 2012
Improving case detection for healthcare associated respiratory viral infections among in- and out- patients: Comparison between a mathematical algorithm and conventional methods to determine the incubation period.
Johns Hopkins Bloomberg School of Public Health

Oluwaseun Akinyede, MPH (academic advisor) August 2010-June 2011
Johns Hopkins Bloomberg School of Public Health

Daniel Cole, ScM August 2009-June 2011
Neutralization Titers and Risk of Dengue Hemorrhagic Fever in a Thai Pediatric Population
Johns Hopkins Bloomberg School of Public Health

Postdoctoral Trainees

Kirsten Wiens	May 2020-present
Javier Perez-Saez	August 2019-present
Shirlee Wohl	October 2018-present
Sonia Hedge	August 2018-present
Amy Winter	April 2018-January 2021
Stephen Lauer	March 2019-June 2020
Elizabeth Lee	January 2018-January 2020
Shaun Truelove	January 2018-January 2020
John Giles	November 2017 - November 2020
Lindsay Keegan	September 2015-January 2019
Henrik Salje	March 2014-December 2016
Sean Moore	June 2013-March 2017
Matthew Graham	June 2014-March 2016
Andrew Azman	January 2014-April 2015
Pasri Maharom	May 2012-May 2013

Oral Exam Participation

Final Defense

Qifang Bi	Epidemiology Johns Hopkins Bloomberg School of Public Health	October 2020
Zeyi Wang	Biostatistics Johns Hopkins Bloomberg School of Public Health	April 2020
Katherine Goodman	Epidemiology Johns Hopkins Bloomberg School of Public Health	September 2018
Marisa Hast	Epidemiology Johns Hopkins Bloomberg School of Public Health	March 2018
Detian Deng	Biostatistics Johns Hopkins Bloomberg School of Public Health	February 2018
Shaun Truelove	Epidemiology Johns Hopkins Bloomberg School of Public Health	November 2017
Talia Quandelacy	Epidemiology Johns Hopkins Bloomberg School of Public Health	October 2017
Megan Wallace	Epidemiology Johns Hopkins Bloomberg School of Public Health	August 2017
Rebecca Pierce	Epidemiology Johns Hopkins Bloomberg School of Public Health	June 2017
Kathryn Risher	Epidemiology Johns Hopkins Bloomberg School of Public Health	April 2017
Mariam Fofana	Epidemiology Johns Hopkins Bloomberg School of Public Health	April 2016
Henrik Salje	Epidemiology Johns Hopkins Bloomberg School of Public Health	February 2014
Andrew Azman	Epidemiology Johns Hopkins Bloomberg School of Public Health	January 2014

School Wide

Jiyang Wen	Biostatistics Johns Hopkins Bloomberg School of Public Health	January 2021
Forrest Jones	Epidemiology Johns Hopkins Bloomberg School of Public Health	August 2020
Victor Popoola	Epidemiology Johns Hopkins Bloomberg School of Public Health	December 2018
Qifang Bi	Epidemiology Johns Hopkins Bloomberg School of Public Health	November 2018
Zeyi Wang	Biostatistics Johns Hopkins Bloomberg School of Public Health	September 2018
Alexandra Lorentz	Environmental Health & Engineering Johns Hopkins Bloomberg School of Public Health	November 2017
Josh Colston	International Health Johns Hopkins Bloomberg School of Public Health	April 2017
Allison McFall	Epidemiology Johns Hopkins Bloomberg School of Public Health	January 2017
Megan Wallace	Epidemiology Johns Hopkins Bloomberg School of Public Health	April 2016
Talia Quandelacy	Epidemiology Johns Hopkins Bloomberg School of Public Health	February 2016
Katherine Goodman	Epidemiology Johns Hopkins Bloomberg School of Public Health	January 2016
Marisa Hast	Epidemiology Johns Hopkins Bloomberg School of Public Health	December 2015
Tashrik Ahmed	International Health Johns Hopkins Bloomberg School of Public Health	November 2015
Wenfeng Gong	International Health Johns Hopkins Bloomberg School of Public Health	July 2015
Kathryn Risher	Epidemiology Johns Hopkins Bloomberg School of Public Health	April 2015
Shaun Truelove	Epidemiology Johns Hopkins Bloomberg School of Public Health	February 2015
Rebecca Pierce	Epidemiology Johns Hopkins Bloomberg School of Public Health	January 2015
Kerry Shannon	International Health Johns Hopkins Bloomberg School of Public Health	August 2013
Amanda Debes	International Health Johns Hopkins Bloomberg School of Public Health	April 2013
Lisa Krain	Epidemiology Johns Hopkins Bloomberg School of Public Health	December 2012
Andrew Azman	Epidemiology Johns Hopkins Bloomberg School of Public Health	May 2012

Departmental

Forrest Jones	Epidemiology Johns Hopkins Bloomberg School of Public Health	March 2020
Victor Popoola	Epidemiology Johns Hopkins Bloomberg School of Public Health	October 2018
Qifang Bi	Epidemiology Johns Hopkins Bloomberg School of Public Health	June 2018
Ashton Shaffer	Epidemiology Johns Hopkins Bloomberg School of Public Health	September 2017
Meagan Wallace	Epidemiology Johns Hopkins Bloomberg School of Public Health	February 2016
Talia Quandelacy	Epidemiology Johns Hopkins Bloomberg School of Public Health	November 2015
Shaun Truelove	Epidemiology Johns Hopkins Bloomberg School of Public Health	December 2014
Rebecca Pierce	Epidemiology Johns Hopkins Bloomberg School of Public Health	November 2014
Kathryn Risher	Epidemiology Johns Hopkins Bloomberg School of Public Health	November 2014
Andrew Azman	Epidemiology Johns Hopkins Bloomberg School of Public Health	March 2012
Alison Turnbull	Epidemiology Johns Hopkins Bloomberg School of Public Health	May 2011

Contracts and Grants

Active

NIH-NIGMS **2/2021-12/2024**
Justin Lessler/Jessie Edwards (PI) **$ 1,543,472 (Total Costs)**
Merging machine learning and mechanistic models to improve prediction and inference in emerging epidemics
This project aims to develop a framework to forecast incidence in ongoing outbreaks that merges mechanistic and machine learning approaches; validate the framework using retrospective data and supply the framework to inform decision making in emerging epidemics; develop accessible and extensible tools for forecasting and decision analysis in infectious diseases epidemics
Role: Principal Investigator 25% FTE
R01GM140564

Bill and Melinda Gates Foundation **9/2019-7/2022**
Justin Lessler (PI) **$ 1,892,000 (Total Costs)**
Cholera Burden and Transmission Modeling
This project expands upon the achievements of our previous BMGF grant titled 'Continue expanded cholera burden and transmission modeling to inform the global use of Oral Cholera Vaccine (OCV)' Capitalizing upon the developments of the past investments, we propose the following three objectives going forward: a) continue cholera mapping and maintenance of data and analysis pipeline b) ongoing support to countries/NGOs in their response to cholera c) participate in and advise the Global (and regional) Cholera Elimination Strategy
Role: Principal Investigator 20% FTE
INV-002667

Bill and Melinda Gates Foundation **5/2020-10/2021**
Justin Lessler (PI) **$ 200,000 (Total Costs)**
Seeding a West/Central African Cholera Genomic Surveillance Network
This project has the goal of laying the groundwork for a regional genomic surveillance network for cholera and other enteric pathogens in West Africa. The goal of this project is to seed the formation of such a network through a series of workshops aimed at building country expertise in pathogen genomic sequencing and providing basic sequencing infrastructure and bioinformatic support to participating countries.
Role: Principal Investigator 10% FTE
INV-016156

JHU Applied Physics Laboratory/FEMA/DHHS **4/2020-4/2021**
Justin Lessler (PI) **$ 345,678 (Total Costs)**
COVID-19 Response

Provide technical support to APL including getting the modeling pipeline up and running, appropriate parameterization, and review of outputs and reports to help spot errors and inconsistencies. It will also include ongoing improvement of the modeling pipeline, including adding support for additional data types, adjusting the model based on our evolving understanding of SARS-CoV- 2 transmission and natural history.
Role: Subcontract PI 20% FTE
WA 162740

Bill and Melinda Gates Foundation **7/2018-6/2021**
Justin Lessler (PI) **$ 666,969 (Total Costs)**
Harnessing Synergies between Epidemiologic and Genetic Data to Understand Cholera Transmission in Africa
This project aims to better understand cholera transmission in Africa through combining epidemiological and molecular data from sub-Saharan Africa. Primarily relying on data from two large databases of epidemiological and molecular data, we aim to better understand whether bacterial genetics plays a role in shaping the size and extent of outbreaks and characterize natural spatial units of cholera transmission that often span administrative (e.g., country) borders, with an aim of improving cholera risk forecasts. In addition, we will pilot the use of real-time sequencing during cholera outbreaks, to demonstrate the potential utility of early molecular characterization in local and regional cholera responses.
Role: Principal Investigator 20% FTE
OPP1195157

National Aeronautics and Space Administration **8/2018-8/2021**
Benjamin Zaitchik (PI) **$ 121,248 (subcontract) (Total Costs)**
The African Cholera Risk Early Warning System (ACREWS)
This work, in collaboration with the WHO's Global Task Force on Cholera Control (GTFCC), aims to create an operational African Cholera Risk Early Warning System (ACREWS) that can inform deployment of resources for cholera control.
Role: Lead Science Investigator 2% FTE
17-HAQ17-0033

NIH/NIAID **6/2018-6/2023**
Daniel Leung (PI)
Estimating Cholera Burden with Cross-sectional Immunologic Data
This project aims to develop new methods for estimating recent cholera incidence from cross-sectional serological data and simplifying assays to make them more field adapted. This project includes the use of data from large cohorts of cholera cases in Bangladesh and prospective enrollment of a cohort of cholera cases and household contacts in Haiti.
Role: Investigator 2% FTE
R01 AI135115-01A1

NIH/NIAID **5/2017-4/2022**
Chris Beyer and Richard Chaisson (PI)
The Johns Hopkins Center for AIDS Research (JHU CFAR)
This project consists of the administrative core, along with clinical, laboratory and prevention cores and scientific working groups to coordinate the HIV/AIDS research effort of the Johns Hopkins.
Role: Investigator 4% FTE
P30AI094189

Bill and Melinda Gates Foundation **11/2015-5/2021**
Bill Moss (PI)
Assessing the feasibility of using serological data to monitor and guide immunization programs in low income countries
To address critical research and operational questions regarding the use of serological surveillance for vaccine-preventable diseases in low income countries and to assess the feasibility of its use in such settings.
Role: Investigator 10% FTE
OPP1094816

Completed

California Institute of Technology **4/2020-10/2020**
Justin Lessler (PI) **$ 422,000 (Total Costs)**
COVID-19 Support for the California Department of Public Health
JHU is supporting the California Department of Technology support with California Department of Public Health in its response to the ongoing SARS-CoV-2 public health emergency by conducting scenario and strategic modeling of the SARS-CoV-2 epidemic for California region using large –scale spatio-temporal modeling approaches.
Role: Principal Investigator 35% FTE
19-13081

Bill and Melinda Gates Foundation **4/2018-4/2020**
Andrew Azman (PI)
Cholera serosurveys to refine estimates of burden and population at risk
Cholera is chronically under diagnosed and under reported, making our understanding of the scope and distribution of disease and risk very limited. This limitation poses a major barrier to the addition of oral cholera vaccines to the Gavi portfolio during the next VIS. Population-based serosurveys can allow us to estimate incidence of recent cholera infection and close some of these knowledge gaps. This project proposes to analyze data from a nationally representative cross-sectional serosurvey Bangladesh to help refine estimates of cholera incidence, and to use the ratios of reported cases to confirmed infections to update assumptions about the size and distribution of the population at-risk globally to improve Gavi demand forecasting and impact modeling.
Role: Investigator
OPP1191944

NIH-NIAID (R01) **9/2013-1/2018**
Derek Cummings (PI)
Linking antigenic and genetic variation of dengue to individual and population risk
This project aims to understand how genetic variants of dengue emerge and replace existing variants in order to forecast future incidence, prepare surveillance systems and understand drivers of individual risk.
Role: Investigator.
R01 AI114703

Bill and Melinda Gates Foundation **7/2017-8/2019**
Justin Lessler (PI) **$ 894,949 (Total Costs)**
Continued & Expanded Cholera Burden & Transmission Modeling to Inform the use of OCV
The proposed is aimed at characterizing the global epidemiology and burden of cholera, developing optimal strategies for the rational use of oral cholera vaccine (OCV), and supporting both ongoing and future global cholera control activities.
Role: Principal Investigator
OPP1171700

NIH-NIAID (R01) **2/2013-1/2019**
Justin Lessler (PI) **$ 4,568,101 (Total Costs)**
Methods for Reducing Spatial Uncertainty and Bias in Disease Surveillance
Surveillance data from large and small spatial scales play an essential role in public health and the scientific research, but these data are subject to missing observations, delays in reporting, and observational biases. This study aims to develop and extend statistical and modeling methodologies to correct for biases in surveillance data, impute missing data, predict the course of epidemics, and appropriately characterize the uncertainty in estimates and predictions at relevant spatial scales. Methods will be tested and validated using Thai dengue surveillance data, but should be applicable to a wide variety of diseases and contexts.
Role: Principal Investigator
R01 AI102939

Bill and Melinda Gates Foundation **8/2013-6/2018**
Matthew Ferrari (PI)
Models to support decision-making for Measles and Rubella vaccination planning
Despite substantial progress in their control, measles and rubella still remain significant public health threats worldwide. In this project we are working to develop statistical and computational models to better understand the epidemiology of measles and rubella in the face of intensive vaccination programs, with the aim of provide critical insights of use for vaccination policy. In this project we will aim to classify countries based on their situ-

ation in regards to measles and rubella control, better use surveillance data to understand the effectiveness of vaccination campaigns, and develop methods that can be used to combine this information to develop measles and rubella control strategies best suited to the context in which they will be used.
Role: Investigator (subcontract PI)
OPP1094793

Bill and Melinda Gates Foundation **5/2015-6/2017**
Justin Lessler (PI) **$ 662,094 (Total Costs)**
Continued and Expanded Cholera Modeling Efforts
Cholera is one of the first infectious pathogens ever identified, yet it remains a persistent global public health threat, particularly among the poorest and most vulnerable populations. The recent introduction of inexpensive, effective and easy to administer oral cholera vaccines (OCV) has provided new tools for cholera control. This project aims to use mathematical and computational modeling to provide essential guidance for the optimal use of OCV as the vaccine supply expands, including important information on when the vaccine can be used to the greatest effect, who should be targeted when the vaccine is used, and the potential public health impact of widespread OCV use.
Role: Principal Investigator
OPP1127318

NIH-NIA (R56) **9/2015-4/2017**
Justin Lessler (PI) **$ 600,000 (Total Costs)**
Influenza Immunity and Survival in Aging Populations
Each person experiences multiple infections with influenza virus over their lifetime, and the risks from these infections increase as we age. Recent studies suggest that the oldest individuals, with a lifetime of influenza exposure behind them, have elevated antibody titers to influenza across strains. This study aims to understand how and why this increase in antibody titers occurs, and what role survival effects, patterns of infection and the biology of the immune response play in creating patterns of immunity over a lifetime of influenza exposure.
Role: Principal Investigator
1 R56 AG048075-01A1

Bill and Melinda Gates Foundation **6/2013-6/2015**
Justin Lessler (PI) **$ 471,557 (Total Costs)**
Modeling cholera transmission to inform use of Oral Cholera Vaccines (OCV)
Cholera is one of the first infectious pathogens ever identified, yet it remains a persistent global public health threat, particularly among the poorest and most vulnerable populations. The recent introduction of inexpensive, effective and easy to administer oral cholera vaccines (OCV) have provided new tools for cholera control. This project aims to use mathematical and computational modeling to provide essential guidance for the optimal use of OCV as the vaccine supply expands, including important information on when the vaccine can be used to the greatest effect, who should be targeted when the vaccine is used, and the potential public health impact of widespread OCV use.
Role: Principal Investigator
OPP1089243

Johns Hopkins Center for Global Health **3/2012-2/2014**
Justin Lessler (PI) **$ 50,000 (Total Costs)**
FACULTY PILOT GRANT IN GLOBAL HEALTH: Spatial Patterns of Cholera Transmission and the Performance of Reactive Vaccination in an Epidemic Setting
This pilot project aims to collect and analyze point pattern data on cholera cases in an epidemic setting with the aim of understanding the spatial scale of transmission and how this is driven by person-to-person and environmental pathways. Spatial data will be combined with data on the distribution of vaccine in response to a cholera epidemic, to help measure the effectiveness of this intervention and heterogeneities in its adoptions.
Role: Principal Investigator

NIH-NIAID (K22) **7/2011-6/2013**
Justin Lessler (PI) **$ 270,000 (Total Costs)**
Estimation of Intervention Effects in Influenza Outbreaks
This project aims to study the transmission dynamics of influenza and the effect of interventions through the development and application of statistical techniques and novel study designs. This research will provide a direct benefit to public health by estimating the effect of commonly used interventions and fundamental characteristics of influenza transmission.
Role: Principal Investigator 50% FTE

1 K22 AI092150-01

NIH-NIAID (R01) **2/2014-1/2017**
Ronald Gray (PI)
HIV incidence, transmission dynamics & combination HIV prevention
"HIV incidence, transmission dynamics & combination HIV prevention In Uganda's predominantly rural populations the HIV epidemic may be driven by introduced infections from high risk communities. We will determine sources of HIV infections in the agrarian population (2011-13), and evaluate scaled up combination HIV prevention using proven efficacious interventions (2013-17). Evaluation will assess service coverage and impact on HIV incidence, with an expected reduction of 46%. Results will guide CHP scale up in rural Africa."
Role: Investigator
R01 AI110324

NIH-NIAID (R03) **4/2015-3/2017**
Aaron Milestone (PI)
Impact of decolonization on MRSA transmission in neonates
Despite decades of research, S. aureus continues to cause life-threatening infections in critically-ill neonates. Identifying new strategies to prevent S. aureus transmission is essential to prevent the morbidity and mortality associated with S. aureus infections in this vulnerable population.
Role: Investigator
R03 AI117169

NIH-Fogarty Institute **9/2008-8/2012**
Derek Cummings (PI)
Immune landscapes of human influenza in households, towns, and cities in southern China
The goal of this work is to characterize immunological profiles to human influenza in space and time among individuals living in Guangzhou province, China, and to build computational models that capture the transmission dynamics that could create the specific distributions observed.
Role: Investigator
R01 TW 0008246-01

Bill and Melinda Gates Foundation **4/2008-3/2013**
Donald Burke (PI)
Vaccine Modeling Initiative
Evaluation of candidate vaccine technologies using computational models
Role: Investigator
705580-3

Professional Service

Departmental and School

Committee Memberships

2020-2021	Department of Epidemiology Doctoral Training Review Committee Johns Hopkins Bloomberg School of Public Health	Member
2020-2021	Department of Epidemiology Curriculum Committee Johns Hopkins Bloomberg School of Public Health	Member
2016-2017	Department of Epidemiology Admissions and Credentials Committee Johns Hopkins Bloomberg School of Public Health	Co-chair
2016	Ad-hoc promotions committee Johns Hopkins Bloomberg School of Public Health	Member
2016	Tenure track Epidemiology faculty search committee Johns Hopkins Bloomberg School of Public Health	Member
2015-2016	Department of Epidemiology Admissions and Credentials Committee Johns Hopkins Bloomberg School of Public Health	Member

2012-2014	Department of Epidemiology Admissions and Credentials Committee Johns Hopkins Bloomberg School of Public Health	Member
2012	The Committee for the 21st Century Welch Library Johns Hopkins Bloomberg School of Public Health	Member
2008-2010	Environmental Stewardship Committee Johns Hopkins Bloomberg School of Public Health	Department Representative
2007-2008	Department of Epidemiology Curriculum Committee Johns Hopkins Bloomberg School of Public Health	Student Representative
2007-2008	Environmental Stewardship Committee Johns Hopkins Bloomberg School of Public Health	Student Representative
2007	Educational Technology Strategic Plan Subcommittee Johns Hopkins Bloomberg School of Public Health	Student Representative
2004-2005	Committee on Information Technology Johns Hopkins Bloomberg School of Public Health	Student Representative

Other Departmental Service

2016-present	Infectious disease track director
2008-2016	Infectious Disease Epidemiology Student/Faculty Social Event Organizer
2012	Co-wrote comprehensive exam part B for Infectious Disease concentration.
2011	Worked with Bill Moss and Shruti Mehta to revise the Infectious Disease Concentration curriculum and required courses
2010	Co-wrote comprehensive exam part B for Infectious Disease concentration.

National and International

Advisory Panels

February 2016	Panel Member, Meeting on Inactivation Protocols *U.S. Government Accountability Office*
April 2011	Technical Adviser, Rubella Working Group *WHO Strategic Advisory Group of Experts on Immunization (SAGE)*
2009	Member, Working Group on Influenza A (H1N1) *WHO Informal Network on Mathematical Modeling*

Grant Review Panels

March 2021	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) *National Institutes of Health – Study Section – ZRG1-PSE-H-70*
March 2019	NIH Directors Early Independence Award Review *National Institutes of Health – Special Emphasis Panel – ZRG1 PSE-N*
February 2019	Clinical Research and Field Studies of Infectious Diseases (CRFS) *National Institutes of Health – Study Section*
October 2018	International Research in Infectious Diseases including AIDS *National Institutes of Health – Special Emphasis Panel – ZRG1-PSE-D-55*
June 2018	Pulmonary, Kidney and Mental Health Disease Member Conflict Special Emphasis Panel *National Institutes of Health – Special Emphasis Panel*
June 2018	Modeling and Analysis of Biological Systems (MABS) *National Institutes of Health – Study Section*
December 2017	International Research in Infectious Diseases including AIDS *National Institutes of Health – Special Emphasis Panel – ZRG1-PSE-D-55*
May 2017	Rapid Assessment of Zika Virus (ZIKV) Complications (R21) *National Institutes of Health – Special Emphasis Panel – ZAI1 LG-M (M3)*
November 2016	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) *National Institutes of Health – Study Section*
August 2016	Reviewer, Canada-Latin America-Caribbean Zika Virus Program *Canadian Institutes of Health Research*
August 2016	Ad-hoc reviewer, UK-Indonesia Newton Fund *UK Medical Research Council (MRC)*
July 2016	Harnessing Big Data to Halt HIV/AIDS *National Institutes of Health – Special Emphasis Panel – 2016/10 ZRG1 AARR-F (92) S*
July 2016	Topics in Biology of Infectious Diseases Agents, Drug Resistance and Drug Discovery *National Institutes of Health – Special Review Panel – ZRG1 IDM-N*
January 2015	Ad-hoc reviewer, Indo-US Science & Technology Forum (IUSSTF) *AAAS*
April 2014	Ad-hoc reviewer, Joint Global Health Trials *UK Medical Research Council (MRC)*
June 2013	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) *National Institutes of Health – Study Section*
November 2011	NIAID Investigator Initiated Program Project Applications (P01) *National Institutes of Health – Special Emphasis Panel – 2012/01 ZAI1 GSM-M (J1)*

Organized Sessions and Round Tables

December, 2019	Conference organizing committee *Epidemics*[7] – Organizing Committee
November, 2017	Conference organizing committee *Epidemics*[6] – Organizing Committee
June, 2017	Checklists and Registration in Observational Epidemiologic Research: Essential Transparency or Scientific Straight-jacket? *Society for Epidemiologic Research Annual Meeting* – Co-chair
June, 2016	Epidemiologic Inference with Mechanistic Models: Merging the 'Why' with the 'How' *Epidemiology Conference of the Americas* – Co-chair
June, 2015	Ebola, MERS and Chikungunya: methodological issues in responding to emerging disease threats *Society for Epidemiologic Research Annual Meeting* – Co-chair
June, 2012	Measuring Challenging Populations: Is there a need for methodological innovation meeting: Society for Epidemiologic Research Annual Meeting – Co-chair
June, 2011	The Role of Predictive Models in Causal Inference *Epidemiology Conference of the Americas* – Co-chair
June, 2010	2009 Pandemic Influenza A (H1N1) Virus Infection: Epidemiology and Response *Society for Epidemiologic Research Annual Meeting* – Co-chair
June, 2010	Models and Inference for Infectious Disease *Society for Epidemiologic Research Annual Meeting* – Co-chair
June, 2010	Roundtable, H1N1 Influenza: Epidemiology in an Emerging Pandemic *Society for Epidemiologic Research Annual Meeting* – Co-host

Chaired Sessions

2015	Transmission Dynamics	Epidemics[5]

Editorial Activities

Editor

2019-present	American Journal of Epidemiology

Associate Editor

2012-2019	American Journal of Epidemiology (Associate Editor in Residence and Editor pro-tem)
2015-2017	PLoS Computational Biology
2013-2015	BMC Infectious Disease

Other Editorial Activities

2018-2019	Epidemiologic Reviews, Special Issue on Emerging Infections	Guest Editor
2018	American Journal of Epidemiology, Special Issue on 1918 Pandemic	Guest Editor
2013-present	PLoS Medicine	Statistical Advisor
2016	PLoS Medicine	Guest Editor (1 paper)
2018-2020	PNAS	Outside Editor (3 papers)

Peer Review Activities

Reviewed for: American Journal of Epidemiology; American Journal of Tropical Medicine and Hygiene; Annals of Internal Medicine; Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science; British Medical Journal; Bulletin of Mathematical Biology; Bulletin of the World Health Organization; Clinical and Vaccine Immunology; Computers in Biology and Medicine; Conflict and Health; Emerging Infectious Diseases; Epidemiology; Epidemics; F1000; International Journal of Biostatistics; Journal of Biological Dynamics; Journal of Research in Medical Sciences; Journal of the Royal Society, Interface; Journal of Theoretical Biology; Nature Physics; Nature Microbiology; Philosophical Transactions of the Royal Society B: Biological Sciences; PLoS Computational Biology; PLoS Medicine; PLoS ONE; PLoS Pathogens; Proceedings of the National Academy of

Sciences (PNAS); Psychological Methods; Science; Statistical Communications in Infectious Disease; Statistics in Medicine; The Lancet; The Lancet Infectious Diseases; Theoretical Population Biology

Consulting Activities

2021 Expert Witness Paul, Weiss, Rifkind, Wharton & Garrison LLP

Public Health Practice and Communication

(illustrative selection)

Presentations to policy-makers and other stakeholders

April 2020	*Briefing on COVID-19 Planning Scenarios, Maryland Health Services and Cost Review Commission*.
April 2020	*Briefing on COVID-19 Planning Scenarios, Energy and Commerce Committee (staff)*.
April 2020	*Briefing on COVID-19 Planning Scenarios, Maryland General Assembly COVID-19 Working Group*.
April 2020	*Update on Progress of COVID-19 Epidemic, Forecasts and Planning Scenarios, Maryland General Assembly COVID-19 Working Group*.
June 2019	*Tracking progress: global database for epi and lab data, Global Task Force for Cholera Control*.
June 2018	*Post-epidemic Zika, Pan American Health Organization*.
April 2019	*Forecasting Cholera: lessons from dengue and babysteps, Global Task Force for Cholera Control*.
April 2019	*Combining Data Across Spatial Scales to Inform Policy, Global Task Force for Cholera Control*.
July 2016	*Zika Modeling Coordination Group: Future of Zika in the Americas, BARDA Department of Health and Human Services (HHS)*.
January, 2016	*Mapping Incidence and Classifying Risk for Cholera, World Health Organization, Geneva, Switzerland*.
December 2014	*Cholera Round Table, Kinshasa DRC*: A round table to discuss cholera control policy in Africa convened by the World Health Organization and Democratic Republic of Congo Ministry of Health..
May 2014	*Cholera Modeling at Johns Hopkins: Linking Modeling and Public Heath Practice, Bill and Melinda Gates Foundation, Seattle, Washington*.
April 2013	*Evidence for Antigenic Seniority in Influenza A (H3N2) Antibody Responses in Southern China, Guangzhou China, April 2013, Guangzhou, China*: Presented to an assembly of policy makers and public health officials, including representatives of the Guangdong Ministry of Health, and the local and national CDC.
January 2012	*The Coverage of Measles Vaccination Activities in Selected Countries of Africa and Asia, World Health Organization, Geneva, Switzerland*.
April 2011	*WHO Strategic Advisory Group of Experts (SAGE) Meeting, Geneva, Switzerland*: Presented (with collaborators) model based evaluation of the risks and benefits of introducing rubella vaccine to countries with weaker vaccination programs.

Consultations with policy-makers and other stakeholders

2020	*COVID-19 Response, California, California Department of Health*: I lead a team that provides the California Department of Public Health in its response to the ongoing SARS-CoV-2 public health emergency by conducting scenario and strategic modeling of the SARS-CoV-2 epidemic for California region using large-scale spatio-temporal modeling approaches..
2020	*COVID-19 Response, Federal Government, FEMA, DHHS, CDC*: I lead a team that does forecasting, scenario modeling and epidemiological consultation for the US Government response to the COVID-19 pandemic. This work was originally through FEMA, and transferred to DHHS in June 2020. This work also results in regular contributions to the COVID-19 forecast hub..
2020	*COVID-19 Response, Other State Governments, various departments of health, including Maryland, Louisiana, Delaware*: Our team has used the COVIDScenarioPipeline modeling framework to provide forecasts and planning scenarios to a variety of state governments. These have ranged from one time engagements, to producing regularly (roughly weekly) reports for the Maryland State government..
2018-present	*Gavi VIMC Rubella Vaccination Impact Modeling, Gavi*: I lead and ongoing JHU based project to forecast the impact of investments in oral cholera vaccine over the next decades..
2017-present	*Modeling for Gavi VIS Oral Cholera Vaccine Investment Case, Gavi*: I lead a JHU based team to project the impact of oral cholera vaccine campaigns on human health over the next 30 years if Gavi decides to make an investment in the vaccine..
2014-present	*Global Task Force for Cholera Control (GTFCC), GTFCC*: We have worked to provide analytic support and empirical information to the WHO supported GTFCC (as members) since its founding, supported by a BMGF grant. Specific consultations include exploring targeting of oral cholera vaccine (OCV) in Yemen and a systematic review of the OCV efficacy..
2012-2019	*'Realtime' dengue forecasting, Thai Ministry of Health*: As part of an NIH supported research project we receive bi-weekly updates on national dengue incidence to the Thai Ministry of Public Health, and return forecasts of upcoming dengue incidence.
2016-2019	*Modeling for Zika Vaccine Trial Site Selection, US CDC and NIH*: With support from the NIH we are part of a collaborative team of three groups each taking a different approach to identifying sites that are likely to have adequate incidence to support local vaccine trials..
August 2018	*Ad hoc consultation on disease modeling., US Government Accountability Office*: Provided input and guidance as to the best ways infectious disease modeling could be incorporated into US government preparedness activities..
May 2018	*Wellcome Trust Consultation on Epidemiology and Modeling for Epidemic Preparedness and Response, Wellcome Trust*: Worked in groups to provide guidance to the Wellcome Trust on the optimal ways that disease modeling could be integrated into outbreak response, and how the trust could make investments to facilitate such actions..
Fall 2015	*Cholera in Tanzania, US Centers for Disease Control Prevention*: We provided the CDC, and (via CDC intermediaries) the Tanzanian Ministry of Health and other interested parties, forecasts of cholera incidence and epidemic course during the 2015-2016 cholera epidemic throughout Tanzania.
January-March 2016	*Measles in Nz'er'ekor'e Guinea, European Centre for Disease Prevention and Control (ECDC) and the Global Outbreak and Response Network (GORAN)*: At the request of staff from the ECDC and GORAN we performed analyses aimed at estimating underlying population immunity to measles and projecting the impact of a potential outbreak in the area. This analysis played an important role in planning vaccination strategy in the region.
Spring-Summer 2014	*MERS-CoV Scenario Modeling Working Group consultation, Kingdom of Saudi Arabia (KSA)*: Supported the KSA Ministry of Health in their response to an ongoing outbreak of MERS-CoV and preparing for the Hajj. This work was a critical in setting infection control policy during the Hajj.

Spring 2014	*Cholera in South Sudan, Epicentre/Medecins Sans Frontieres*: Performed real time modeling and analytic support for the response to a cholera outbreak in South Sudan.
February 2014	*Phase II Impact Modeling Meeting, GAVI Alliance–Bill and Melinda Gates Foundation, Washington DC*: Meeting to assess how best to measure the impact of GAVI supported vaccine campaigns.
October 2012	*Impact Modeling Meeting, GAVI Alliance–Bill and Melinda Gates Foundation, Washington DC*: Meeting to assess how best to measure the impact of GAVI supported vaccine campaigns.
May-June 2009	*Pandemic H1N1, New Your City Department of Health and Mental Hygiene*: Provided consultation on the implications of the length of the incubation period and serial interval for the length of school closure in response to influenza A/H1N1pdm..

Research finding dissemination through media appearances and other communication venues

2020	COVID-19: NPR; CNN; Fox News; BBC World Service (TV and Radio); BBC; New York Times; Washington Post; New Yorker; New York Magazine; Al Jazeera; Time; Wired; Today.com; Baltimore Sun; NBCNews.com; Metro; USA Today; Fox Baltimore; Politico; TPM; Newsweek; Fortune; Inside Higher Ed; The Atlantic; Arkansas Democrat-Gazette; Here and There with Dave Marash; CBS Baltimore; CBS News; PolitiFact; Voice of America; Yahoo News; and many others.
Spring 2019	Canonical path to measles elimination: El Pais; The Conversation; Scientific American; Bloomberg.
Spring 2017	El Nino's impact on cholera: The Conversation; Reuters.
October 2016	Cholera in Haiti: The Verge; VICE News.
September 2016	Measles Elimination: Reuters.
April-September 2016	Zika: NPR All Things Considered; National Geographic; Miami Herald; Global Citizen; Reuters live twitter chat; The Scientist.
March 2015	Measles post-Ebola: Here and There with Dave Marash; Buzzfeed; Canadian Broadcast Company; Washington Post; National Journal; Scientific American; Voice of America; International Business Times; Mother Jones; USA Today; Science Magazine; and others..
January 2015	Ignaz Semmelweis: NPR Morning Edition.
September 2013	MERS-CoV: The Guardian.

Other practice activities

2020	*Consultation and communication on COVID-19 pandemic response, Multiple national, state and local governments, institutions*: Over the course of the COVID-19 pandemic I have engaged in multiple formal and informal consultations with multiple institutions and governments, including national, state and local governments; as well as institutions including hospitals, companies, universities and businesses..

2013-2019 *Faculty co-director student Surveillance and Outbreak Response Team (SORT), Johns Hopkins Bloomberg School of Public Health*: As director (and co-founder) of SORT I supervise a group of students that works to actively engage and support the local public health practice communities. SORT members are involved in ongoing projects helping the Baltimore City Health Department in surveillance activities and outbreak response, including support of an ongoing investigation of a tuberculosis cluster. My SORT related activities have included meeting conducted in conjunction with the practice office, includes meetings with: Baltimore City Health Department, Harford County Health Department, Fredrick County Heath Department, Maryland Department of Health and Mental Hygiene..

2017-2018 *Support of Liberian Ministry of Health Post Ebola, Johns Hopkins Bloomberg School of Public Health/Liberian Ministry of Health*: I worked with a JHSPH based team on a US CDC funded project to provide technical support to the Liberian Government and training to health workers. My primary focuses were running classes for County Surveillance Officers to provide basic training in basic software and epidemiologic concepts, and cleaning and linking multiple databases collected over the course of the Ebola epidemic..

2010-2012 *Faculty sponsor for the Health Education Across Languages (HEAL) student group., Johns Hopkins Bloomberg School of Public Health*: The HEAL student group conducted health education workshops and helped refugees to access local health services in collaboration with the Episcopal Refugee Immigrant Center Alliance (ERICA) and International Rescue Committee (IRC). HEAL activities included sessions on accessing healthcare and nutritious food in Baltimore, vaccination and vision screening, each of the latter two providing services to over 100 individuals. In my capacity of faculty sponsor I advised students on event planning and participated in many of the events, leading presentations on health issues including nutrition and vaccination..