

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	Dept. of Epidemiology, UNC Chapel Hill
2021-present	Faculty Fellow	Carolina Population Center, UNC Chapel Hill
2021-present	Adjunct Professor	Dept. of Epidemiology, Johns Hopkins BSPH
2016-2021	Track Director, Inf. Disease	Dept. of Epidemiology, Johns Hopkins BSPH
2015-2021	Associate Professor	Dept. of Epidemiology, Johns Hopkins BSPH
2015	RAPIDD Member	Fogarty International Center
2011-2015	Assistant Professor	Dept. of Epidemiology, Johns Hopkins BSPH
2008-2011	Research Associate	Dept. of Epidemiology, Johns Hopkins BSPH
2004-2008	Research Assistant	Dept. of Epidemiology, Johns Hopkins BSPH
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

August 2024	Simons Foundation Fellowship, Isaac Newton Institute for Mathematical Sciences
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, Isaac 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 Public Health Association, since 2005-2006

American Society for Tropical Medicine and Hygiene, 2012-2019

Bibliography and Products of Scholarship

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

Peer-Reviewed Publications (227 total)

1. Jung S, Jung J, **Lessler J** (2025) Evaluating the Effect of Public Health and Social Measures Under Rapid Changes in Population-level Immunity Against SARS-CoV-2: A Mathematical Modeling Study. *Epidemiology*. 36(3):334-343
[doi:10.1097/EDE.0000000000001846](https://doi.org/10.1097/EDE.0000000000001846)
2. Telford CT*, Amman BR, Towner JS, Bowden S, Montgomery JM, **Lessler J**, Shoemaker T (2025) Predictive Model for Estimating Annual β Ebovirus Spillover Potential. *Emerging Infectious Diseases*. 31(4)
[doi:10.3201/eid3104.241193](https://doi.org/10.3201/eid3104.241193)
3. Ngomtcho SCH, Akenji BM, Ndip R, Azman AS, Tayimetha YC, Guenou E, Engamba S, Okomo MCA, **Lessler J**, Wohl S (2025) Continued T12 transmission and shared antibiotic resistance during 2018-2023 *Vibrio cholerae* outbreaks in Cameroon. *PLOS Global Public Health*. 5(2):e0003763
[doi:10.1371/journal.pgph.0003763](https://doi.org/10.1371/journal.pgph.0003763)
4. Jung S, Miura F, Murayama H, Funk S, Wallinga J, **Lessler J**, Endo A (2025) Dynamic Landscape of Mpox Importation Risks Driven by Heavy-Tailed Sexual Contact Networks Among Men Who Have Sex With Men in 2022. *The Journal of Infectious Diseases*. 231(1):e234-e243
[doi:10.1093/infdis/jiae433](https://doi.org/10.1093/infdis/jiae433)
5. Zivich PN, Edwards JK, Shook-Sa BE, Lofgren ET, **Lessler J**, Cole SR (2025) Synthesis estimators for transportability with positivity violations by a continuous covariate. *Journal of the Royal Statistical Society Series A: Statistics in Society*. 188(1):158-180
[doi:10.1093/jrssa/qnae084](https://doi.org/10.1093/jrssa/qnae084)
6. Levintow SN, Remch M, Jones EP, **Lessler J**, Edwards JK, Brinkley-Rubinstein L, Rice DK, Rosen DL, Powers KA (2025) Transmission models of respiratory infections in carceral settings: A systematic review. *Epidemics*. 50:100809
[doi:10.1016/j.epidem.2024.100809](https://doi.org/10.1016/j.epidem.2024.100809)
7. Hay JA, Zhu H, Chao QJ, Kwok KO, Kucharski A, Yang B, Read JM, **Lessler J**, Cummings DAT, Riley S (2024) Reconstructed influenza A/H3N2 infection histories reveal variation in incidence and antibody dynamics over the life course. *PLOS Biology*. 22(11):e3002864
[doi:10.1371/journal.pbio.3002864](https://doi.org/10.1371/journal.pbio.3002864)
8. D'Agostino McGowan L, Wohl S, **Lessler J** (2024) Power and sample size calculations for testing the ratio of reproductive values in phylogenetic samples. *American Journal of Epidemiology*.
[doi:10.1093/aje/kwae378](https://doi.org/10.1093/aje/kwae378)
9. Mathis SM, Webber AE, Leon TM, Murray EL, Sun M, White LA, Brooks LC, Green A, Hu AJ, McDonald DJ, Rosenfeld R, Shemetov D, Tibshirani RJ, Kandula S, Pei S, Shaman J, Yaari R, Yamana TK, Agarwal P, Balusu S, Gururajan G, Kamarthi H, Prakash BA, Raman R, Rodriguez A, Zhao Z, Meiyappan A, Omar S, Baccam P, Gurung HL, Stage SA, Suchoski BT, Ajelli M, Kummer AG, Litvinova M, Ventura PC, Wadsworth S, Niemi J, Carcelen E, Hill AL, Jung SM*, Lemaitre JC*, **Lessler J**, Loo SL, McKee CD, Sato K, Smith CP*, Truelove S, McAndrew T, Ye W, Bosse N, Hlavacek WS, Lin YT, Mallela A, Chen Y, Lamm SM, Lee J, Posner RG, Perofsky AC, Viboud C, Clemente L, Lu F, Meyer AG, Santillana M, Chinazzi M, Davis JT, Mu K, Pastore y Piontti A, Vespignani A, Xiong X, Ben-Nun M, Riley P, Turtle J, Hulme-Lowe C, Jessa S, Nagraj VP, Turner SD, Williams D, Basu A, Drake JM, Fox SJ, Gibson GC, Suez E, Thommes EW, Cojocararu MG, Cramer EY, Gerding A, Stark A, Ray EL, Reich NG, Shandross L, Wattanachit N, Wang Y, Zorn MW, Aawar

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doi:10.1038/s41467-024-50601-9
10. Lipsitch M, Bassett MT, Brownstein JS, Elliot P, Eyre D, Grabowski MK, Hay JA, Johansson M, Kissler SM, Larremore DB, Layden J, **Lessler J**, Lynfield R, MacCannell D, Madoff LC, Metcalf CJE, Meyers LA, Ofori SK, Quinn C, Ramos Bento AI, Reich N, Riley R, Rosenfeld R, Samore MH, Sampath R, Slayton RB, Swerdlow DL, Truelove S, Varma JK, Grad YH (2024) Infectious disease surveillance needs for the United States: lessons from Covid-19. *Frontiers in Public Health*. 12
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doi:10.1016/j.epidem.2024.100775
 12. Finger F, Lemaitre J*, Juin S, Jackson B, Funk S, **Lessler J**, Mintz E, Dely P, Boncy J, Azman AS (2024) Inferring the proportion of undetected cholera infections from serological and clinical surveillance in an immunologically naive population. *Epidemiology and Infection*. 152
doi:10.1017/S0950268824000888
 13. Lopez VK, Cramer EY, Pagano R, Drake JM, O’Dea EB, Adey M, Ayer T, Chhatwal J, Dalgic OO, Ladd MA, Linas BP, Mueller PP, Xiao J, Bracher J, Castro Rivadeneira AJ, Gerding A, Gneiting T, Huang Y, Jayawardena D, Kanji AH, Le K, Muhlemann A, Niemi J, Ray EL, Stark A, Wang Y, Wattanachit N, Zorn MW, Pei S, Shaman J, Yamana TK, Tarasewicz SR, Wilson DJ, Baccam S, Gurung H, Stage S, Suchoski B, Gao L, Gu Z, Kim M, Li X, Wang G, Wang L, Wang Y, Yu S, Gardner L, Jindal S, Marshall M, Nixon K, Dent J, Hill AL, Kaminsky J, Lee EC, Lemaitre JC*, **Lessler J**, Smith CP*, Truelove S, Kinsey M, Mullany LC, Rainwater-Lovett K, Shin L, Tallaksen K, Wilson S, Karlen D, Castro L, Fairchild G, Michaud I, Osthus D, Bian J, Cao W, Gao Z, Lavista Ferres J, Li C, Liu TY, Xie X, Zhang S, Zheng S, Chinazzi M, Davis JT, Mu K, Pastore y Piontti A, Vespignani A, Xiong X, Walraven R, Chen J, Gu Q, Wang L, Xu P, Zhang W, Zou D, Gibson GC, Sheldon D, Srivastava A, Adiga A, Hurt B, Kaur G, Lewis B, Marathe M, Peddireddy AS, Porebski P, Venkatramanan S, Wang L, Prasad PV, Walker JW, Webber AE, Slayton RB, Biggerstaff M, Reich NG, Johansson MA (2024) Challenges of COVID-19 Case Forecasting in the US, 20202021. *PLOS Computational Biology*. 20(5)
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 14. Jung S*, Loo SL, Howerton E, Contamin L, Smith CP*, Carcelen EC, Yan K, Bents SJ, Levander J, Espino J, Lemaitre JC*, Sato K, McKee CD, Hill AL, Chinazzi M, Davis JT, Mu K, Vespignani A, Rosenstrom ET, Rodriguez-Cartes SA, Ivy JS, Mayorga ME, Swann JL, Espana G, Cavany S, Moore SM, Perkins TA, Chen S, Paul R, Janies D, Thill JC, Srivastava A, Aawar MA, Bi K, Bandekar SR, Bouchnita A, Fox SJ, Meyers LA, Porebski P, Venkatramanan S, Adiga A, Hurt B, Klahn B, Outten J, Chen J, Mortveit H, Wilson A, Hoops S, Bhattacharya P, Machi D, Vullikanti A, Lewis B, Marathe M, Hochheiser H, Runge MC, Shea K, Truelove S, Viboud C, **Lessler J**[†] (2024) Potential impact of annual vaccination with reformulated COVID-19 vaccines: Lessons from the US COVID-19 scenario modeling hub’. *PLOS Medicine*. 21(4)
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 15. Lemaitre JC*, Loo SL, Kaminsky J, Lee EC, McKee C, Smith C*, Jung S*, Sato K, Carcelen E, Hill A, **Lessler J**[‡], Truelove S[‡] (2024) flepiMoP: The evolution of a flexible infectious disease modeling pipeline during the COVID-19 pandemic. *Epidemics*. 47
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 16. Loo SL, Howerton E, Contamin L, Smith CP*, Borchering RK, Mullany LC, Bents S, Carcelen E, Jung Sm, Bogich T, van Panhuis WG, Kerr J, Espino J, Yan K, Hochheiser H, Runge MC, Shea K, **Lessler J**, Viboud C, Truelove S (2024) The US COVID-19 and Influenza Scenario Modeling Hubs: Delivering long-term projections to guide policy. *Epidemics*. 46
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 17. Bay C, St-Onge G, Davis JT, Chinazzi M, Howerton E, **Lessler J**, Runge MC, Shea K, Truelove S, Viboud C, Vespignani A (2024) Ensemble²: Scenarios ensembling for communication and performance analysis. *Epidemics*. 46
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22. Wiens KE, Xu H, Zou K, Mwaba J, **Lessler J**, Malembaka EB, Demby MN, Bwire G, Qadri F, Lee EC, Azman AS (2023) Estimating the proportion of clinically suspected cholera cases that are true *Vibrio cholerae* infections: A systematic review and meta-analysis'. *PLOS Medicine*. 20(9)
[doi:10.1371/journal.pmed.1004286](https://doi.org/10.1371/journal.pmed.1004286)
23. Metcalf CJE, Klein SL, Read JM, Riley S, Cummings DAT, Guan Y, Kwok KO, Zhu H, Jiang C, Hing Lam T[‡], **Lessler J**[‡] (2023) Survival at older ages: Are greater influenza antibody titers protective?. *Medical Hypotheses*. 178
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24. Sikder M, Deshpande A, Hegde ST, Malembaka EB, Gallandat K, Reiner RC, **Lessler J**, Lee EC, Azman AS (2023) Water, Sanitation, and Cholera in Sub-Saharan Africa. *Environmental Science & Technology*. 57(28)
[doi:10.1021/acs.est.3c01317](https://doi.org/10.1021/acs.est.3c01317)
25. Garcia-Carreras B, Hitchings MDT, Johansson MA, Biggerstaff M, Slayton RB, Healy JM, **Lessler J**, Quandelacy T, Salje H, Huang AT, Cummings DAT (2023) Accounting for assay performance when estimating the temporal dynamics in SARS-CoV-2 seroprevalence in the U.S.. *Nature Communications*. 14(1)
[doi:10.1038/s41467-023-37944-5](https://doi.org/10.1038/s41467-023-37944-5)
26. Wohl S*, Lee EC, DiPrete BL, **Lessler J** (2023) Sample Size Calculations for Variant Surveillance in the Presence of Biological and Systematic Biases. *Cell Reports Medicine*. 4(5)
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27. Quandelacy TM*, Hitchings MDT, **Lessler J**, Read JM, Vukotich C, Azman AS, Salje H, Zimmer S, Gao H, Zheteyeva Y, Uzicanin A, Cummings DAT (2023) Household Transmission Dynamics of Seasonal Human Coronaviruses. *The Journal of Infectious Diseases*. 227(9):1104-1112
[doi:10.1093/infdis/jiac436](https://doi.org/10.1093/infdis/jiac436)
28. Martinez DA, Cai J, Lin G, Goodman KE*, Paul R, **Lessler J**, Levin SR, Toerper M, Simner PJ, Milstone AM, Klein EY (2023) Modeling Interventions and Contact Networks to Reduce the Spread of Carbapenem-Resistant Organisms Between Individuals in the ICU. *Journal of Hospital Infection*. 136:1-7
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33. Winter AK, Lambert B, Klein D, Klepac P, Papadopoulos T, Truelove S, Burgess C, Santos H, Knapp JK, Reef SE, Kayembe LK, Shendale S, Kretsinger K, **Lessler J**, Vynnycky E, McCarthy K, Ferrari M, Jit M (2022) Feasibility of measles and rubella vaccination programmes for disease elimination: a modelling study. *The Lancet Global Health*. 10(10)
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34. Lupton-Smith C, Badillo Goicoechea E, Collins M, **Lessler J**, Grabowski MK, Stuart EA (2022) Consistency between Household and County Measures of Onsite Schooling during the COVID-19 Pandemic. *Journal of Research on Educational Effectiveness*.
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36. Jones FK*, Bhuiyan TR, Mills R, Khan AI, Slater D, Vater KRH, Chowdhury F, Kelly M, Xu P, Kovc P, Biswas R, Kamruzzaman M, Ryan ET, Calderwood SB, LaRocque RC, **Lessler J**, Charles RC, Leung DT, Qadri F, Harris JB, Azman AS (2022) Identifying recent cholera infections using a multiplex bead serological assay. *mBio*. 13(6):e01900-22
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Patents (7 total)

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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 (23 total)

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9. **Lessler J** (2020) We don't need to reach herd immunity to begin to get the virus under control". *The Washington Post*.
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9. Telford CT*, Amman BR, Towner JS, Bowden S, Montgomery JM, **Lessler J**, Shoemaker T (2023) A predictive model of ebolavirus spillover incorporating change in forests and human populations across spatial and temporal scale. *medRxiv*.
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10. Borchering RK, Mullany LC, Howerton E, Chinazzi M, Smith CP*, Qin M, Reich NG, Contamin L, Levander J, Kerr J, Espino J, Hochheiser H, Lovett K, Kinsey M, Tallaksen K, Wilson S, Shin L, Lemaitre JC*, Hulse JD, Kaminsky J, Lee EC, Davis JT, Mu K, Xiong X, Piontti APy, Vespignani A, Srivastava A, Porebski P, Venkatramanan S, Adiga A, Lewis B, Klahn B, Outten J, Hurt B, Chen J, Mortveit H, Wilson A, Marathe M, Hoops S, Bhattacharya P, Machi D, Chen S, Paul R, Janies D, Thill JC, Galanti M, Yamana T, Pei S, Shaman J, Espana G, Cavany S, Moore S, Perkins A, Healy JM, Slayton RB, Johansson MA, Biggerstaff M, Shea K, Truelove SA, Runge MC, Viboud C, **Lessler J** (2022) Impact of SARS-CoV-2 vaccination of children ages 5-11 years on COVID-19 disease burden and resilience to new variants in the United States, November 2021-March 2022: a multi-model study. *medRxiv*.
[doi:10.1101/2022.03.08.22271905](https://doi.org/10.1101/2022.03.08.22271905)
11. Popoola VO*, Kagaayi J, Ssekasanvu J, Ssekubugu R, Kigozi G, Ndyanabo A, Nalugoda F, Chang LW, Lutalo T, Tobian AAR, Kabatesi D, Alamo S, Mills LA, Kigozi G, Wawer MJ, Santelli J, Gray RH, Reynolds SJ, Serwadda D, **Lessler J**, Grabowski MK (2022) Prevalence of untreated HIV and HIV incidence among occupational groups in Rakai, Uganda: a population-based longitudinal study, 1999-2016. *medRxiv*.
[doi:10.1101/2022.06.21.22276714](https://doi.org/10.1101/2022.06.21.22276714)
12. 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](https://doi.org/10.1101/2021.01.29.21250764)
13. 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](https://doi.org/10.1101/2020.05.08.20095414)
14. 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](https://doi.org/10.1101/2020.04.22.20076190)
15. 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](https://doi.org/10.1101/2020.12.08.20246066)
16. Bi Q*, Cummings DAT, Reich NG, Keegan LT*, Kaminsky J, Salje H, Clapham HE, Doungngern P, Iam-sirithaworn S, **Lessler J**† (2020) Seasonal patterns of dengue incidence in Thailand across the urban-rural gradient.. *medRxiv*.
[doi:10.1101/2020.11.25.20186056](https://doi.org/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: preemptive action needed. *The Lancet*. 385(9971):851
[doi:10.1016/S0140-6736\(15\)60178-7](https://doi.org/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](https://doi.org/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](https://doi.org/10.1001/jama.2011.1716)

Posters and Presentations at Scientific Meetings (34 total)

1. **Lessler J** (2025) There will be no warning for the next pandemic. Emerging Viruses and New Vaccines - from Research to Public Health. (*Plenary*)
2. **Lessler J** (2024) Modeling the next pandemic. National Academy of Medicine Global Health, Infectious Diseases, Microbiology Interest Group meeting on H5N1 Influenza. (*Invited Oral*)
3. **Lessler J** (2023) Are planning scenarios forecasts? Predictive epidemic modelling to inform policy over the longer term. Royal Society Meeting on Forecasting infectious disease incidence for public health. (*Invited Oral*)
4. **Lessler J** (2022) Benefits and challenges of a hub based approach to modeling planning scenarios.. Quantitative Tools and Data Opportunities for Pandemic Surveillance and Response Conference. (*Invited Talk*)
5. **Lessler J** (2022) Using Models to Inform Policy in an Emerging Crisis: Forecasting and Scenario Modeling in the COVID-19 Pandemic. Wake Forest University 2022 Conference on Analytics Impact. (*Invited Talk*)
6. **Lessler J** (2021) Rt: a decent summary statistic. Royal Statistical Society's Special Topic Meeting on COVID-19 Transmission. (*Invited Discussant*)
7. **Lessler J** (2020) Lessons in translational research from the COVID-19 pandemic conference: SER Digital. (*Invited Oral*)
8. **Lessler J** (2020) What makes a test-trace-isolate program work: a modeling framework and evaluation tool. COVID-19 Dynamics and Evolution. (*Invited Oral*)
9. **Lessler J** (2020) Transmission and Control of COVID-19. AACR COVID-19 and Cancer Virtual Meeting. (*Invited Oral*)
10. **Lessler J** (2020) Leveraging public health response to understand COVID-19 dynamics in Shenzhen China. The 2nd Symposium on Global Health, Shanghai China. (*Invited Oral*)
11. **Lessler J** (2020) Lessons in translational research from the COVID-19 pandemic. SER Digital. (*Invited Oral*)
12. **Lessler J** (2020) Practical Questions in COVID-19 Epidemiology and Control. Summer Sinus Symposium. (*Plenary*)
13. **Lessler J** (2019) Understanding Cholera Dynamics for Public Health. *Epidemics*⁷. (*Plenary*)
14. **Lessler J** (2019) Sample Design for Phylogenetic Inference: Thoughts and Basic Results. Applied Bioinformatics and Public Health Microbiology. (*Invited Oral*)
15. **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*)
16. **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*)

17. **Lessler J**, Moore SM, Graham M, Azman AS, McKay HS (2015) Beyond endemicity. Taxonomizing the epidemic dynamics of cholera and measles.. *Epidemics*⁵. (*Oral*)
18. **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*)
19. **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*)
20. **Lessler J** (2015) Recreating historic patterns of influenza incidence from cross-sectional serological data. Society for Epidemiological Research Annual Meeting. (*Oral*)
21. **Lessler J** (2013) Recreating historic patterns of influenza incidence from cross-sectional serological data. *Epidemics*⁴. (*Oral*)
22. **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*)
23. **Lessler J** (2012) A Graphical Approach to Decision Making in Epidemics. Joint Statistical Meetings. (*Invited Oral*)
24. **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*)
25. **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*)
26. **Lessler J**, Reich N, Brookmeyer R (2010) Estimating case fatality ratios from infectious disease surveillance data. Society for Epidemiologic Research Annual Meeting. (*Poster*)
27. **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*)
28. **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*)
29. **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*)
30. **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*)
31. **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*)
32. **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*)
33. **Lessler J**, Kaufman J, Burke DS (2006) A Computational Model of Vaccine Derived Poliovirus Epidemics. Ninth Annual Conference on Vaccine Research. (*Poster*)
34. **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 (51 total)

- | | | |
|---------------|--|-------------|
| February 2025 | How should we be evaluating planning scenarios? Meditations inspired by the US COVID-19 Scenario Modeling Hub
Harvard Center for Communicable Disease Dynamics. | Boston, MA |
| February 2025 | How should we be evaluating planning scenarios? Meditations inspired by the US COVID-19 Scenario Modeling Hub
Emory University. | Atlanta, GA |

August 2024	How should we be evaluating planning scenarios? Meditations inspired by the US COVID-19 Scenario Modeling Hub University of Oxford Pandemic Sciences Institute.	Oxford, UK
December, 2022	Scenario Planning Models in the Pandemic Response, Looking back on two and a half years of operational modeling Yale School of Public Health.	Hartford, CT
August 2022	Running and Evaluating a Multi-team Scenario Modeling Effort for COVID-19, Looking back on two and a half years of operational modeling Federal Reserve Bank of Atlanta.	Atlanta, GA
August 2022	Running and Evaluating a Multi-team Scenario Modeling Effort for COVID-19, Looking back on two and a half years of operational modeling UNC Carolina Population Center.	Chapel Hill, NC
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 <i>Simulating Intervention Trials in Infectious Diseases</i> . 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. <i>Workshop on Integrating mathematical models with the design and analysis of clinical trials to assess the efficacy of disease prevention and control interventions.</i>	Minneapolis MN

September 2015	Measles and Ebola: A case study in raising the alarm and supporting local response. <i>Learning from Ebola: Reflections from the Frontlines.</i> 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 <i>Cholera Round Table.</i>	Kinshasa DRC
October 2014	Methods for Reducing Spatial Uncertainty and Bias in Disease Surveillance (R01AI102939) <i>NIH Webinar.</i>	Online
May 2014	Cholera Modeling at Johns Hopkins: Linking Modeling and Public Health 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 <i>JHU-Water, Sanitation and Hygiene Meeting.</i>	Baltimore MD
April 2013	Fluscape, Patterns of Movement, Immunity and Infection <i>RAPIDD Meeting on Human Mobility.</i>	Princeton NJ
July 2013	Antibody Patterns After a Lifetime of Influenza Exposure <i>RAPIDD Meeting on Influenza Lifecourse Epidemiology.</i>	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 <i>RAPIDD Meeting on Vaccine Refusal.</i>	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 <i>RAPIDD Vaccine Refusal Workshop.</i>	Princeton NJ
December 2010	Making Inferences about Infection Using the Incubation Period <i>Hospital Epidemiology and Infection Control, Clinical Conundrum.</i> Johns Hopkins Hospital.	Baltimore MD
August 2010	Influenza A Neutralization Patterns by Age and Location: Preliminary Results from the Fluscape Project <i>Shanghai World Expo.</i>	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) [flepiMoP \(formerly COVIDScenarioPipeline\)](#). 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)

2025	EPID 757: Problem Solving Seminar in Advanced Infectious Disease Epidemiology <i>UNC Gillings School of Global Public Health</i> 9 students	Lead Instructor
2025	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar <i>Johns Hopkins Bloomberg School of Public Health</i> 20 students, 1 lectures	Lecturer
2024	EPID 756: Introduction to Infectious Disease Modeling and Simulation in R <i>UNC Gillings School of Global Public Health</i> 13 students	co-Instructor

2024	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar <i>Johns Hopkins Bloomberg School of Public Health</i> 20 students, 1 lectures	Lecturer
2024	Infectious Disease Epidemiology <i>Johns Hopkins Bloomberg School of Public Health</i> 60+ students, 2 lectures	Lecturer
2023	EPID 799C: Problem Solving Seminar in Advanced Infectious Disease Epidemiology <i>UNC Gillings School of Global Public Health</i> 9 students	Lead Instructor
2023	EPID 799B: Problem Solving Seminar in Advanced Infectious Disease Epidemiology <i>UNC Gillings School of Global Public Health</i> 7 students	Lead Instructor
2023	Infectious Disease Epidemiology <i>Johns Hopkins Bloomberg School of Public Health</i> 60+ students, 2 lectures	Lecturer
2023	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar <i>Johns Hopkins Bloomberg School of Public Health</i> 20 students, 1 lectures	Lecturer
2022	Infectious Disease Epidemiology <i>Johns Hopkins Bloomberg School of Public Health</i> 60+ students, 2 lectures	Lecturer
2022	The One Health Approach to Epidemiology and Global Public Health: Problem Solving Seminar <i>Johns Hopkins Bloomberg School of Public Health</i> 20 students, 1 lectures	Lecturer

Advisees

Ariel Christensen, PhD	Spring 2024-present
Kelly Geith, PhD UNC Gillings School of Global Public Health	August 2023-present
Shahar Stern-Yosha, PhD UNC Gillings School of Global Public Health	August 2022-present
Carson Telford, PhD UNC Gillings School of Global Public Health	August 2022-present
Claire Smith, PhD <i>Inferring Transmission Pathways from Incomplete Data: Applications to Contact Network Structure and Household Data</i> Johns Hopkins Bloomberg School of Public Health	August 2020-June 2024
Kyra Grantz, PhD (academic co-advisor) Johns Hopkins Bloomberg School of Public Health	August 2018-July 2021
Theodore (Louie) Gold, MHS (co-advisor) <i>Describing the Shifting Age Distribution of SARS-CoV-2 Infections Over the Course of the COVID-19 Pandemic</i> Johns Hopkins Bloomberg School of Public Health	May 2020-June 2021
Katelyn Dinkle, MHS (advisor) <i>The Relationship Between COVID-19 Cases and Deaths in the United States</i> Johns Hopkins Bloomberg School of Public Health	May 2020-June 2021
Lauren Norris, MHS (academic advisor) <i>Immunologic Response and Protection Following Naturally Acquired Enterotoxigenic E. coli Diarrhea in a Longitudinal Birth Cohort in Lima, Peru</i>	May 2020-June 2021

Johns Hopkins Bloomberg School of Public Health

Hanmeng Xu, ScM (advisor) May 2020-June 2021
Projecting Effect of School Closure In US-Like Setting During Covid-19 Pandemic
Johns Hopkins Bloomberg School of Public Health

Victor Popoola, PhD (co-advisor) February 2018-December 2022
Heterogeneity of HIV acquisition risk in a declining generalized African HIV epidemic
Johns Hopkins Bloomberg School of Public Health

Forrest Jones, PhD (co-advisor) August 2017-March 2022
Harnessing Antibody Kinetics to Improve Epidemiologic Inference: Case Studies in Cholera and SARS-CoV-2
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
Johns Hopkins Bloomberg School of Public Health

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 Neona-

tal 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

Cassandra 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 Arichpur 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

Seungwon Kim	September 2024-present
Claire Smith	July 2024-present
Kathryn Kirchoff	April 2024-present
Mathew Meitchen	April 2023-present
Sung-mok Jung	July 2022-present
Joseph Lemaitre	January 2022-August 2024
Kirsten Wiens	May 2020-June 2022
Javier Perez-Saez	August 2019-August 2021
Shirlee Wohl	October 2018-September 2021
Sonia Hedge	August 2018-May 2021
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

Claire Smith	Epidemiology Johns Hopkins Bloomberg School of Public Health	June 2024
Victor Poopla	Epidemiology Johns Hopkins Bloomberg School of Public Health	December 2022
Forrest Jones	Epidemiology Johns Hopkins Bloomberg School of Public Health	March 2022
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

CDC Center for Forecasting and Outbreak Analytics 10/2023-9/2028
Justin Lessler/Kimberly Powers (PI) \$ 22,118,415 (Total Costs)

ACCIDDA aims to lay the foundational groundwork for a faster and more coordinated response to future infectious disease threats through development and extension of innovative modeling and analytic techniques, establishment of new data streams, better harmonization of existing data streams, and training a new generation of epidemic modeling experts with close ties to public health practice. Further, ACCIDDA serves as coordinating center for Insight Net, an network of 13 centers encompassing over 100 organizations aimed at supporting public health response at national, state and local levels in the event of an emerging infectious disease crisis and advancing the operational structures needed in such a response and the science underlying these.

Role: Principal Investigator 43% FTE
1-NU38-FT000012-01

NIH-NIGMS 2/2021-12/2025
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 10% FTE
R01GM140564

Bill and Melinda Gates Foundation
Andrew Azman (PI) \$ 518,734 (Total Costs)
Cholera burden and transmission modeling

Identify geographic extent of connected transmission units for cholera in Africa and other cholera endemic regions.

Role: Investigator (UNC PI) 10% FTE

Completed

Centers for Disease Control and Prevention 9/2021-8/2024
Utah (PI) \$ 300,000 (Total Costs)
Research to Improve National and Global Responses to Emerging Health Threats: Accelerating the Integration of Novel Data Streams in Mathematical Models
Role: Investigator (UNC PI)

Centers for Disease Control and Prevention 9/2021-8/2024
Shaun Truelove (PI) \$ 425,135 (Total Costs)
Research to Improve National and Global Responses to Emerging Health Threats: Accelerating Mathematical Modeling Implementation
Role: Investigator (UNC PI)

NC DHHS Division of Public Health (DPH)
(PI) \$ 15,000,000 (Total Costs)
North Carolina Coronavirus Variant Sequencing (CORVASEQ) Statewide Surveillance Initiative
Role: Investigator

Bill and Melinda Gates Foundation 9/2019-7/2022
Justin Lessler (PI) \$ 1,892,000 (Total Costs)
Cholera Burden and Transmission Modeling
Role: Principal Investigator

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
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
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
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)
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
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)
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
Role: Investigator 10% FTE
OPP1094816

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
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
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

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
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
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
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
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
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)
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
Role: Principal Investigator

NIH-NIAID (K22) 7/2011-6/2013
Justin Lessler (PI) \$ 270,000 (Total Costs)
Estimation of Intervention Effects in Influenza Outbreaks
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
Role: Investigator
R01 AI110324

NIH-NIAID (R03) 4/2015-3/2017
Aaron Milestone (PI)
Impact of decolonization on MRSA transmission in neonates
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

Role: Investigator

R01 TW 0008246-01

Bill and Melinda Gates Foundation

4/2008-3/2013

Donald Burke (PI)

Vaccine Modeling Initiative

Role: Investigator

705580-3

Professional Service

Departmental, School and University

Committee Memberships

2024-2027	Administrative Board of the Library University of North Carolina Chapel Hill	Member at Large
2022-2024	SDSS Pan-Campus Advisory Council University of North Carolina Chapel Hill	Gillings Representative
2022-present	Department of Epidemiology Admissions Committee UNC Gillings School of Global Public Health	Member
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 Service

- 2023-present Co-director Infectious Disease concentration
UNC Epidemiology
- 2022, 2023 Co-wrote infectious disease concentration qualifying exam.
UNC Epidemiology
- 2021-2023 COVID-19 Modeling to support UNC return to campus efforts.
UNC University Wide
- 2016-2021 Infectious disease track director
JHSPH Epidemiology
- 2008-2016 Infectious Disease Epidemiology Student/Faculty Social Event Organizer
JHSPH Epidemiology
- 2012 Co-wrote comprehensive exam part B for Infectious Disease concentration.
JHSPH Epidemiology
- 2011 Worked with Bill Moss and Shruti Mehta to revise the Infectious Disease Concentration curriculum and required courses
JHSPH Epidemiology
- 2010 Co-wrote comprehensive exam part B for Infectious Disease concentration.
JHSPH Epidemiology

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

November 2023-April 2025	Microbiology and Infectious Diseases B Research Study Section <i>National Institutes of Health – Study Section - standing member – MID-B</i>
April 2023	Special re-review panel <i>National Institutes of Health – Special Review Panel</i>
March 2021	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) <i>National Institutes of Health – Study Section – ZRG1-PSE-H-70</i>
March 2019	NIH Directors Early Independence Award Review <i>National Institutes of Health – Special Emphasis Panel – ZRG1 PSE-N</i>
February 2019	Clinical Research and Field Studies of Infectious Diseases (CRFS) <i>National Institutes of Health – Study Section</i>
October 2018	International Research in Infectious Diseases including AIDS <i>National Institutes of Health – Special Emphasis Panel – ZRG1-PSE-D-55</i>
June 2018	Pulmonary, Kidney and Mental Health Disease Member Conflict Special Emphasis Panel <i>National Institutes of Health – Special Emphasis Panel</i>
June 2018	Modeling and Analysis of Biological Systems (MABS) <i>National Institutes of Health – Study Section</i>
December 2017	International Research in Infectious Diseases including AIDS <i>National Institutes of Health – Special Emphasis Panel – ZRG1-PSE-D-55</i>
May 2017	Rapid Assessment of Zika Virus (ZIKV) Complications (R21) <i>National Institutes of Health – Special Emphasis Panel – ZAI1 LG-M (M3)</i>
November 2016	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) <i>National Institutes of Health – Study Section</i>
August 2016	Reviewer, Canada-Latin America-Caribbean Zika Virus Program <i>Canadian Institutes of Health Research</i>
August 2016	Ad-hoc reviewer, UK-Indonesia Newton Fund <i>UK Medical Research Council (MRC)</i>
July 2016	Harnessing Big Data to Halt HIV/AIDS <i>National Institutes of Health – Special Emphasis Panel – 2016/10 ZRG1 AARR-F (92) S</i>
July 2016	Topics in Biology of Infectious Diseases Agents, Drug Resistance and Drug Discovery <i>National Institutes of Health – Special Review Panel – ZRG1 IDM-N</i>
January 2015	Ad-hoc reviewer, Indo-US Science & Technology Forum (IUSSTF) <i>AAAS</i>
April 2014	Ad-hoc reviewer, Joint Global Health Trials <i>UK Medical Research Council (MRC)</i>
June 2013	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) <i>National Institutes of Health – Study Section</i>
November 2011	NIAID Investigator Initiated Program Project Applications (P01) <i>National Institutes of Health – Special Emphasis Panel – 2012/01 ZAI1 GSM-M (J1)</i>

Organized Sessions and Round Tables

May 2025	Organizing Committee <i>Insight Net Annual Meeting 2</i> – Co-lead Organizer
May 2024	Organizing Committee <i>Insight Net Annual Meeting 1</i> – Co-lead Organizer
December, 2019	Conference organizing committee <i>Epidemics</i> ⁷ – Organizing Committee
November, 2017	Conference organizing committee <i>Epidemics</i> ⁶ – Organizing Committee
June, 2017	Checklists and Registration in Observational Epidemiologic Research: Essential Transparency or Scientific Straight-jacket? <i>Society for Epidemiologic Research Annual Meeting</i> – Co-chair
June, 2016	Epidemiologic Inference with Mechanistic Models: Merging the ‘Why’ with the ‘How’ <i>Epidemiology Conference of the Americas</i> – Co-chair
June, 2015	Ebola, MERS and Chikungunya: methodological issues in responding to emerging disease threats <i>Society for Epidemiologic Research Annual Meeting</i> – Co-chair
June, 2012	Measuring Challenging Populations: Is there a need for methodological innovation meeting: <i>Society for Epidemiologic Research Annual Meeting</i> – Co-chair
June, 2011	The Role of Predictive Models in Causal Inference <i>Epidemiology Conference of the Americas</i> – Co-chair
June, 2010	2009 Pandemic Influenza A (H1N1) Virus Infection: Epidemiology and Response <i>Society for Epidemiologic Research Annual Meeting</i> – Co-chair
June, 2010	Models and Inference for Infectious Disease <i>Society for Epidemiologic Research Annual Meeting</i> – Co-chair
June, 2010	Roundtable, H1N1 Influenza: Epidemiology in an Emerging Pandemic <i>Society for Epidemiologic Research Annual Meeting</i> – Co-host

Chaired Sessions

2022	COVID-19 Pandemic Session (A)	Society for Epidemiologic Research Annual Meeting
2021	Dynamics of Covid 3	<i>Epidemics</i> ⁸
2015	Transmission Dynamics	<i>Epidemics</i> 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)
2018-2022	PNAS	Outside Editor (4 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

2020 Expert Witness Paul, Weiss, Rifkind, Wharton & Garrison LLP
2022-2023 Expert Witness Cohen, Ziffer, Frenchman & McKenna

Public Health Practice and Communication

(illustrative selection)

Presentations to policy-makers and other stakeholders

- September 2024 Intro to infectious disease modeling, InsightNet, and the Atlantic Coast Center for Infectious Disease Dynamics and Analytics, *NC DHHD Epi Section Local Epidemiologists Meeting*: Presented to local epidemiologist from throughout North Carolina about the different uses of mechanistic models and how to ask a good modeling question..
- August 2023 Scenario Modeling Hub Round 18 results and takeaways, *Advisory Committee on Immunization Practices (ACIP) COVID-19 Vaccine Working Group*: Presentation to the ACIP working group on Scenario Modeling Hub rounds aimed at projecting the impact of a reformulated vaccine. Summaries of this presentation were included in the ACIP public meeting and were directly cited in the recommendation for COVID-19 vaccination in fall 2023.
- August 2022 Scenario Modeling Hub Round 14 and 15 results and takeaways, *Advisory Committee on Immunization Practices (ACIP) COVID-19 Vaccine Working Group*: Presentation to the ACIP working group on Scenario Modeling Hub rounds aimed at projecting the impact of a reformulated booster. Summaries of this presentation were included in the ACIP public meeting and were directly cited in the recommendation of bivalent boosters starting September 2022.
- 2022 Round 14 and 15, Planning scenarios projecting COVID-19 burden through mid-2023 under different booster policies., *CDC Regional Collaborative Calls*.
- August 2022 Scenario Hub Modeling Work Update, *Council of State and Territorial Epidemiologists*.
- June 2022 Modeling Future Epidemiology of the COVID-19 Pandemic, *FDA Vaccines and Related Biological Products Advisory Committee*.
- April 2022 Scenario Hub Modeling Work Update, *Council of State and Territorial Epidemiologists*.
- December 2021 Briefing to NIAID Director on Scenario Modeling Activities, *National Institute of Allergies and Infectious Disease*: Was part of a team updating Dr. Fauci on Scenario Modeling efforts and the likely impact of the Omicron variant..
- December 2021 Updated Testimony on the COVID-19 Pandemic in North Carolina, *NC General Assembly Joint Legislative Commission on Governmental Operations Subcommittee on the Use and Distribution on Federal COVID Funding*.

November 2021	The History and Future of the COVID-19 Pandemic in North Carolina, <i>NC General Assembly Joint Legislative Commission on Governmental Operations Subcommittee on the Use and Distribution on Federal COVID Funding.</i>
October 2021	Scenario Modeling Hub Round 9, The Impact of Vaccination in Children Ages 5-11, <i>Advisory Committee on Immunization Practices (ACIP) COVID-19 Vaccine Working Group</i> : Summaries of this work were presented in the ACIP public meeting where it was decided to expand vaccination recommendations to children aged 5-11..
June 2021	Scenario Hub Modeling Work Update, <i>Council of State and Territorial Epidemiologists.</i>
April 2020	Briefing on COVID-19 Planning Scenarios, <i>Maryland Health Services and Cost Review Commission.</i>
April 2020	Briefing on COVID-19 Planning Scenarios, <i>US House Energy and Commerce Committee (staff).</i>
April 2020	Briefing on COVID-19 Planning Scenarios, <i>Maryland General Assembly COVID-19 Working Group.</i>
April 2020	Update on Progress of COVID-19 Epidemic, Forecasts and Planning Scenarios, <i>Maryland General Assembly COVID-19 Working Group.</i>
June 2019	Tracking progress: global database for epi and lab data, <i>Global Task Force for Cholera Control.</i>
June 2018	Post-epidemic Zika, <i>Pan American Health Organization.</i>
April 2019	Forecasting Cholera: lessons from dengue and babysteps, <i>Global Task Force for Cholera Control.</i>
April 2019	Combining Data Across Spatial Scales to Inform Policy, <i>Global Task Force for Cholera Control.</i>
July 2016	Zika Modeling Coordination Group: Future of Zika in the Americas, <i>BARDA Department of Health and Human Services (HHS).</i>
January, 2016	Mapping Incidence and Classifying Risk for Cholera, <i>World Health Organization, Geneva, Switzerland.</i>
December 2014	Cholera Round Table, <i>Kinshasa DRC</i> : 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 Health Practice, <i>Bill and Melinda Gates Foundation, Seattle, Washington.</i>
April 2013	Evidence for Antigenic Seniority in Influenza A (H3N2) Antibody Responses in Southern China, Guangzhou China, April 2013, <i>Guangzhou, China</i> : 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, <i>World Health Organization, Geneva, Switzerland.</i>
April 2011	WHO Strategic Advisory Group of Experts (SAGE) Meeting, <i>Geneva, Switzerland</i> : 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

2020-2021	<i>COVID-19 Response, California, California Department of Health</i> : 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..
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2020-2021	<i>COVID-19 Response, Federal Government, FEMA, DHHS, CDC:</i> 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..
2020-2021	<i>COVID-19 Response, Other State Governments, various departments of health, including Maryland, Louisiana, Delaware:</i> 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	<i>Gavi VIMC Rubella Vaccination Impact Modeling, Gavi:</i> I am part of an project to forecast the impact of investments in rubella vaccine over the next decades..
2017-2021	<i>Modeling for Gavi VIS Oral Cholera Vaccine Investment Case, Gavi:</i> 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	<i>Global Task Force for Cholera Control (GTFCC), GTFCC:</i> 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	<i>'Realtime' dengue forecasting, Thai Ministry of Health:</i> 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	<i>Modeling for Zika Vaccine Trial Site Selection, US CDC and NIH:</i> 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	<i>Ad hoc consultation on disease modeling., US Government Accountability Office:</i> Provided input and guidance as to the best ways infectious disease modeling could be incorporated into US government preparedness activities..
May 2018	<i>Wellcome Trust Consultation on Epidemiology and Modeling for Epidemic Preparedness and Response, Wellcome Trust:</i> 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	<i>Cholera in Tanzania, US Centers for Disease Control Prevention:</i> 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	<i>Measles in Nz'er'ekor'e Guinea, European Centre for Disease Prevention and Control (ECDC) and the Global Outbreak and Response Network (GORAN):</i> 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	<i>MERS-CoV Scenario Modeling Working Group consultation, Kingdom of Saudi Arabia (KSA):</i> 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	<i>Cholera in South Sudan, Epicentre/Medecins Sans Frontieres:</i> Performed real time modeling and analytic support for the response to a cholera outbreak in South Sudan.
February 2014	<i>Phase II Impact Modeling Meeting, GAVI Alliance–Bill and Melinda Gates Foundation, Washington DC:</i> Meeting to assess how best to measure the impact of GAVI supported vaccine campaigns.

October 2012	<i>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.</i>
May-June 2009	<i>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..</i>

Research finding dissemination through media appearances and other communication venues

2025	Measles ourbrak in Texas: Associated Press.
2020-2024	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

2024-present	<i>Co-director, Atlantic Coast Center for Infectious Disease Dynamics and Analytics (ACCIDDA), Multiple, primarily NC-DHHS, Navajo Epidemiology Center, California Department of Public Health and Florida Department of Health: I co-direct ACCIDDA, a center funded by the CDC Center for Forecasting and Outbreak Analytics (CFA) as part of the Insight Net network (for which ACCIDDA serves as the coordinating center). As part of this work we directly support multiple health departments, including analystics and dashboard development for NC-DHHS around measles vaccination and influenza..</i>
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- 2020-present *Leadership of the US COVID-19 Scenario Modeling Hub, Multiple, particularly the US CDC and the White House:* In 2020 I initiated a collaboration of multiple scientists to co-found the US COVID-19 Scenario Modeling Hub (SMH) covid19scenariomodelinghub.org. I continue to serve on the coordination committee. The SMH provides projections of COVID-19 cases, hospitalizations and death 3-12 months into the future under multiple planning scenarios. These scenarios are developed in close coordination with partners including the CDC, the White House, and ACIP. Scenario projections have been used to inform multiple parts of the COVID-19 response, particularly vaccine recommendations, have been widely covered in the media, and are followed by organizations ranging from public health agencies to insurance companies. The SMH has inspired multiple parallel efforts including the Flu Scenario Modeling Hub and the EU COVID-19 Scenario Modeling Hub..
- 2020-present *Contributions to the US COVID-19 Forecast Hub and Flusight, US CDC:* I have led teams that make regular forecast contributions to the US COVID-19 Forecast Hub and Flusight forecasting. Both are featured by the CDC as a core part of their response activities..
- 2020-2024 *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 Health 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..