

STEVEN MICHAEL GOODREAU

Curriculum vitae

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1. PERSONAL DATA

ORCID: 0000-0003-1009-5763
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2. EDUCATION

Ph.D. Anthropology (Biological Anth. program)	2001	The Pennsylvania State University, University Park, PA
M.A. Anthropology (Biological Anth. program)	1998	The Pennsylvania State University, University Park, PA
A.B. Anthropology (Biological Anth. program)	1994	Harvard University, Cambridge, MA

3. POSITIONS

2017 – Professor, Program in Biological Anthropology, Department of Anthropology, University of Washington, Seattle.

2017 – Adjunct Professor, Department of Epidemiology, University of Washington, Seattle

2019 Visiting Scholar, Department of Epidemiology, Brown University.

2017 – 2018, 2019 – Development Core Director, Center for Studies in Demography and Ecology, University of Washington, Seattle.

2017 – Faculty Affiliate: e-Science Institute, University of Washington, Seattle.

2004 – Faculty Affiliate: Center for Studies in Demography and Ecology; Center for AIDS and STD; Center for Statistics and the Social Sciences, University of Washington, Seattle.

2012 – 2014 Associate Chair, Department of Anthropology, University of Washington, Seattle.

2010 – 2017 Associate Professor, Program in Biocultural Anthropology, Department of Anthropology, University of Washington, Seattle.

2004 – 2010 Assistant Professor, Program in Biocultural Anthropology, Department of Anthropology, University of Washington, Seattle.

2001 – 2004 Post-Doctoral Fellow, Center for Studies in Demography and Ecology, Center for AIDS Research, and Center for Statistics and the Social Sciences, University of Washington, Seattle.

4. RESEARCH AND TRAINING AFFILIATIONS

Center for Studies in Demography and Ecology, University of Washington.
Center for AIDS Research, University of Washington.
Center for Statistics and the Social Sciences, University of Washington.
eScience Institute, University of Washington.
Quantitative Ecology and Resource Management, University of Washington.

5. ADDITIONAL RESEARCH EXPERIENCE AND TRAINING

Participant. Santa Fe Institute Complex Systems Summer School, Santa Fe, NM. Intensive one-month course in complexity theory and agent-based modeling. 2002.

Research Assistant, Department of Anthropology and Program in Genetics, Pennsylvania State University, 1998. *Modeling DNA diversity in cardiovascular health/disease.* NIH Grant 1R01HL58239-01A1.

Research Assistant, Burden of Disease Unit, Harvard Center for Population and Development Studies, 1994-1996. *Global burden of disease and injury project.* Funded by the World Health Organization and the World Bank.

6. PUBLICATIONS

Peer-reviewed articles:

Currently under peer review:

78. **Goodreau SM**, Stansfield SE, Mittler JE, Murphy JT, Abernethy NF, Gottlieb GS, Reid MC, Burke JC, Pollock ED, Herbeck JT. Why does age at HIV infection correlate with set point viral load? An evolutionary hypothesis. *Epidemics*.
77. Mann LM, Le Guillou A, **Goodreau SM**, Marcus JL, Sanchez T, Weiss KM, Jenness SJ. Correlations Between Community-Level HIV Preexposure Prophylaxis Coverage and Individual-Level Sexual Behaviors among US Men Who Have Sex with Men. *The Lancet HIV*.
<https://medrxiv.org/cgi/content/short/2021.07.16.21260658v1>
76. Hamilton DT, Agutu C, Babigumira J, van der Elst E, Hassan A, Gichuru E; Mugo P, Farquhar C, Ndung'u T, Sirengo M, Chege W, **Goodreau SM**, Sanders EJ, Graham S. Modeling the Impact of HIV-1 Nucleic Acid Testing among Symptomatic Adult Outpatients in Kenya, *Journal of the International AIDS Society*.

In press:

75. Hamilton DT, Katz DA, Luo W, Stekler JD, Rosenberg ES, Sullivan PS, **Goodreau SM**, Cassels S. Effective strategies to promote HIV self-testing for men who have sex with men: evidence from a mathematical model. *Epidemics*.

Published under peer review:

74. Weiss K, Prasad P, Sanchez T, **Goodreau S**, Jenness S. Association Between HIV PrEP Indications and Use in a National Sexual Network Study of US Men Who Have Sex with Men. *Journal of the International AIDS Society* 24(10): e25826. DOI: 10.1002/jia2.25826.
73. Sanders EJ, Agutu C, Van der Elst E, Hassan A, Gichuru E, Mugo P, Farquhar C, Babigumira JB, **Goodreau SM**, Hamilton DT, Ndung'u T, Sirengo M, Chege W, Graham SM. Effect of an opt-out point-of-care HIV-1 nucleic acid testing intervention to detect acute and prevalent HIV infection in

- symptomatic adult outpatients and reduce HIV transmission in Kenya: a randomized controlled trial. *HIV Medicine*. <https://doi.org/10.1111/hiv.13157>.
72. Katz DA, Hamilton DT, Rosenthal EM, Wang LY, Dunville RL, Aslam M, Barrios LC, Zlotorzynska M, Sanchez TH, Sullivan PS, Rosenberg ES, **Goodreau SM**. 2021. *Effects of condom use on HIV transmission among adolescent sexual minority males in the United States: a mixed epidemiology and epidemic modeling study*. *Sex Transm Dis*, 3 Jun 2021 [epub ahead of print].
 71. Rao DW, Wheatley MM, **Goodreau SM**, Enns EA. 2021. Partnership dynamics in mathematical models and implications for representation of sexually transmitted infections: a review. *Annals of Epidemiology* 59 (72-80).
 70. **Goodreau SM**, Maloney KM, Sanchez TH, Morris M, Janulis P, Jenness SM. 2021. A behavioral cascade of HIV seroadaptation among US men who have sex with men in the era of PrEP and U=U. *AIDS and Behavior*. Online ahead of print: doi: 10.1007/s10461-021-03266-0.
 69. **Goodreau SM**, Pollock ED Wang L, Aslam MV, Barrios LC, Dunville RL, Rosenthal EM, Hamilton DT, Rosenberg ES. 2021. Impacts of changing sexual behavior on chlamydia and gonorrhea burden among US high school students, 2007-2017. *Sexually Transmitted Diseases*. Online ahead of print. doi: 10.1097/OLQ.0000000000001390.
 68. Janulis P, **Goodreau SM**, Birkett M, Phillips G, Morris M, Mustanski B, Jenness SM. 2021. Temporal Variation in One-Time Partnership Rates among Young Men Who Have Sex with Men and Transgender Women. *Journal of AIDS*. Online ahead of print. doi: 10.1097/QAI.0000000000002679.
 67. Hamilton DT, Rosenberg ES, Sullivan PS, Wang LY, Dunville RL, Barrios LC, Aslam MV, Mustanski B, **Goodreau SM**. 2021. Modeling the impact of PrEP programs for adolescent sexual minority males based on empirical estimates for the PrEP continuum of care. *Journal of Adolescent Health* 68(3): 488–496. PMC7876162.
 66. Singleton AL, Marshall BDL, Bessey S, Harrison MT, Galvani AP, Yedinak JL, Jacka BP, **Goodreau SM**, Goedel WC. 2021. Network structure and rapid HIV transmission among people who inject drugs in Indiana: A simulation-based analysis. *Epidemics* 34: 100426.
 65. Peebles K, Mittler JE, **Goodreau SM**, Murphy JT, Reid MC, Abernethy NF, Gottlieb GS, Barnabas RV, Herbeck J. 2021. Risk compensation after HIV-1 vaccination may accelerate viral adaptation and reduce cost-effectiveness: a modeling study. *Scientific Reports* 11 (6798). <https://doi.org/10.1038/s41598-021-85487-w>.
 64. Stansfield SE; Herbeck, JT; Gottlieb, GS; Abernethy, NF; Murphy JT, Mittler JE, **Goodreau SM**. 2021. Test-and-Treat Coverage and HIV Virulence Evolution among Men who Have Sex with Men. *Virus Evolution*. 7(1): veab011. doi: 10.1093/ve/veab011.
 63. Graham SM, Agutu C, van der Elst E, Hassan A, Gichuru E, Mugo P, Farquhar C, Babigumira J, **Goodreau S**, Hamilton D, N'dungu T, Sirengo M, Chege W, Sanders EJ. 2020. A Novel HIV-1 RNA Testing Intervention to Detect Acute and Prevalent HIV Infection in Young Adults and Reduce HIV Transmission in Kenya: Protocol for a Randomized Controlled Trial. *JMIR Research Protocols*. 9(8): e16198. doi: 10.2196/16198.
 62. Weiss KM, **Goodreau SM**, Morris M, Prasad P, Ramaraju R, Sanchez T, Jenness, SM. 2020. Egocentric sexual networks of men who have sex with men in the United States: Results from the ARTnet study. *Epidemics*, 30, 100386. doi: 10.1016/j.epidem.2020.100386.
 61. **Goodreau SM**, Pollock ED Wang L, Barrios LC, Dunville RL, Aslam MV, Katz DA, Hart-Malloy R, Rosenthal EM, Trigg M, Fields M, Hamilton DT, Rosenberg ES. 2020. Predicting the impact of sexual behavior change on adolescent STI in the US and New York State: a case study of the teen-SPARC

- tool. *Annals of Epidemiology* 47: 13-18. <https://doi.org/10.1016/j.annepidem.2020.05.009>. PMID in progress.
60. Zhu L, Menzies NA, Wang J, Linas BP, **Goodreau SM**, Salomon JA. 2020. Estimation and correction of bias in network simulations based on respondent-driven sampling data. *Scientific Reports* 10, article number: 6348. <https://doi.org/10.1038/s41598-020-63269-0>.
 59. Kutner BA, Simoni JM, King KM, **Goodreau SM**, Norcini Pala A, Creegan E, Aunon FM, Baral SD and Rosser BRS. 2020. Does stigma toward anal sexuality impede engagement in HIV prevention among men who have sex with men in the United States? A structural equation modeling assessment. *Journal of Sexual Medicine*. Published online Jan 23, 2020. doi: 10.1016/j.jsxm.2019.12.006. PMID in progress.
 58. Mittler JE, Murphy JT, Stansfield SE, Peebles KC, Gottlieb GS, **Goodreau SM**, Herbeck JT. 2019. Large benefits to youth-focused HIV treatment-as-prevention efforts: An agent-based simulation model. *PLoS Computational Biology*. Published online Dec 17, 2019. doi: 10.1371/journal.pcbi.1007561. PMC6938382.
 57. Uong S, Rosenberg ES, **Goodreau SM**, Luisi N, Sullivan P, Jenness SM. 2019. Assessment of bias in estimates of sexual network degree using prospective cohort data. *Epidemiology*. Published online Nov 28, 2019. doi: 10.1097/EDE.0000000000001151. PMC7002246.
 56. Wang LY, Hamilton DT, Rosenberg ES, Aslam MV, Sullivan PS, Katz DA, Dunville RL, Barrios LC, **Goodreau SM**. Cost-effectiveness of pre-exposure prophylaxis among adolescent sexual minority males. *Journal of Adolescent Health*. Published online Nov 19, 2019. <https://doi.org/10.1016/j.jadohealth.2019.07.022>. PMID in progress. Finalist for CDC's Charles C. Shepard Science Award.
 55. Ulrich AK, Sanchez J, Lama JR, Manhart LE, **Goodreau SM**, Duerr AC. 2019. Correlates of concurrent partnerships and patterns of condom use among men who have sex with men and transgender women in Peru. *PLoS ONE* 14(9): e0222114. <https://doi.org/10.1371/journal.pone.0222114>. PMC6746369.
 54. Reid MC, Peebles K, Stansfield SE, **Goodreau SM**, Abernethy N, Gottlieb GS, Mittler JE, Herbeck JT. 2019. Models to predict the public health impact of vaccine resistance: a systematic review. *Vaccine* 37(35): 4886-4895. doi: 10.1016/j.vaccine.2019.07.013. PMC7094884.
 53. Hamilton DT, Rosenberg ES, Jenness SM, Sullivan PS, Wang LY, Dunville RL, Barrios LC, Aslam MV, **Goodreau SM**. 2019. Modeling the joint effects of adolescent and adult PrEP for sexual minority males in the United States. *PLoS One* 14(5):e0217315. doi: 10.1371/journal.pone.0217315. PMC6530873.
 52. Rao DW, Carr J, Naismith K, Hood JE, Hughes JP, Morris M, **Goodreau SM**, Rosenberg ES, Golden MR. 2019. Monitoring HIV pre-exposure prophylaxis use among men who have sex with men in Washington State: findings from an internet-based survey. *Sexually Transmitted Diseases* 46(4):221-228. doi: 10.1097/OLQ.0000000000000965. PMID in progress.
 51. Jenness SM, Maloney KM, Smith DK, Hoover KW, **Goodreau SM**, Rosenberg ES, Weiss KM, Liu AY, Rao DW, Sullivan PS. 2018. Addressing gaps in HIV preexposure prophylaxis care to reduce racial disparities in HIV incidence in the United States. *Am J Epidemiol* 188(4):743-752. doi: 10.1093/aje/kwy230. PMC6438815.
 50. Stansfield SE, Mittler JE, Gottlieb GS, Murphy JT, Hamilton DT, Detels R, Wolinsky SM, Jacobson LP, Margolick JB, Rinaldo CR, Herbeck JT, **Goodreau SM**. 2019. Sexual role and HIV-1 set point viral load among men who have sex with men. *Epidemics* 26: 68-76. doi: 10.1016/j.epidem.2018.08.006. PMC6538391.

49. **Goodreau SM**, Stansfield SE, Murphy JT, Peebles KC, Gottlieb GS, Abernethy NF, Herbeck JT, Mittler JE. 2018. Relational concurrency, HIV prevalence, and the evolution of set point viral load. *Virus Evolution* 4(2): vey032. doi: 10.1093/ve/vey032. PMC6249390.
48. Hamilton DT, **Goodreau SM**, Jenness SM, Sullivan PS, Wang L-Y, Dunville, RL, Barrios LC, Rosenberg ES. 2018. Potential impact of pre-exposure prophylaxis among black and white sexual minority adolescent males. *American Journal of Public Health* 108(S4):S284-S291. doi: 10.2105/AJPH.2018.304471. PMC6215365.
47. Khanna AS, **Goodreau SM**, Michaels S, Schneider JA. 2018. Using Partially-Observed Facebook Networks to Develop a Peer-Based HIV Prevention Intervention: Case Study. *Journal of Medical Internet Research*. 20(9):e11652. doi: 10.2196/11652. PMC6231846.
46. Luo W, Katz DA, Hamilton DT, McKenney J, Jenness SM, **Goodreau SM**, Stekler JD, Rosenberg ES, Sullivan PS, Cassels S. 2018. An agent-based model to investigate the impact of HIV self-testing programs for men who have sex with men in Atlanta and Seattle. *JMIR Public Health and Surveillance* 4(2):e58. doi:10.2196/publichealth.9357. PMC6045793.
45. Jenness SM, **Goodreau SM**, Morris M. 2018. EpiModel: an R package for mathematical modeling of infectious disease over networks. *Journal of Statistical Software* 84(8): 1-47. doi: 10.18637/jss.v084.i08. PMC5931789.
44. Herbeck JT, K Peebles, Edlefsen PT, Rolland M, Murphy JT, Gottlieb GS, Abernethy N, Mullins JI, Mittler JE, **Goodreau SM**. 2018. HIV population-level adaptation can rapidly diminish the impact of a partially effective vaccine. *Vaccine*. 36(4): 514–520. doi: 10.1016/j.vaccine.2017.12.004. PMC6701864.
43. **Goodreau SM**, Hamilton DT, Jenness SM, Sullivan PS, Valencia RK, Wang LY, Dunville RL, Barrios LC, Rosenberg ES. 2017. Targeting strategies for HIV pre-exposure prophylaxis among adolescent sexual minority males in higher prevalence areas of the United States: a modeling study. *Journal of Adolescent Health* 62(3):311-319. doi: 10.1016/j.jadohealth.2017.09.023. PMC5818296.
42. Jenness SM, Weiss KM, **Goodreau SM**, Gift T, Chesson H, Hoover KW, Smith DK, Liu AY, Sullivan PS, Rosenberg ES. 2017. Incidence of gonorrhea and chlamydia following HIV preexposure prophylaxis among men who have sex with men: a modeling study. *Clinical Infectious Diseases*. 65(5):712-718. doi: 10.1093/cid/cix439. PMC5848234.
41. **Goodreau SM**, Rosenberg ES, Jenness SM, Luisi N, Stansfield SE, Millett GA, Sullivan PS. 2017. Sources of racial disparities in HIV prevalence among men who have sex with men (MSM) in Atlanta, GA: A modeling study. *The Lancet HIV* 4(7): e311-320. doi: 10.1016/S2352-3018(17)30067-X. PMC5706457.
40. Hood JE, Golden MR, Hughes JP, **Goodreau SM**, Siddiqi AEA, Buskin SE, Bradley H, Hawes S. 2017. Projected demographic composition of the United States population of people living with diagnosed HIV. *AIDS Care*. 29(12):1543-1550. doi: 10.1080/09540121.2017.1308466.
39. Jenness SM, Sharma A, **Goodreau SM**, Rosenberg ES, Hoover K, Smith D, Sullivan PS. 2017. Individual Risk versus Population Impact of Risk Compensation after HIV Preexposure Prophylaxis Initiation among MSM. *PLoS One* 12(1): e0169484. doi:10.1371/journal.pone.0169484. PMC5218403.
38. Herbeck JT, Mittler JE, Gottlieb GS, **Goodreau SM**, Murphy JT, Cori A, Pickles M, Fraser C. 2016. Evolution of HIV virulence in response to widespread scale up of antiretroviral therapy: a modeling study. *Virus Evolution*. 2016, 2(2):1-10. doi: 10.1093/ve/vew028. PMC5822883.
37. Jenness SM, **Goodreau SM**, Rosenberg ES, Beylerian EN, Hoover KW, Smith DK, Sullivan PS. 2016. Impact of the Centers for Disease Control's HIV pre-exposure prophylaxis guidelines for men who

- have sex with men in the United States. *The Journal of Infectious Diseases* 214(12):1800-1807. doi:10.1093/infdis/jiw224. PMC5142082.
36. Jenness SM, **Goodreau SM**, Morris M, Cassels S. 2016. Effectiveness of Combination Packages for HIV-1 Prevention in Sub-Saharan Africa Depends on Partnership Network Structure. *Sexually Transmitted Infections* 92(8):619-624. doi: 10.1136/sextrans-2015-052476. PMC5572479.
 35. Roberts ST, Khanna AS, Barnabas RV, **Goodreau SM**, Baetan JM, Celum C, Cassels S. 2016. Estimating the impact of immediate antiretroviral therapy (ART) for HIV serodiscordant couples through home HIV testing: Insights from mathematical models. *Journal of the International AIDS Society*. 19(20864):1-8. doi:10.7448/IAS.19.1.20864. Featured on *UNAIDS Science Now* website: <https://scienzenow.unaids.org/post/hiv-testing-and-treatment-21>. PMC4865806.
 34. Grunspan DZ, Eddy SL, Brownell SE, Wiggins BL, Crowe AJ, **Goodreau SM**. 2016. Males Under-Estimate Academic Performance of Their Female Peers in Undergraduate Biology Classrooms. *PLoS ONE* 11(2): e0148405. doi:10.1371/journal.pone.0148405. PMC4749286.
 33. Khanna AS, Roberts ST, Cassels S, Ying R, John-Stewart G, **Goodreau SM**, Baeten JM, Murnane PM, Celum C, Barnabas RV. 2015. Estimating PMTCT's Impact on Heterosexual HIV Transmission: A Mathematical Modeling Analysis. *PLoS One* 10(8):e0134271. doi: 10.1371/journal.pone.0134271. PMC4532442.
 32. Carnegie NB, Krivitsky PN, Hunter DR, **Goodreau SM**. 2015. An approximation method for improving dynamic network model fitting. *Journal of Computational and Graphical Statistics*. 24(2): 502-519. DOI:10.1080/10618600.2014.903087. PMC4548897.
 31. Kim JH, Holman DJ, **Goodreau SM**. Using Social Network Methods to Test for Assortment of Prosociality among Korean High School Students. *PLoS One*. 2015 Apr 27;10(4):e0125333. doi: 10.1371/journal.pone.0125333. eCollection 2015. PubMed PMID: 25915508; PubMed Central PMCID: PMC4411050.
 30. Snipes A, Hayes Constant TK, Trumble BC, **Goodreau SM**, Morrison DM, Shell-Duncan BK, Pelman RS, and O'Connor KA. 2015. Masculine Perspectives about Work and Family Concurrently Promote and Inhibit Men's Healthy Behaviors. *International Journal of Men's Health*. 41(1): 1-20.
 29. Khanna A, **Goodreau SM**, Wohlfeiler D, Daar E, Little S, Gorbach PM. 2015. Individualized diagnosis interventions can add significant effectiveness in reducing HIV incidence among men who have sex with men (MSM): insights from Southern California. *Annals of Epidemiology*. 25(1): 1-6. DOI: 10.1016/j.annepidem.2014.09.012. PMC4255290. [Named best paper of the year in the *Annals of Epidemiology*]
 28. Carnegie NB, **Goodreau SM**, Liu A, Vittinghoff E, Lama JR, Sanchez J, Buchbinder SP. 2015. Targeting of pre-exposure prophylaxis among men who have sex with men in the United States and Peru: partnership types, contact rates, and sexual role. *Journal of AIDS*. 69(1):119–125. DOI: 10.1097/QAI.0000000000000555. PMC4422184.
 27. **Goodreau SM**, Carnegie NB, Vittinghoff E, Lama JR, Fuchs JD, Sanchez J, Buchbinder SP. 2014. Can male circumcision have an impact on the HIV epidemic in men who have sex with men? *PLoS One*, 9(7): e102960. DOI:10.1371/journal.pone.0102960. PMC4116164.
 26. Grunspan DZ, Wiggins BL, **Goodreau SM**. 2014. Understanding classrooms through social network analysis: a primer for SNA in education research. *CBE – Life Sciences Education*. 13(2): 167-178. DOI:10.1187/cbe.13-08-0162. PMC4041496.
 25. Khanna AS, **Goodreau SM**, Gorbach PM, Daar ES, Little SJ. 2014. Modeling the Impact of Post-Diagnosis Behavior Change on HIV Prevalence in Southern California Men who have Sex with Men (MSM). *AIDS and Behavior*, 18(8): 1523-1531. DOI:10.1007/s10461-013-0646-2. PMC4004722.

24. Khanna AS, Dimitrov DT, **Goodreau SM**. 2014. What can mathematical models tell us about the relationship between circular migrations and HIV transmission dynamics? *Mathematical Biosciences and Engineering*. 11(5): 1065-1090. DOI:10.3934/mbe.2014.11.1065. PMC4211275.
23. Hunter DR, **Goodreau SM**, and Handcock MS. 2013. ergm.userterms: a template package for extending statnet. *Journal of Statistical Software*. 52(2), 1-25. <http://www.jstatsoft.org/v52/i02>. PMC3845520.
22. **Goodreau SM**, Carnegie NB, Vittinghoff E, Lama JR, Sanchez J, Grinsztejn B, Koblin BA, Mayer KH, Buchbinder SP. 2012. What drives the US and Peruvian HIV epidemics in men who have sex with men (MSM)? *PLoS One*, 7(11): e50522. PMC3510067.
21. Beyrer C, Baral SD, van Griensven F, **Goodreau SM**, Chariyalertsak S, Wirtz AL, Brookmeyer RD. 2012. The Global Epidemiology of HIV Infection among Men who have Sex with Men. *The Lancet*. 380(9839): 367-377. PMC3805037.
20. Sullivan PS, Carballo-Dieguez A, Coates T, **Goodreau SM**, McGowan I, Sanders E, Smith A, Goswami P, Sanchez J. 2012. Successes and challenges of HIV prevention in men who have sex with men. HIV Prevention Successes and Challenges for MSM. *The Lancet*. 380(9839): 388-399. PMC3670988.
19. **Goodreau SM**, Cassels S, Kasprzyk D, Montañó DE, Greek A and Morris M. 2012. Concurrent partnerships, Acute Infection and Epidemic Dynamics among Young Adults in Zimbabwe. *AIDS and Behavior* 16(2): 312-322. PMC3394592. [Most cited article in AIDS and Behavior in 2013].
18. **Goodreau SM**. 2011. A decade of modelling research yields considerable evidence for the importance of concurrency: a response to Sawers and Stillwaggon. *Journal of the International AIDS Society*. 14(12). doi: 10.1186/1758-2652-14-12. PMC3065394.
17. Cassels S and **Goodreau SM**. 2011. Interaction of mathematical modeling and social and behavioral HIV/AIDS research. *Current Opinion in HIV and AIDS*. 6(1):119-123. PMC3091501.
16. White E, Lumley T, **Goodreau SM**, Goldbaum G, and Hawes S. 2010. Stochastic Models to Demonstrate the Effect of Motivated Testing on HIV Incidence Estimates Using the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS). *Sexually Transmitted Infections*. 86(7): 506-511. PMC3425390.
15. White E, Goldbaum G, **Goodreau SM**, Lumley T, and Hawes S. 2010. Inter-population differences in HIV testing promptness introduce bias in HIV incidence estimates using STARHS. *Sexually Transmitted Infections*. 86(4): 254-257. PMC3414255.
14. Blas MM, Alva IE, Carcamo CP, Cabello R, **Goodreau SM**, Kimball AM and Kurth AE. 2010. Effect of an online video-based intervention to increase HIV testing in men who have sex with men in Peru. *PLoS One*. 5 (5): e10448. PMC2862715.
13. Reidy WJ and **Goodreau SM**. 2010. The role of commercial sex venues in the HIV epidemic among men who have sex with men in King County, WA. *Epidemiology*. 21(3): 349-359. PMC3423965.
12. Cassels S, Menza TW, **Goodreau SM** and Golden MR. 2009. HIV serosorting as a harm reduction strategy: evidence from Seattle, Washington. *AIDS*. 23(18): 2497-2506. PMC2886722.
11. **Goodreau SM**, Kitts JA, and Morris M. 2009. Birds of a feather, or friend of a friend? Using exponential random graph models to investigate adolescent social networks. *Demography*. 46(1): 103-126. PMC2743438.

10. Hunter DR, Handcock MS, Butts CT, **Goodreau SM** and Morris M. 2008. ergm: a package to fit, simulate and diagnose exponential-family models for networks. *Journal of Statistical Software*, 24(3): 1-29. PMC2447931.
9. Handcock MS, Hunter DR, Butts CT, **Goodreau SM** and Morris M. 2008. statnet: software tools for the representation, visualization, analysis and simulation of social network data. *Journal of Statistical Software*, 24(1): 1-11. PMC2831261.
8. **Goodreau SM**, Handcock MS, Hunter DR, Butts CT and Morris M. 2008. A statnet tutorial. *Journal of Statistical Software*, 24(9): 1-26. PMC2443947.
7. Hunter DR, **Goodreau SM**, and Handcock MS. 2008. Goodness-of-fit of social network models. *Journal of the American Statistical Association*. DOI:10.1198/01621450700000446. 103(481): 248-258.
6. **Goodreau SM** and Golden MR. 2007. Biological and demographic causes of high HIV and STD prevalence in men who have sex with men. *Sexually Transmitted Infections*. 83(6):458-62. PMC2031833.
5. Peinado J, **Goodreau SM**, Goicochea P, Vergara J, Ojeda N, Casapia M, Ortiz A, Zamalloa V, Galvan R, Sanchez JR. Role versatility among men who have sex with men in urban Peru. *Journal of Sex Research*. 2007 Aug;44(3):233-9. PubMed PMID: 17879166.
4. **Goodreau SM**. 2007. Advances in exponential random graph (p^*) models applied to a large social network. *Social Networks*. 29(2):231-248. PMC2598698.
3. **Goodreau SM**. 2006. Assessing the effects of human mixing patterns on HIV-1 interhost phylogenetics through social network simulation. *Genetics*. 142(4):2033-2045. PMC1456410.
2. **Goodreau SM**, Goicochea LP and Sanchez J. 2005. Sexual role and transmission of HIV Type 1 among men who have sex with men, in Peru. *Journal of Infectious Diseases*. 191:S147-S158. PMC4063354.
1. Koehly L, **Goodreau SM**, and Morris M. 2004. Exponential family models for sampled and census network data. *Sociological Methodology*. 34(1):241-270.

Book chapters:

- Goodreau SM**. 2010. "Accounting for epidemics: mathematical modeling and anthropology." In: Herring A and Swedlund A, eds., "Plagues and Epidemics: Infected Spaces Past and Present." Berg Publishers, Oxford. Pp. 213-230.
- Morris M, **Goodreau SM** and Moody J. 2007. "Sexual networks, concurrency, and STD/HIV." Chapter 7 in *Sexually Transmitted Diseases (4th edition)*, eds. Holmes KK et al. New York, McGraw-Hill.

Reviews and commentaries:

- Jenness SM, Weiss KM, **Goodreau SM**, Gift T, Chesson H, Hoover KW, Smith DK, Liu AY, Sullivan PS, Rosenberg, ES. 2018. Moving Forward with Treatment of Gonorrhea for Users of HIV Preexposure Prophylaxis Given the Threat of Antimicrobial Resistance. *Clinical Infectious Diseases*, <https://doi.org/10.1093/cid/ciy050>.
- Goodreau SM**. 2013. Is two a 'high number of partners'? Modeling, data, and the power of concurrency, *Sexually Transmitted Diseases*, 40(1): 61. PMC3673695.
- Cassels S, Menza TW, **Goodreau SM** and Golden MR. 2010. "Available evidence does not support serosorting as an HIV risk reduction strategy: Author's reply" *AIDS* 24(6):936-938. PMC4026163.

Goodreau SM. 2007. Commentary on Handcock et al., “Model-based clustering for social networks,” *Journal of the Royal Statistical Society Series A* 170(2):337-8.

Goodreau SM and Weiss KM 2001. Review of “Evolution of HIV,” Keith Crandall, ed. *Genetic Epidemiology*.

7. SOFTWARE

As author:

EpiModel: mathematical modeling of infectious disease. Jenness SM, Goodreau SM, Morris M, Beylerian E, Bender-deMoll S, Weiss K, Anderson S. <https://CRAN.R-project.org/package=EpiModel>

EpiModelHIV: EpiModel modules for simulating HIV/STI transmission dynamics. Jenness SM, Goodreau SM, Morris M. <https://github.com/statnet/EpiModelHIV>

EvoNetHIV: an R package for modeling HIV epidemics and viral evolution in sexual networks. Mittler JE, Goodreau SM, Herbeck JT, Murphy JT, Peebles KC, Stansfield SE, Reid MC, Abernethy NF, Burke JC, Gottlieb GS. <https://github.com/EvoNetHIV/EvoNetHIV>

ergm: a package to fit, simulate and diagnose exponential-family models for networks. Handcock MS, Hunter DR, Butts CT, **Goodreau SM**, and Morris M. <https://CRAN.R-project.org/package=ergm>

ergm.userterms: user-specified terms for the statnet suite of packages. Handcock MS, Hunter DR, Butts CT, **Goodreau SM**, Krivitsky PN, Morris M. <https://CRAN.R-project.org/package=ergm.userterms>

statnet: software tools for the statistical analysis of network data. Handcock MS, Hunter DR, Butts CT, **Goodreau SM**, Krivitsky PN, Bender-deMoll S, Morris M. <https://CRAN.R-project.org/package=statnet>

As contributor:

ergm.ego: fit, simulate and diagnose exponential-family random graph models to egocentrically sampled network data. Krivitsky PN, Goodreau SM, Morris M, Li K, Beylerian EN, Bojanowski M, Klumb C. <https://CRAN.R-project.org/package=ergm.ego>

networkDynamic: dynamic extensions for network objects. Butts CT, Leslie-Cook A, Krivitsky PN, Bender-deMoll S, Almquist Z, Hunter DR, Wang L, Li K, **Goodreau SM**, Horner J, Morris M. <https://CRAN.R-project.org/package=networkDynamic>

tergm: fit, simulate and diagnose models for network evolution based on exponential-family random graph models. Krivitsky PN, Handcock MS, Hunter DR, **Goodreau SM**, Morris M, Carnegie NB, Butts CT, Leslie-Cook A, Bender-deMoll S, Wang L, Li K. <https://CRAN.R-project.org/package=tergm>

8. CURRENT GRANTS AND CONTRACTS (WITH DIRECT COSTS PER YEAR)

CDC cooperative agreement NU-38PS004650 (PIs: Holtgrave and Martin). *Modeling HIV, viral hepatitis, STI, and tuberculosis to improve public health - CAMP 2.0: The Coalition for Applied Modeling for Prevention*. 09/30/2019 – 09/29/2024. UW subcontract annual direct costs \$140,000.

NIH R01-AI138783 (PI: Jenness, UW site PI Goodreau). *EpiModel 2.0: Integrated Network Models for HIV/STI Prevention Science*. 07/12/2018 – 06/30/2022. \$631,084

NIH R01-GM125440 (PI: Herbeck). *Modeling the Evolutionary and Public Health Impacts of HIV Adaptation in Response to Vaccination*. 09/01/2017-08/31/2022. \$315,707.

9. RECENT PAST GRANTS AND CONTRACTS (KEY PERSONNEL)

- NIH R01-AI124968 (PI: Graham). *Impact of a novel screening program to detect acute and prevalent HIV infection and reduce HIV transmission*. 09/01/2016 – 08/31/2021. \$500,000.
- NIH R01-AI108490 (PIs: Goodreau, Herbeck, Mittler). *Integrated bio-social models for HIV epidemiology*. NIAID, 03/01/2014 – 02/28/2020. \$350,000.
- CDC cooperative agreement U38-PS004646 (PI: Sullivan, UW site PI: Goodreau). *Enhancing models of HIV, viral hepatitis, STIs, and tuberculosis to inform and improve public health impact*. 01/01/2015 – 09/30/2019. UW subcontract annual direct costs \$109,000.
- NIH R21-MH112449 (PI: Jenness). *Modeling Antiretroviral-Based Prevention for MSM in the US*. 2/15/2017 – 1/31/2020. \$31,425.
- R21-HD075662 (PI: Goodreau). *Sexual network transmission models to explain HIV disparities between Black and White MSM*. NICHD, 08/01/2013 – 07/31/2016. Annual direct costs: \$150,000. Principal Investigator.
- R01-HD068395 (PI: Morris). *Statistical methods for network epidemiology*. NICHD, 5/1/2011 – 4/30/2016. Annual direct costs: \$625,000. Co-investigator.
- R21-AI118998 (PI: Schneider). *Targeting PrEP at HIV positives' bridging networks to reduce HIV transmission*. 04/01/2015 – 03/31/2017. Annual direct costs: \$8,000. Subcontract PI.
- R21-HD068352 (PI: Schneider). *Hybridized cell phone and survey generated communication network*. (Part 2 of a 2-part project on HIV prevention among men who have sex with men in Hyderabad, India). NICHD, 03/01/2013 - 02/28/2015. Annual direct costs: \$160,000. Co-investigator
- R21-AI098599 (PI: Schneider). *Social network positional selection of peer change agents*. (Part 1 of a 2-part project on HIV prevention among men who have sex with men in Hyderabad, India). NIAID, 12/01/2011-11/30/2013. Annual direct costs: \$172,000. Co-investigator
- Contract (PI: Goodreau). *Modeling the drivers of the HIV epidemic and outcomes of effective prevention methods*. AmFAR (Americans for AIDS Research), 09/01/2011 - 06/30/2012. Total UW direct costs: \$35,911. Principal investigator.
- R01-AI083060 (PI: Buchbinder). *Prevention umbrella for MSM in the Americas*. NIAID, 4/1/2009 – 3/31/2013. UW annual direct costs: \$86,000. Co-investigator, UW Subcontract PI, Head of Epidemiology Section.
- Emerging Opportunities Award (PI: Cassels). *HIV serosorting among men who have sex with men: modeling HIV transmission dynamics*. UW CFAR, 9/2007 – 5/2008. Direct costs \$15,000. Key personnel.
- R24-HD056799 (PI: Morris). *A Kenya free of AIDS: harnessing interdisciplinary science for HIV prevention*. NICHD, 09/30/2007 – 07/31/2013. Key Personnel.
- R01-DA02211 (PI: Gorbach). *Transmission behavior in partnerships of newly HIV-infected Southern Californians*. NIDA, 6/10/2007 – 6/09/2013. UW annual direct costs: \$82,382. Co-investigator, University of Washington Subcontract PI.
- Royalty Research Fund (PI: Goodreau). *Evaluating the role of circular migration on population-level HIV prevalence*. UW, 03/16/2007-03/15/2008. \$26,572. Principal investigator.
- Pilot Award (PI: Goodreau). *Assessing the population-level impact of recency on the African HIV epidemic*. Puget Sound Partners for Global Health, 10/2005 - 10/2006. \$42,717. Principal investigator.

R01-HD041877 (PI: Morris). *Quantifying HIV transmission risk in sex/drug networks*. NICHD, 03/15/2002 – 02/28/2008. Annual direct costs \$250,000. Key personnel.

R01-DA012831 (PI: Morris). *Modeling HIV and STD in drug user and social networks*. NIDA, 6/20/2001 – 5/31/2007. Annual direct costs \$585,000. Key personnel.

10. TEACHING EXPERIENCE

Undergraduate courses

Plagues and Peoples (large intro course; developed anew)
Social Networks and Health (upper-level course; developed new course)
Human Genetics, Culture and Disease (upper-level course)
Human Population Genetics (upper-level course)
Human Population Biology (upper-level course)

Graduate courses

Graduate Readings in Social Network Analysis (developed new course)
Methods and Modeling in Biocultural Anthropology
Research Methods and Study Design

Intensive summer Epidemic Modeling short-courses

Network Modeling for HIV/STI among MSM (1-week, Harvard, 2017)
Network Statistics in Health Research (1-week, Belgium, 2014, 2015)
Network Modeling for Epidemics (1-week, UW, 2012-present)
Introduction to Epidemic Modeling (2-week, University of Nairobi: 2008, 2009, 2011)
Advanced Epidemic Modeling (2-week, University of Nairobi, 2010)

Software workshops and short-courses (statnet, ergm, stergm, ergm.userterms)

European Conference on Social Networks, 2014
Annual INSNA Sunbelt Social Networks Conference, 2006-present.
Centers for Disease Control and Prevention (CDC), 2011.
Yale University, 2011.
Gates Foundation, 2009.
Harvard Political Networks Conference, 2009.
Brown University, 2008.

11. NOTABLE SERVICE / OUTREACH

UW Center for Studies in Demography and Ecology - Development Core Director.

UW Center for AIDS Research – Community Action Board - Steering Committee member. 2011-2018.

Washington State Department of Health PrEP (Pre-Exposure Prophylaxis) Working Group, 2014- 2016.

Trans-NIH Plan for HIV-Related Research working group, 2012-present.

CDC Expert Consultation on Frequency of Testing in Gay, Bisexual and Other Men Who Have Sex with Men, 2014.

Cascade Regional Young Black Men who have Sex with Men Working Group. Co-facilitator, 2013-2014. UW CFAR representative, 2013-present.

Cascade Regional HIV Stigma Working Group. Co-facilitator, 2013-2014. UW CFAR representative, 2013-present.

Co-organizer, HIV Prevention and Treatment among Men who have Sex with Men – A Cascade Regional Strategy Symposium and Workshop. Workshop to bring together researchers, community organizations and members, and public health agencies throughout the Pacific Northwest. Seattle, May 2013.

Numerous committees within Anthropology, the Center for Studies in Demography and Ecology, and the Center for AIDS Research

12. EXTENDED WORKSHOP PARTICIPATION

Invited participant. American Institute of Mathematics. Workshop on exponential random network models. Palo Alto, June 17-21, 2013.

Invited participant. Wenner-Gren Foundation Symposium 138: Plagues: models and metaphors in the human struggle with disease. Sep. 14-21, Tucson, 2007.

13. INVITED TALKS (OUTSIDE HOME INSTITUTION)

“Demography, Social Networks and COVID-19.” Population Association of America (PAA) Webinar: Demographic Insights into COVID-19: The importance of age, sex, family and... denominators. May 2020.

“PrEP Among Men Who have Sex with Men in the US: The Value of Modeling in a Rapidly Evolving Public Health Landscape,” Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, July 2019.

“teen-SPARC STI Prevention and Risk Calculator,” Centers for Disease Control and Prevention (CDC) – Division of Adolescent and School Health (DASH) webinar, June 2019.

“PrEP Among Men Who have Sex with Men in the US: The Value of Modeling in a Rapidly Evolving Public Health Landscape,” Center for Collaborative HIV Research in Practice and Policy, University at Albany and New York State Department of Health, May 2019.

“PrEP Among Men Who have Sex with Men in the US: The Value of Modeling in a Rapidly Evolving Public Health Landscape,” Brown University Dept. of Epidemiology, May 2019.

“Using modeling to assess the sources of racial disparities in HIV prevalence in men who have sex with men in the US.” Fred Hutchinson Cancer Research Center, February 2018.

“Sources of racial disparities in HIV prevalence among men who have sex with men in Atlanta: a modeling study.” Northwestern University, October 2017.

“Using dynamic demographic network models to assess the potential impact of individualized testing interventions for HIV among men who have sex with men in Southern California.” UCLA California Center for Population Research, January 2015.

“Oil Change Testing Strategies for MSM: Modeling the Impact” National Coalition of STD Directors Conference, Albuquerque NM, November 2013.

“Complex network modeling and combination interventions” Research and Policy for Infectious Disease Dynamics Workshop, Princeton NJ, October 2013.

- “HIV Transmission among Men who have Sex with Men (MSM) in the United States and Peru: Insights from Dynamic Demographic Network Models” Pasteur Institute, Paris, April 2013.
- “What do Sexual Networks Tell Us about How to Block Transmission?” 20th Conference on Retroviruses and Opportunistic Infections Invited Symposium: *Preventing HIV/AIDS in the US: Can We Do Better?* Atlanta, March 2013.
- “HIV Transmission among Men who have Sex with Men (MSM) in the United States and Peru: Insights from Dynamic Demographic Network Models,” University of Chicago Department of Health Studies, April 2012.
- “HIV Transmission among Men who have Sex with Men (MSM) in the United States and Peru: Insights from Dynamic Demographic Network Models,” Arizona State University, Center for Population Dynamics, March 2012.
- “Concurrency and Men who Have Sex with Men,” Washington State Department of Health, Tumwater, February 2012.
- “Dynamic Network Modeling and Concurrency As A Factor In The Spread of HIV,” Centers for Disease Control and Prevention, Atlanta, October 2011.
- “Methods and Data Required for Model-Based Bridging of Results,” NIH Workshop on Quantitative Methods to Advance Combination Biomedical HIV Prevention Research, Rockville MD, September 2011.
- “Modeling Strategies: PUMA,” Methods for Prevention Packages Program Workshop, National Institutes of Health, Rockville MD, September 2011.
- “Epidemic Modeling and Combination Intervention Formulation,” Combination Biomedical HIV Prevention Modalities Workshop: Research Design and Ethical Considerations, National Institutes of Health, Rockville MD. June 2010.
- “Biological and Demographic Causes of High HIV Prevalence among Gay Men,” Yale University Center for Interdisciplinary Research on AIDS. March 2010.
- “HIV acute infection and relational concurrency in sub-Saharan Africa: insights from network modeling,” Institute for Health Metrics and Evaluation. Seattle. February 2010.
- “New Developments in Network Modeling,” Invited talk. Upper Midwest Conference in Population Studies, Minneapolis, January 2010.
- “Introduction to Epidemic Modeling,” three lecture series, joint with Martina Morris, Bill and Melinda Gates Foundation. December 2009.
- “Birds of a Feather, or Friend of a Friend? Statistical models of network structure in the Add Health study,” Center for Statistical Sciences, Brown University. April 2008.
- “Birds of a Feather, or Friend of a Friend? Statistical models of network structure in the Add Health study,” Center for Demography and Ecology, University of Wisconsin. February 2008.
- “Biological and Demographic Causes of High HIV Prevalence among Gay Men,” Stanford University. Co-sponsored by Applera Charitable Foundation. February 2007.
- “Social Network Analysis: An Introduction for Demographers,” Stanford University, August 2005, 2006.
- “Men’s sexual role and HIV transmission in Urban Peru,” Dept. of Anthropology, Binghamton University – SUNY, March 2004.

“Social networks and HIV transmission,” Working Group on Complex Networked Social Systems, University of Melbourne, February 2004.

“Linking random graph and loglinear models of networks,” Joint Statistical Meetings, San Francisco, August 2003. Invited session.

“Modeling HIV transmission and evolution in an urban social network,” Dept. of Anthropology, University of Massachusetts - Boston, February 2003.

“Network measures for HIV/STD epidemiology,” CDC special meeting on network epidemiology, Washington DC, April 2002.

“Dependency graphs and contact graphs,” Erasmus University Dept. of Public Health, Rotterdam, Netherlands, October 1999.

“Generating standardized epidemiological estimates using DisMod and BDAP,” Workshop on the Burden of Disease in Hungary, Budapest, October 1995.

13. AWARDS AND HONORS

- Richards Award (“lifetime achievement award” for software development, as part of the Statnet Development team), International Society for Social Network Analysis, 2019.
- Population Council Graduate Fellow, 2000-2001.
- Social Science Research Council Graduate Fellow, 2000-2001 (declined).
- The Pennsylvania State University, University Scholar, 1997-1998.
- National Science Foundation, Graduate Research Fellow, 1996-2000.
- W. W. Howells Prize for Undergraduate Research in Anthropology, Harvard, 1994.
- Thomas Temple Hoopes Prize for Undergraduate Research, Harvard, 1994.
- Undergraduate Latin Honors (overall academic record): *magna cum laude*.
- Undergraduate English Honors (academic record in concentration): highest honors.
- LGBT leaders’ scholarship, Greater Boston Business Council (LGBT chamber of commerce), 1993 (inaugural year).