

ALEXANDRA SAVINKINA, MSPH, PhD Candidate

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CAREER OBJECTIVE

A motivated and experienced infectious disease mathematical modeler with over 5 years of success in the field. Possessing 30+ peer-reviewed publications, I seek new challenges in a collaborative role that leverages my strong analytic skills and creative problem-solving to answer critical questions in infectious disease and vaccine science.

SKILLS

Language: Native English and Russian; Basic French and Spanish.

Computer: R, Python, SAS, TreeAge, SPSS, NVivo, ArcGIS.

RELEVANT EXPERIENCE

Merck Research Labs, West Point, PA

June 2024-Present

Doctoral Student Intern, Collaborated with the Biostatistics and Research Decision Science (BARDS) group on the Health Economics Decision Science (HEDS) team.

- Led analyses on viral facilitation of invasive pneumococcal disease, focusing on respiratory syncytial virus, using time-series and mediation analyses.
- Evaluated literature sources on changes in contact patterns during the COVID-19 pandemic that may have led to reductions in invasive pneumococcal disease, and facilitated inclusion of this data in the pneumococcal transmission model.

Yale School of Public Health, Public Health Modeling Unit, New Haven, CT

August 2021-Present

Doctoral Candidate, Worked within the Public Health Modeling Unit to lead mathematical modeling analyses exploring the role of interventions in infectious disease outbreaks, including COVID-19 and mpox, leading to 5+ publications in peer-reviewed journals and various presentations to stakeholders and decision-makers.

- Dissertation work focuses on simulating population and viral dynamics in outbreaks of vaccine-preventable diseases, including mpox and COVID-19.
- Modeled potential deaths averted by COVID-19 vaccination in low and lower-middle-income countries. Published in *BMJ Open* (See citation 4).
- Conducted retrospective analysis with the Pan-American Health Organization on deaths averted by COVID-19 vaccination. Participated in a regional workshop in Brazil. Presented at Epidemics 9 conference. Under review at *Open Forum Infectious Diseases*.
- Developed cost-effectiveness models for COVID-19 treatment scenarios. Published in *Open Forum Infectious Diseases* (See citation 3).
- Simulated mpox outbreak interventions on a college campus. Published in *Annals of Internal Medicine* (See citation 2).
- Explored the role of mpox vaccination on viral dynamics and outbreak size in the Democratic Republic of the Congo. Under review at *Lancet Global Health*.

Boston Medical Center, Dept. of Infectious Disease, Boston, MA

June 2019- August 2021

Research Coordinator/Research Associate, Led and contributed to simulation model analyses of injection drug use and infectious disease, and the role of injection drug use interventions on population-level outcomes, culminating in 13 peer-reviewed publications.

- Simulated cost-effectiveness of opioid use disorder treatments in inpatient settings. Presented at College of Problems of Drug Dependence Annual Scientific Meeting. Published in *Addiction* (See citation 5).
- Led development of simulation model in conjunction with Urban ARCH ADEPT clinical trial looking at latent tuberculosis treatment in HIV+ patients who consume alcohol in Uganda. Accepted to *International Journal of Tuberculosis and Lung Disease*.
- Analyzed injection drug use and infectious disease models to inform policy decisions.

- Enhanced simulation models for multi-state clinical trials on opioid overdose reduction. Presented results to stakeholders.
- Conducted cost-effectiveness analyses for clinical trials, including micro-costing and developing costing interviews.

Centers for Disease Control and Prevention, Atlanta, GA

July 2016-May 2019

ORISE Fellow, Led data analytics for the Office of Blood, Organ, and Other Tissue Safety, including analyzing large survey data and surveillance system data informing the state of the blood supply and blood supply safety in the United States. This work led to 10 publications in peer-reviewed journals.

- Managed and analyzed data for the National Blood Collection and Utilization Survey (NBCUS) and the National Healthcare Safety Network (NHSN) Biovigilance component.
- Managed the Zika Blood Safety Task Force database, coordinating with state health departments to prevent Zika transmission through the US blood supply.
- Revised survey instruments and achieved an 80% response rate for NBCUS.

EDUCATION

PhD Candidate in Epidemiology of Microbial Diseases

Yale University, Graduate School of Arts and Sciences, New Haven, CT

Expected Spring 2025

MSPH in Global Epidemiology

Emory University, Rollins School of Public Health, Atlanta, GA

May 2016

BS in Biology

Boston College, College of Arts and Sciences, Chestnut Hill, MA

May 2013

PROFESSIONAL DEVELOPMENT

Invited Participant: Regional Workshop on the Evidence Base for Vaccine Introduction, Monitoring, and Evaluation, Pan-American Health Organization, Rio de Janeiro, Brazil (March 13-15, 2023).

OTHER EXPERIENCE

Atlanta Ronald McDonald House Charities, Atlanta, GA

February 2018-May 2019

House Manager

- Managed house operations, ensuring safety and resolving issues for 50+ families. Monitored the house for any emergent situations, and dealt with them as appropriate when they came up.
- Trained new interns and volunteers. Authorized which families were ok to stay in the house, and consulted with those who would not be able to stay with us.

Student Digital Life, Emory University, Atlanta, GA

August 2014-May 2016

Technology Specialist/Manager

- Provided technical support and managed staff at campus technology centers.

WorldTeach American Samoa

July 2013-June 2014

Classroom Science Teacher

- Taught advanced science courses to high school students in American Samoa.

PEER-REVIEWED PUBLICATIONS

1. **Savinkina A**, Jurecka C, Gonsalves G, Barocas JA. Mortality, incarceration and cost implications of fentanyl felonization laws: A modeling study. *Int J Drug Policy*. 2023 Sep 18;121:104175. doi: 10.1016/j.drugpo.2023.104175. Epub ahead of print. PMID: 37729682.
2. **Savinkina, A.**, Chitwood, M., Kwon, J., Pitzer, V. E., Gonsalves, G., & Paltiel, A. D. (2023). Planning for Mpox on a College Campus: A Model-Based Decision-Support Tool. *Annals of internal medicine*, 10.7326/M22-2734. Advance online publication. <https://doi.org/10.7326/M22-2734>
3. **Savinkina, A.**, Paltiel, A. D., Ross, J. S., & Gonsalves, G. (2022). Population-Level Strategies for Nirmatrelvir/Ritonavir Prescribing—A Cost-effectiveness Analysis. *Open forum infectious diseases*, 9(12), ofac637. <https://doi.org/10.1093/ofid/ofac637>
4. **Savinkina, A.**, Bilinski, A., Fitzpatrick, M., Paltiel, A. D., Rizvi, Z., Salomon, J., Thornhill, T., & Gonsalves, G. (2022). Estimating deaths averted and cost per life saved by scaling up mRNA COVID-19 vaccination in low-income and lower-middle-income countries in the COVID-19 Omicron variant era: a modelling study. 4
5. **Savinkina, A.**, Madushani, R., Eftekhari Yazdi, G., Wang, J., Barocas, J. A., Morgan, J. R., Assoumou, S. A., Walley, A. Y., Linas, B. P., & Murphy, S. M. (2022). Population-level impact of initiating pharmacotherapy and linking to care people with opioid use disorder at inpatient medically managed withdrawal programs: an effectiveness and cost-effectiveness analysis. *Addiction (Abingdon, England)*, 117(9), 2450–2461. <https://doi.org/10.1111/add.15879>
6. **Savinkina AA**, Haass KA, Sapiano MRP, et al. Transfusion-associated adverse events and implementation of blood safety measures - findings from the 2017 National Blood Collection and Utilization Survey. *Transfusion*. 2020;60 Suppl 2:S10-S16. doi:10.1111/trf.15654
7. **Savinkina A**, Sapiano MRP, Berger J, Basavaraju SV. Is surgical volume still the most accurate indicator of blood usage in the United States?. *Transfusion*. 2019;59(3):1125-1131. doi:10.1111/trf.15189
8. Barocas, J. A., Nall, S. K., Axelrath, S., Pladsen, C., Boyer, A., Kral, A. H., Meehan, A. A., **Savinkina, A.**, Peery, D., Bien, M., Agnew-Brune, C., Goldshear, J., Chiang, J., Linas, B. P., Gonsalves, G., Bluthenthal, R. N., Mosites, E., & NHBS Study Group (2023). Population-Level Health Effects of Involuntary Displacement of People Experiencing Unsheltered Homelessness Who Inject Drugs in US Cities. *JAMA*, e234800. Advance online publication. <https://doi.org/10.1001/jama.2023.4800>
9. Flam-Ross JM, Marsh E, Weitz M, **Savinkina A**, Schackman BR, Wang J, Madushani RWMA, Morgan JR, Barocas JA, Walley AY, Chrysanthopoulou SA, Linas BP, Assoumou SA. Economic Evaluation of Extended-Release Buprenorphine for Persons With Opioid Use Disorder. *JAMA Netw Open*. 2023 Sep 5;6(9):e2329583. doi: 10.1001/jamanetworkopen.2023.29583. PMID: 37703018; PMCID: PMC10500382.
10. Chatterjee A, Weitz M, **Savinkina A**, Macmadu A, Madushani RWMA, Potee RA, Ryan D, Murphy SM, Walley AY, Linas BP. Estimated Costs and Outcomes Associated With Use and Nonuse of Medications for Opioid Use Disorder During Incarceration and at Release in Massachusetts. *JAMA Netw Open*. 2023 Apr 3;6(4):e237036. doi: 10.1001/jamanetworkopen.2023.7036. PMID: 37058306; PMCID: PMC10105308.
11. Jawa R, Tin Y, Nall S, Calcaterra SL, **Savinkina A**, Marks LR, Kimmel SD, Linas BP, Barocas JA. Estimated Clinical Outcomes and Cost-effectiveness Associated With Provision of Addiction Treatment in US Primary Care Clinics. *JAMA Netw Open*. 2023 Apr 3;6(4):e237888. doi: 10.1001/jamanetworkopen.2023.7888. Erratum in: *JAMA Netw Open*. 2023 May 1;6(5):e2315795. PMID: 37043198; PMCID: PMC10098970.
12. Chitwood, M. H., Kwon, J., **Savinkina, A.**, Walker, J., Bilinski, A., & Gonsalves, G. (2023). Estimated Testing, Tracing, and Vaccination Targets for Containment of the US Mpox Outbreak. *JAMA network open*, 6(1), e2250984. <https://doi.org/10.1001/jamanetworkopen.2022.50984>

13. Mustanski B, Saber R, Jones JP, Macapagal K, Benbow N, Li DH, Brown CH, Janulis P, Smith JD, Marsh E, Schackman BR, Linas BP, Madkins K, Swann G, Dean A, Bettin E, **Savinkina A**. Keep It Up! 3.0: Study protocol for a type III hybrid implementation-effectiveness cluster-randomized trial. *Contemp Clin Trials*. 2023 Apr;127:107134. doi: 10.1016/j.cct.2023.107134. Epub 2023 Feb 24. PMID: 36842763; PMCID: PMC10249332.
14. Morgan, J. R., Marsh, E., **Savinkina, A.**, Shilton, S., Shadaker, S., Tsertsvadze, T., Kamkamidze, G., Alkhazashvili, M., Morgan, T., Belperio, P., Backus, L., Doss, W., Esmat, G., Hassany, M., Elsharkawy, A., Elakel, W., Mehrez, M., Foster, G. R., Wose Kinge, C., Chew, K. W., ... Linas, B. P. (2022). Determining the lower limit of detection required for HCV viral load assay for test of cure following direct-acting antiviral-based treatment regimens: Evidence from a global data set. *Journal of viral hepatitis*, 29(6), 474–486. <https://doi.org/10.1111/jvh.13672>
15. Adams, J. W., **Savinkina, A.**, Hudspeth, J. C., Gai, M. J., Jawa, R., Marks, L. R., Linas, B. P., Hill, A., Flood, J., Kimmel, S., & Barocas, J. A. (2022). Simulated Cost-effectiveness and Long-term Clinical Outcomes of Addiction Care and Antibiotic Therapy Strategies for Patients With Injection Drug Use-Associated Infective Endocarditis. *JAMA network open*, 5(2), e220541. <https://doi.org/10.1001/jamanetworkopen.2022.0541>
16. Barocas JA, **Savinkina A**, Lodi S, Epstein RL, Bouton TC, Sperring H, Hsu HE, Jacobson KR, Schechter-Perkins EM, Linas BP, White LF. Projected Long-Term Impact of the Coronavirus Disease 2019 (COVID-19) Pandemic on Hepatitis C Outcomes in the United States: A Modeling Study. *Clin Infect Dis*. 2022 Aug 24;75(1):e1112-e1119. doi: 10.1093/cid/ciab779. PMID: 34499124; PMCID: PMC8522427.
17. Adams JW, **Savinkina A**, Fox A, Behrends CN, Madushani RWMA, Wang J, Chatterjee A, Walley AY, Barocas JA, Linas BP. Modeling the cost-effectiveness and impact on fatal overdose and initiation of buprenorphine–naloxone treatment at syringe service programs. *Addiction*. 2022;1–14. <https://doi.org/10.1111/add.15883>.
18. Barocas JA, **Savinkina A**, Adams J, Jawa R, Weinstein ZM, Samet JH, Linas BP. Clinical impact, costs, and cost-effectiveness of hospital-based strategies for addressing the US opioid epidemic: a modelling study. *Lancet Public Health*. 2022 Jan;7(1):e56-e64. doi: 10.1016/S2468-2667(21)00248-6. Epub 2021 Nov 30. PMID: 34861189; PMCID: PMC8756295.
19. Linas BP, **Savinkina A**, Madushani RWMA, et al. Projected Estimates of Opioid Mortality After Community-Level Interventions. *JAMA Netw Open*. 2021;4(2):e2037259. doi:10.1001/jamanetworkopen.2020.37259
20. Morgan JR, **Savinkina A**, Pires Dos Santos AG, Xue Z, Shilton S, Linas B. HCV Viral Load Greater Than 1000 IU/ml at Time of Virologic Failure in Direct-Acting Antiviral-Treated Patients. *Adv Ther*. 2021 Mar;38(3):1690-1700. <https://doi.org/10.1007/s12325-021-01647-4>
21. Linas, B. P., **Savinkina, A.**, Barbosa, C., Mueller, P. P., Cerdá, M., Keyes, K., & Chhatwal, J. (2021). A clash of epidemics: Impact of the COVID-19 pandemic response on opioid overdose. *Journal of Substance Abuse Treatment*, 120, 108158. <https://doi.org/10.1016/j.jsat.2020.108158>
22. Barocas JA, Eftekhari Yazdi G, **Savinkina A**, Nolen S, Savitzky C, Samet JH, Englander H, Linas BP. Long-term infective endocarditis mortality associated with injection opioid use in the United States: a modeling study. *Clin Infect Dis*. 2020 Sep 9:ciaa1346. doi: 10.1093/cid/ciaa1346. Epub ahead of print. PMID: 32901815.
23. Morgan, J., Belperio, P., **Savinkina, A.**, Morgan, T., Linas, B., & Backus, L. (2020). Assessing the level of detection of hepatitis C virus RNA in individuals with detectable viremia following treatment with direct acting antivirals: and opportunity for new testing technologies. *Journal of Hepatology*, 73, S809-S810.
24. Pappy AL 2nd, **Savinkina A**, Bicknese C, Neill S, Oyesiku NM, Ioachimescu AG. Predictive modeling for pituitary adenomas: single center experience in 501 consecutive patients. *Pituitary*. 2019;22(5):520-531. doi:10.1007/s11102-019-00982-8

25. Haass KA, Sapiano MRP, **Savinkina A**, Kuehnert MJ, Basavaraju SV. Transfusion-Transmitted Infections Reported to the National Healthcare Safety Network Hemovigilance Module. *Transfus Med Rev.* 2019;33(2):84-91. doi:10.1016/j.tmr.2019.01.001
26. Edens C, Haass KA, Cumming M, et al. Evaluation of the National Healthcare Safety Network Hemovigilance Module for transfusion-related adverse reactions in the United States. *Transfusion.* 2019;59(2):524-533. doi:10.1111/trf.15008
27. Jones JM, Sapiano MRP, **Savinkina AA**, et al. Slowing decline in blood collection and transfusion in the United States - 2017. *Transfusion.* 2020;60 Suppl 2(Suppl 2):S1-S9. doi:10.1111/trf.15604
28. Sapiano MRP, Jones JM, **Savinkina AA**, Haass KA, Berger JJ, Basavaraju SV. Supplemental findings of the 2017 National Blood Collection and Utilization Survey. *Transfusion.* 2020;60 Suppl 2:S17-S37. doi:10.1111/trf.15715
29. Sapiano MRP, **Savinkina AA**, Ellingson KD, Haass KA, Baker ML, Henry RA, Berger JJ, Kuehnert MJ, Basavaraju SV. Supplemental findings from the National Blood Collection and Utilization Surveys, 2013 and 2015. *Transfusion* 2017;57 Suppl 2: 1599-624.
30. Ellingson KD, Sapiano MRP, Haass KA, **Savinkina AA**, Baker ML, Chung KW, Henry RA, Berger JJ, Kuehnert MJ, Basavaraju SV. Continued decline in blood collection and transfusion in the United States-2015. *Transfusion* 2017;57 Suppl 2: 1588-98.
31. Ellingson KD, Sapiano MRP, Haass KA, **Savinkina AA**, Baker ML, Henry RA, Berger JJ, Kuehnert MJ, Basavaraju SV. Cost projections for implementation of safety interventions to prevent transfusion-transmitted Zika virus infection in the United States. *Transfusion* 2017;57 Suppl 2: 1625-33.
32. Richards MK, Goldin AB, **Savinkina A**, Doski J, Goldfarb M, Nuchtern J, Langer M, Beierle EA, Vasudevan S, Gow KW, Raval MV. (2017) The association between nephroblastoma-specific outcomes and high versus low volume treatment centers. *Journal of pediatric surgery.* 2017;52(1):104-108.
33. Di Valerio E, George Dalmida S, Hunte-Cesar T, Schweizer A, Martinez G, **Savinkina A**, Harker L, Yuhua K, Simhachalam K, Robinett H, Huang P, Freeman B, Mugoya GCT. (2016) Perceptions of HIV-associated stigma in the U.S. Virgin Islands. *HIV/AIDS Res Treat Open J.* SE(3): S23-S30.