

# Alexander 'Sandy' Preiss

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Pisgah Forest, NC

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## EDUCATION

<b>Master of Science in Analytics</b>	May 2020
Institute for Advanced Analytics, NC State University, Raleigh, NC	
<b>Master of International Studies</b>	May 2015
NC State University, Raleigh, NC	
<b>Bachelor of Arts in Psychology</b>	May 2009
University of North Carolina, Chapel Hill, NC	

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## PROFESSIONAL EXPERIENCE

### RTI International (Remote)

**Data Science Manager** May 2024 – Present

**Research Data Scientist** Jun 2020 – May 2024

- Supervise a team of five data scientists and support their professional growth
- Guide organizational strategy and develop new business
- Collaborate with subject matter experts across public health and social science domains
- Explain, predict, and infer causality using machine learning and statistical models
- Build natural language processing and LLM pipelines
- Develop microsimulation and agent-based models to simulate emergent phenomena
- Publish scientific papers, present at conferences, and contribute to proposals

### American Cancer Society (Raleigh, NC)

**Senior Data and Evaluation Manager** Mar 2019 – Jun 2019

**Data Manager** Nov 2016 – Mar 2019

- Led data strategy and evaluation for a multimillion-dollar, nationwide program
- Managed collection and analysis of all programmatic data
- Built and deployed data tools and dashboards; trained hundreds of staff on their use
- Leveraged findings to promote data-driven decision making on program leadership team

### Ipas (*an international public health NGO*), (Chapel Hill, NC)

**Global Data Analyst** May 2015 – Nov 2016

- Managed Ipas's enterprise CRM database for monitoring and evaluation
- Translated business needs into database structures and reports
- Developed tools to automate data extraction and processing for donor reporting
- Trained and supported hundreds of database users around the world

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## PUBLICATIONS

Bhatia, A.\*, Preiss, A.\*, et al. (2025). Effect of nirmatrelvir/ritonavir (Paxlovid) on hospitalization among adults with COVID-19: An electronic health record-based target trial emulation from N3C. *PLOS Medicine*, 22(1), e1004493. <https://doi.org/10.1371/journal.pmed.1004493>

Hadley, E., Yoo, Y. J., Patel, S., Zhou, A., Laraway, B., Wong, R., Preiss, A., et al. (2024). Insights from an N3C RECOVER EHR-based cohort study characterizing SARS-CoV-2 reinfections and Long COVID. *Communications Medicine*, 4(1), 1–12. <https://doi.org/10.1038/s43856-024-00539-2>

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Preiss, A.\*, Bhatia, A.\*, et al. (2024). Effect of Paxlovid Treatment During Acute COVID-19 on Long COVID Onset: An EHR-Based Target Trial Emulation from the N3C and RECOVER Consortia (p. 2024.01.20.24301525). *medRxiv*.  
<https://doi.org/10.1101/2024.01.20.24301525>

Preiss, A., et al. (2024). Evaluation of Text Cluster Naming with Generative Large Language Models. *Journal of Data Science*, 22(3), 376–392. <https://doi.org/10.6339/24-JDS1149>

Brannock, M. D., Chew, R. F., Preiss, A., et al. (2023). Long COVID risk and pre-COVID vaccination in an EHR-based cohort study from the RECOVER program. *Nature Communications*, 14(1), 2914. <https://doi.org/10.1038/s41467-023-38388-7>

Jones, K., Hadley, E., Preiss, A., et al. (2022). Estimate of undetected severe acute respiratory coronavirus virus 2 (SARS-CoV-2) infection in acute-care hospital settings using an individual-based microsimulation model. *Infection Control and Hospital Epidemiology*, 1–10. <https://doi.org/10.1017/ice.2022.174>

Pepper, J. K., Zitney, L. V., Preiss, A., et al. (2022). Can social media monitoring help identify the next EVALI? An examination of Reddit posts about vitamin E acetate and Dank Vapes. *Drug and Alcohol Dependence*, 230, 109193. <https://doi.org/10.1016/j.drugalcdep.2021.109193>

Preiss, A., Baumgartner, P., Edlund, M. J., & Bobashev, G. V. (2022). Using Named Entity Recognition to Identify Substances Used in the Self-medication of Opioid Withdrawal: Natural Language Processing Study of Reddit Data. *JMIR Formative Research*, 6(3), e33919. <https://doi.org/10.2196/33919>

Preiss, A., Berghammer, A., & Bobashev, G. (2022). Virtual Opioid User: Reproducing Opioid Use Phenomena with a Control Theory Model. *2022 Winter Simulation Conference (WSC)*, 1140–1151. <https://doi.org/10.1109/WSC57314.2022.10015450>

Preiss, A., et al. (2022). Incorporation of near-real-time hospital occupancy data to improve hospitalization forecast accuracy during the COVID-19 pandemic. *Infectious Disease Modelling*, 7(1), 277–285. <https://doi.org/10.1016/j.idm.2022.01.003>

Waldrop, A. M., Cheadle, J. B., Bradford, K., Preiss, A., et al. (2022). Dug: A Semantic Search Engine Leveraging Peer-Reviewed Knowledge to Query Biomedical Data Repositories. *Bioinformatics* (Oxford, England), btac284. <https://doi.org/10.1093/bioinformatics/btac284>

Endres-Dighe, S., Jones, K., Hadley, E., Preiss, A., et al. (2021). Lessons learned from the rapid development of a statewide simulation model for predicting COVID-19's impact on healthcare resources and capacity. *PloS One*, 16(11), e0260310. <https://doi.org/10.1371/journal.pone.0260310>

Khoury, D., Preiss, A., et al. (2021). Increases in Naloxone Administrations by Emergency Medical Services Providers During the COVID-19 Pandemic: Retrospective Time Series Study. *JMIR Public Health and Surveillance*, 7(5), e29298. <https://doi.org/10.2196/29298>

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Perkins, R. B., Foley, S., Hassan, A., Jansen, E., Preiss, A., et al. (2021). Impact of a Multi-level Quality Improvement Intervention Using National Partnerships on Human Papilloma-virus Vaccination Rates. *Academic Pediatrics*, 21(7), 1134–1141. <https://doi.org/10.1016/j.acap.2021.05.018>

Askelson, N., Ryan, G., Seegmiller, L., Preiss, A., & Comstock, S. (2020). Intersectoral co-operation to increase HPV vaccine coverage: An innovative collaboration between Managed Care Organizations and state-level stakeholders. *Human Vaccines & Immunotherapeutics*, 16(6), 1385–1391. <https://doi.org/10.1080/21645515.2019.1694814>

Escoffery, C., Riehman, K., Watson, L., Priess, A., et al. (2019). Facilitators and Barriers to the Implementation of the HPV VACs (Vaccinate Adolescents Against Cancers) Program: A Consolidated Framework for Implementation Research Analysis. *Preventing Chronic Disease*, 16, E85. <https://doi.org/10.5888/pcd16.180406>

Fedewa, S. A., Preiss, A., et al. (2018). Reaching 80% human papillomavirus vaccination prevalence by 2026: How many adolescents need to be vaccinated and what are their characteristics? *Cancer*, 124(24), 4720–4730. <https://doi.org/10.1002/cncr.31763>

Fisher-Borne, M., Preiss, A., et al. (2018). Early Outcomes of a Multilevel Human Papilloma-virus Vaccination Pilot Intervention in Federally Qualified Health Centers. *Academic Pediatrics*, 18(2S), S79–S84. <https://doi.org/10.1016/j.acap.2017.11.001>

\*equal contributions

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## PRESENTATIONS

Preiss, A., Baumgartner, P., and Berghammer, A. *Text Cluster Profiling using Generative Language Models and Vector Search*. Presented at the 2024 Joint Statistical Meetings, Portland, OR.

Preiss, A. (2023, July). *Data Science Responses to an Evolving Pandemic*. Presented at INFORMS Healthcare, Toronto (Invited).

Preiss, A. (2023, March). *Putting a COVID-19 Simulation Model into Production*. Presented at Elon University Health Analytics Day, Burlington, NC (Invited).

Preiss, A., Bobashev, G. (2022, November). *Virtual Opioid User: Simulating the Effects of Counterfeit Pill Prevalence with a Control Theory Model*. Presented at Lisbon Addictions, Lisbon, Portugal.

Preiss, A. (2022, October). *Social Media as an Early Data Source for Emerging Substance Use Trends*. Presented at the Federal Committee on Statistical Methodology, Washington, DC (Invited).

Preiss, A., Bobashev, G. (2022, June). *Increased Discussion of Smoking Fentanyl in Online Opioid Forums*. Presented at the Society for Epidemiological Research, Chicago.

Preiss, A. (2021, August). *Adapting the difference-in-difference technique to study change in opioid overdoses during the COVID-19 pandemic*. Presented at the 2021 Joint Statistical Meetings, virtual.

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Preiss, A. (2020, November). *When a Dashboard Won't Do: Static Visualization of COVID-19 Data using Python*. Presented at the Government Advances in Statistical Programming Workshop, virtual.

Preiss, A., Elkins, W., Jacobs, S., Fisher-Borne, M. (2018, December). *Implementation strategies associated with HPV vaccination initiation rates among federally qualified health centers*. Presented at the 11th Annual Conference on the Science of Dissemination and Implementation in Health, Washington, DC.

Preiss, A., Parkington, G., Fisher-Borne, M. (2018, May). *The Texas HPV Coalition: Building a State-Level Coalition to Increase HPV Vaccination Rates*. Presented at the National Immunization Conference, Atlanta.