



Lauren G. Johansen, MPH

Associate Health Scientist

Summary of Experience

Lauren G. Johansen is an epidemiologist with experience applying epidemiological principles and analytical methods to investigate human health outcomes related to infectious disease exposures and stewardship efforts. She received her Bachelor of Science in Public Health with minors in Biology and History from East Carolina University in 2023. After receiving her undergraduate degree, she obtained her Master of Public Health with an Epidemiology concentration from Vanderbilt School of Medicine. Ms. Johansen has focused her research efforts on infectious diseases and antibiotic stewardship efforts. Ms. Johansen worked in the antimicrobial stewardship space conducting large data set analyses on outpatient prescribing habits of antibiotics for urinary tract infections at a large university health system. Additionally, she has contributed to international public health work, which involved contributions to a randomized clinical trial in South Africa focused on improving community health through increased HIV testing. This research involved training of trusted traditional healthcare practitioner partners for the mission to improve healthcare awareness of impacted South African communities. Ms. Johansen has worked on data acquisition, analysis, and surveillance of infectious disease through her work as a surveillance officer at the Emerging Infections Program. Through her research efforts she conducted field testing in university HVAC systems for the detection of SARS-Cov-2 and was published regarding using air sampling techniques to determine if dorm inhabitants were positive for SARS-Cov-2. She continues to be passionate about Public Health concerns and disseminating health findings with her aims to protect and inform the community.

Education

Bachelor of Sciences (B.S.), Public Health, 2023, East Carolina University

Master of Public Health (M.P.H), Epidemiology, 2025, Vanderbilt University School of Medicine

Project Experience

Antimicrobial Stewardship

Operated as principal investigator spearheading a quality improvement retrospective cohort study evaluating the urinalysis with reflex culture ordering algorithm in relation to the rate of antibiotics ordered. The objective of this project was to ensure the algorithm is accomplishing the intended purpose of reducing urine cultures and therefore reducing antibiotic prescribing for asymptomatic bacteriuria when followed as directed. Worked to develop the project protocol, ran a statistical analysis using STATA software to complete multivariable logistic regression, created poster presentations, and authored the manuscript on findings.

HIV Research

Worked in Bushbuckridge, South Africa in support of joint researchers from Witwatersrand University and Vanderbilt University to prepare for a site randomized clinical trial centered around training traditional health practitioners in HIV testing and counseling with a goal to increase the percentage of the population that know their HIV infection status. As a team member, analyzed survey data collected on the traditional healers for the fieldworkers to use to recruit healers into the study. Used GPS data to map the known healers and their geographic relation to the community health clinics. This mapping was used to determine the focus recruitment efforts and distribution of healers within the targeted communities.

Sars-CoV-2 Research

Conducted fieldwork deploying and collecting air samples from dorm HVAC systems with aims of detecting if any inhabitants had COVID-19. Multiple air sampling methods were compared and validated to a previous study. Analyzed data regarding the positive detection of the SARS-CoV-2 virus. Authored the article published as well as led dissemination of project conclusions via poster presentation.

Data Analysis and Statistics

Experienced in implementing complex statistical analyses across diverse epidemiological datasets, including both infectious disease data and large-scale retrospective cohort studies. Proficient in utilizing STATA programming for comprehensive large data management, statistical modeling, and visualization. Skilled in creating clear, informative data visualizations and translating complex statistical findings into actionable public health recommendations for diverse stakeholder audiences.

Professional Experience

Emerging Infections Program (EIP) Surveillance Officer, Vanderbilt University Medical Center, – October 2023 – February 2025

EIP is a CDC program operated across thirteen states designed to track and monitor infectious diseases as they arise. The Tennessee section of EIP is operated through the joint efforts of the Tennessee Department of Health and Vanderbilt University Medical Centers. As a surveillance officer she worked on case review for patients hospitalized for the Sars-CoV-2 project. This involved medical chart extraction and review as well as data entry and management.

Peer-Reviewed Publications

Sousan, S., Boatman, M., **Johansen, L.**, Fan, M., & Roper, R. L. (2024). Comparing and validating air sampling methods for SARS-COV-2 detection in HVAC ducts of student dorms. *Environmental Pollution*, 343, 123164. <https://doi.org/10.1016/j.envpol.2023.123164>

Published Abstract

Johansen L., Oertil C, Talbot T, et al. Implementation of Urinalysis with Reflex Culture Order Sets Associated with Fewer Outpatient Antibiotics for Urinary Tract Infections. *Antimicrobial Stewardship & Healthcare Epidemiology*. 2025;5(S2):s66-s66. doi:10.1017/ash.2025.274

Presentations

Johansen L., Oertil C., Talbot T., Katz S., Cihlar J., Stern R., Herrera N., Daniels T., Reasoner K., Ito A., Zou M., Onguti S., & Staub M. 2025. Implementation of Urinalysis with Reflex Culture Order Sets Associated with Fewer Outpatient Antibiotics for Urinary Tract Infections. Poster presentation at The Society for Healthcare Epidemiology of America (SHEA) Conference. April 28th – 30th 2025. Orlando, Florida.

Johansen L., Oertil C., Talbot T., Katz S., Cihlar J., Stern R., Herrera N., Daniels T., Reasoner K., Ito A., Zou M., Onguti S., & Staub M. 2025. Implementation of Urinalysis with Reflex Culture Order Sets Associated with Fewer Outpatient Antibiotics for Urinary Tract Infections. Poster Presentation at the Translational Research Forum. February 12th, 2025. Nashville, TN.

Johansen, L., Audet, C. 2024. GPS Mapping of Traditional Healers in South Africa: Preparation for Clinical Trial Training Rural Traditional Health Practitioners on HIV Testing and Counseling. Poster Presentation at the 2024 Population and Public Health Colloquium. November 8, 2024. Nashville, Tennessee.

Johansen, L., Boatman, M., Sousan, S., Fan, M., & Roper, R., 2022. Comparing and validating air sampling methods for SARS-COV-2 detection in HVAC ducts of student dorms. Poster Presentation at ECU Research and Creative Achievement Week 2022. Greenville, North Carolina.

Johansen, L., Boatman, M., Sousan, S., Fan, M., & Roper, R., 2022. Comparing and validating air sampling methods for SARS-COV-2 detection in HVAC ducts of student dorms. Poster Presentation at Celebration of Research and Scholarship. 2022. Greenville, North Carolina.

Johansen, L., Boatman, M., Sousan, S., Fan, M., & Roper, R., 2022. Comparing and validating air sampling methods for SARS-COV-2 detection in HVAC ducts of student dorms. Poster Presentation at Geoscience Research Symposium. 2023. Greenville, North Carolina.