"Evaluating the Implementation of Multi-Pathogen Point-of-Care Testing in Primary Care and Emergency Settings: The AIM-Viral Study"

Supervisor: Dr. Andrew Pinto

Co-Supervisor: Dr. Benita Hosseini

Benefits: Students are eligible to receive an annual stipend of $31,000. Additionally, they are encouraged to apply for available scholarships to supplement this stipend.

New application deadline: Applications will be accepted until July 4, 2025 (5:00 PM

Eastern Time). Results will be announced via e-mail in August 2025. Please submit a cover letter and resume to upstreamlab@unityhealth.to.

Program duration: September 2, 2025 to August 28, 2026 (1 year)

Background

The AIM-Viral study (https://upstreamlab.org/project/aim-viral/)**, part of CanTreatCOVID** https://cantreatcovid.org/ **, integrates point-of-care multi-pathogen testing into primary care and emergency settings to improve rapid viral diagnosis.**

The student will gain valuable experience in data analysis and scientific writing, contributing to advancements in healthcare.

Project Description

As part of the AIM-Viral study, the MSc student will be expected to be involved in the following:

Data Cleaning and Preparation:

- Ensure the accuracy and completeness of the collected data.
- Perform data cleaning tasks, such as handling missing values and correcting data entry errors.
- Prepare datasets for analysis by organizing and formatting data appropriately.

Descriptive Statistics:

- Conduct descriptive statistical analyses to summarize the characteristics of the study population.
- Generate tables, charts, and graphs to visually represent the data.

Comparative Analysis:

- Perform comparative analyses to evaluate differences in patient outcomes, provider satisfaction, and antibiotic use between different groups.
- Use statistical tests to determine the significance of observed differences.

Regression Analysis:

- Conduct multivariate regression analyses to identify factors associated with the acceptability and feasibility of the testing system.

- Adjust for potential confounders in the analysis to ensure accurate results.

Qualitative Data Analysis:

- Analyze qualitative data from focus groups and open-ended survey responses using thematic analysis or other appropriate methods.
- Identify common themes and insights related to the implementation and impact of the testing system.

Impact Evaluation:

- Evaluate the impact of the testing system on patient care by comparing clinical outcomes before and after its implementation.
- Analyze time to diagnosis, treatment initiation, and recovery rates.

Provider Satisfaction Analysis:

- Assess provider satisfaction through survey responses, focusing on ease of use, integration into clinical workflows, and overall satisfaction.
- Summarize findings in a clear and concise manner.

Antibiotic Use Analysis:

- Analyze changes in antibiotic prescribing patterns to identify any reduction in unnecessary antibiotic use due to accurate viral diagnosis.
- Interpret the results and discuss their implications.

Data Management:

- Maintain and update the study database, ensuring data security and confidentiality.
- Perform regular data quality checks to ensure the integrity of the data.

Reporting and Manuscript Preparation:

- Prepare detailed reports summarizing the findings of the data analyses.
- Contribute to the writing and preparation of manuscripts for publication in scientific journals.
- Present findings at meetings and conferences as required.

Requirements:

Eligibility/Educational Background (*required*):

Students must be enrolled in an MSc program at the Institute of Health Policy, Management and Evaluation (IHPME).

Bachelor's degree in a relevant field such as Biology, Biomedical Sciences, Public Health, or a related discipline.

Research Experience (*preferred*):

Prior experience in data analysis, preferably in a healthcare or clinical research setting.

Familiarity with statistical software (e.g., SPSS, R, SAS) and data management tools.

Technical Skills:

Knowledge of molecular biology techniques, including PCR and antigen testing.

Proficiency in using electronic medical records and handling large datasets.

Communication Skills:

Strong written and verbal communication skills for preparing manuscripts and presenting findings.

Ability to work collaboratively with healthcare providers and research teams.

Analytical Skills:

Strong analytical and problem-solving skills to interpret complex data and draw meaningful conclusions.

Organizational Skills:

Excellent organizational skills to manage multiple tasks and meet project deadlines.

Ethical Considerations:

Understanding of ethical guidelines and regulations related to clinical research and patient data confidentiality.

Students must demonstrate an understanding of health equity and social justice, as the mission of the Upstream Lab emphasizes the importance of fair access to healthcare and the social determinants of health.

If you have any questions or concerns, contact the Talent Development Coordinator (Dr. Isobel Okoye) at Isobel.Okoye@unityhealth.to