

Research Student- Pharmacy Data

Internal Job ID: 2025-04

GEMINI (www.geminimedicine.ca) is a unique big data platform in the Canadian healthcare landscape using advanced methods and analytics to extract and standardize data captured in hospital electronic health records. We are based out of Unity Health Toronto, St. Michael's Hospital and currently exist at 30+ hospitals in Ontario. GEMINI is a collaborative data and analytics platform for all Ontario hospitals to accelerate research and quality improvement, leading to excellent hospital care.

Position Overview:

GEMINI is looking for a research student to help harness GEMINI's pharmacy data to analyze antimicrobial prescribing rates in a cohort of paediatric patients. Antimicrobial resistance has become a growing public health emergency due to overprescribing in hospitalized patients. The aim of this research project is to gain detailed insights into current antimicrobial prescribing patterns across hospitals, physicians, and patient groups in a multi-center cohort study of paediatric patients – with the ultimate goal of improving antimicrobial stewardship at Ontario hospitals.

The hired student will be a part of Unity Health's [Keenan Research Summer Student Program](#), and expected to be paid between \$17.56 - \$21.95 per hour.

Key Responsibilities:

- Performing literature review and summarizing relevant background literature on antimicrobial prescribing
- Standardizing GEMINI pharmacy data to identify relevant antimicrobial drugs
- Assessing data quality and filtering data to create the relevant cohort for analyses
- Performing descriptive analyses of prescribing patterns and variability across groups of interest
- Identifying groups with inappropriate/higher-than-expected antimicrobial prescriptions
- Visualizing, interpreting, and communicating the main results
- Attending regular meetings with supervisor and other summer students to present the project and communicate progress

Qualifications:

- Currently enrolled as a student in health sciences, data science, statistics, or related program
- Experience with R, including commonly used libraries for data manipulation, analysis, and visualization (e.g., tidyverse, data.table, ggplot2)
- Basic knowledge in statistics (e.g., measures of central tendency and spread) and epidemiology (e.g., prevalence rates)
- Ability to create data visualizations using ggplot2
- Previous research experience is preferred but not required
- Interest in understanding current healthcare practices and motivation to improve quality of care
- A curious mind and a strong drive to learn
- Eligible to work in Ontario, Canada (e.g. Canadian citizenship, permanent resident, study permit, etc.)

Time Commitment:

Full time contract (37.5 hours per week) for at least 10 weeks from May to August 2025. Student will be expected to work in a hybrid environment with the ability to come into GEMINI's office (located at Li Ka Shing Knowledge Institute, Downtown Toronto) at least once a week.

How to Apply:

Please submit your CV/resume and a quick paragraph on your interest in GEMINI (around 100 words) to gemini.data@unityhealth.to with your subject header "**<Your Name> Application for Position 2025-04**".