

Time-Study and Modeling of Pharmacist Activities

A teaching hospital fully affiliated
with the University of Toronto

Project Proposal for MEng Certificate in Healthcare Engineering, University of Toronto

Objectives

- Determine key drivers and input variables that impact pharmacist workload
- Develop a cost-of-service model to predict resource requirements for pharmacists at Holland Bloorview

Background

- Holland Bloorview Kids Rehabilitation Hospital is Canada's largest children's rehabilitation hospital focused on improving the lives of kids with disabilities. Holland Bloorview is a global leader in applied research, teaching and learning, and client and family centred care.
- Pharmacists at Holland Bloorview perform a wide variety of responsibilities in medication management practices at the hospital. This includes inpatient clinical care, outpatient clinical care, quality improvement, research, teaching, and oversight of the medication use system.
- Demands on pharmacy services have increased over time due to changing needs of the population. Increasing client complexity has substantially impacted the pharmacy team, requiring more time and resources to ensure the safe and effective preparation and monitoring of medications for patients.
- A drug utilization study was conducted recently which demonstrated a steady increase in the use of high acuity medications. This is an indirect reflection of the increasing medical complexity of clients at Holland Bloorview. Pharmacist workload data reflects increasing demand for clinical pharmacy activities for direct patient care.
- Drug utilization analysis or workload data alone are insufficient to assess the impact of the changing population on clinical pharmacy services. There is an opportunity to use evidence-based industrial engineering techniques to accurately understand the work of a pharmacist at Holland Bloorview.
- This proactive approach may help the hospital to effectively plan pharmacy services in the future while ensuring high standards of quality and safety in medication management.

Proposal

- Conduct a time-study of pharmacist activities at Holland Bloorview.
- Analyze the time-study in the context of client referral patterns, workload data, decision support data, and key performance indicators.
- Financial compensation: a stipend will be offered to the student for the duration of this project.
- Timing may be flexible: option to complete this project either on a full time basis over 4 months or a part time basis over 2 semesters. Details to be determined with the student.