

Multidisciplinary M. Eng. Projects

2020-2021

Start date: Sept. 21, 2020 Finish date: Aug. 30, 2021

Industry Advisor: Provincial Forensic Pathology Service, and the Office of the Chief Coroner

Project ID: PFPS

Supervisor: Prof. Kamran Behdinan

Disciplines Required: ME (1), IE (1)

NDA: No

Project Title: Systems Improvements at the Provincial Forensic Pathology Unit and the Office of the Chief Coroner

Project Description:

At the Provincial Forensic Pathology Unit and the Office of the Chief Coroner, thousands of bodies come for autopsy each year; in 2019, nearly 5000 autopsies were completed. Many follow a similar process from receipt and accession, through stages of examination, to release to a funeral home. There is some variation in the process that depends on the circumstances of the death and the complexity of the case (e.g. criminally suspicious, unidentified body, etc.). Most bodies are in our facility for a short period (days) while others may stay for a longer period. At present, the storage capacity is approximately 300-400 bodies. The total number of autopsies that are completed in our facility continues to increase.

Given the increasing numbers, there is need to review and improve our processes to optimize efficiency. In addition, and most importantly, improved quality/safety processes/systems are needed to prevent, insofar as possible, critical errors and minimize all other errors. [An example of a critical error is inappropriate release of a body. There are other examples.]

Some examples of some possible project deliverables and some possible solutions are listed below

1. A real-time tracking system to monitor the location of a body in our facility at any given time.
2. A technologic system to ensure that all requirements (to be defined) are met to the that whenever a body is released, the correct body is released at the correct time.
3. A real-time monitoring system for the status of investigations required/completed in order to confirm identity of a body.
4. Process review and design for handling of bodies in their 'journey' through the PFPU, including scheduling of autopsies and allocation of autopsies to pathologists. [Not every autopsy is equivalent; some take under an hour while others may take more than a single day.]
5. Design of a mechanism to ensure that bodies are placed on storage shelves instead of left on gurneys. [Presently, there is a forklift. However, it is cumbersome and not time efficient. Perhaps a redesign of the shelving unit.