

Evaluating the impact of workflow communication tools on the Gamma Knife workflow at the Odette Cancer Centre (*New – Fall 2018*)
Faculty advisor: Prof. Dionne Aleman

Gamma Knife radiosurgery (RS) uses hundreds of narrow radiation beams to treat abnormalities in the brain with sub-millimeter accuracy. At Sunnybrook Health Sciences Centre, Odette Cancer Centre, a multi-disciplinary team consisting of radiation oncologists, therapists, nurses and physicists is involved in patient care and treatment plan generation, which is expected to have short turnover of 2-3 days to treatment. Currently, a combination of paper lists and electronic patient record ticketing are used to coordinate Gamma Knife task assignments. The reliance on manual documentation and uncoordinated records has led to inefficiencies such as miscommunications in task hand-off, uneven workload distribution and rushed assignments, which could lead to suboptimal plan quality, patient treatment delays or overall lower patient throughput. To address these issues, a real-time electronic dashboard and emailing system was implemented that retrieves electronic tickets from the record-and-verify system (Mosaik) and consolidates the RS workflow from all scheduled patient plans into a single, intuitive real-time display. The dashboard software also initiates immediate email reminders to downstream staff when a task is due for completion. The goal of this work is study the impact of the dashboard using both human factors and operations research techniques to establish baseline usability and process performance metrics. It is also envisioned that long-term process improvements and promising additional ancillary technologies (e.g., task assignment apps) will be identified.