

Improving the Endovascular Treatment Process Project

QuICR (Quality Improvement and Clinical Research) Alberta Stroke Program

Executive Summary

This report was commissioned to examine how QuICR (Quality Improvement and Clinical Research) Alberta Stroke Program, an Alberta Innovates: Health Solutions team grant (PI: MD Hill), can reduce the CT-to-puncture for Endovascular Treatment (EVT) for ischemic stroke patients at the Foothills Medical Centre. EVT is a new highly effective therapy for treating ischemic stroke patients (blood clot in the brain). Due to the nature of strokes, it is critical to reduce treatment times as a patient's conditions worsens each minute their brain is experiencing a stroke. However, due to the variability and the complications that can arise during stroke treatments, we limited our scope of work to focus solely on routine EVTs that do not require additional specialty staff, such as an anesthesiologist.

The methods of analysis used were both quantitative and qualitative data analysis. This includes, but is not limited to, trend analysis, statistical analysis, interviews and observation, and process improvement methods. Additionally, we also relied on references, such as medical journals and data software, to provide further in-depth analysis into the data we gathered first-hand.

The results of the analysis draw attention to specific areas of delay in the EVT process. The delays that present are: the triaging process when the patient arrives; waiting for the EVT team, more specifically the angio RN and technician, to arrive during off-hours; the patient not being prepared for the EVT team before they arrive during off hours; having to perform the EVT in the secondary angio suite; time spent switching the Emergency Department heart monitors before EVT commences. Our data analysis also showed that interventionists' mean puncture-to-reperfusion times improve with the number of EVTs that he/she performs. Additionally, analysis highlighted that EVTs require strong leadership skills, as this helps provide clear direction for the team.

The short-term recommendations we have for the QuICR group are: that a patient positioning poster should be implemented to be used as a reference for off-hour staff to prepare the patient for the EVT team; that porters should be used to return the Emergency Department's heart monitors and stretchers after the EVT has been completed, and that a leadership education day be made available for staff. The key longterm recommendations that we suggested is to change in the staffing/schedule so that the angio nurse and technician are in-house until 11pm, which would not require any additional resources. Other longterm recommendations include an EVT preparation education day, and FMC should label the angio suite for organizational efficiency. Last, we recommended projects for future research.

