



Evaluating benefits is an important component of the connecting South West Ontario (cSWO) Program that helps to support and demonstrate the realization of health system benefits through the adoption of electronic health records (EHRs). By pursuing the measurement of organizational value (improvements in the efficiency of care delivery such as time-savings and redirected resources) and clinical value (patients undergo fewer unnecessary tests, patients have improved access to care), patients ultimately benefit from higher quality, better informed clinical decision-making.

The cSWO Analysis and Research program uses a research-based approach to identify areas of clinical best practice that are affected by the use of EHRs, and works collaboratively with clinicians to understand the value of EHRs. This formative evaluation process informs change management and adoption, and enables clinicians to use EHRs more effectively. This research does not include the use of any personal health information.

This document is one in a series of case studies which describe the clinical value of EHRs in different clinical settings and contexts, particularly with respect to clinical best practices. The work of the cSWO Analysis and Research program is ongoing; depending on the circumstance, these cases occasionally raise questions for further investigation, and clinicians are invited to participate in analysis and research to continue to develop these answers.

## Value statement

Access to electronic health records (EHRs) through the cSWO Regional Clinical Viewer, ClinicalConnect™, supports streamlining of the intake process for urgent neurosurgical assessment and intervention referrals at the regional centre located at Hamilton General Hospital (HGH).

## Management of neurosurgical conditions at regional centres

Neurosurgery is a specialized area of medicine that uses surgery and non-surgical care to manage disorders of the nervous system. Neurosurgical conditions are a major cause of disability, morbidity and mortality. Since the incidence of neurological conditions increases with age, the burden of these conditions and associated costs on individuals, their families and society may increase as Canada's population ages. Ontarians who need neurosurgery – whether it is emergency/urgent or planned – can and should be treated in Ontario's neurosurgical centres in a timely manner.<sup>1</sup>

Hamilton General Hospital is the Regional Neurosurgical Centre for Central South Ontario, one of 13 regional centres in Ontario, which serves adults in a catchment area of 2.2 million residents within the Hamilton Niagara Haldimand Brant (HNHB) and Waterloo-Wellington (WW) Local Health Integration Networks (LHINs). The centre admits about 300 neurosurgical spine patients per year and an additional 450 orthopaedic spine patients per year to its specialized spine unit. Approximately 800 patients undergo brain surgery procedures annually and are admitted to the Clinical Neurosurgery unit.<sup>2</sup>

## Access to EHRs streamlines the urgent referral intake process

The Clinical Nurse Specialist (CNS) responsible for the intake of urgent neurosurgical services referrals for the 6 West Spine and 7 West Neurosurgical units at HGH receives and processes between fifteen and twenty referrals a week from physicians at hospitals within the HNHB and WW LHINs. Key information about each referred patient, such as diagnosis, physician notes, patient history, medications, diagnostic images and lab results, is required to augment decision-making, knowledge translation and the waitlist process. Figure 1 below shows the typical workflow for processing urgent referrals (i.e. surgery required within three to five days) and highlights where access to ClinicalConnect has had the greatest impact. Without access to ClinicalConnect, the CNS would have to contact the physician or charge nurse to obtain the additional information needed which could take considerable time, potentially impacting the surgery

schedule as well as the surgeon's/charge nurse's time. As most of the required information is available in ClinicalConnect, this process has been streamlined and the need for phone calls/faxing has been reduced.

Access to the patient's EHRs not only saves time in processing the referral, but also gives the CNS a better sense of the patient's history before contacting the sending facility, and can often provide care suggestions while the patient is awaiting services.

The patient must be monitored on a daily basis for any changes that would prevent the intervention from proceeding. With ClinicalConnect, this can be easily done without the need for a lengthy call to the charge nurse at the referring facility to get an update on the patient's condition.

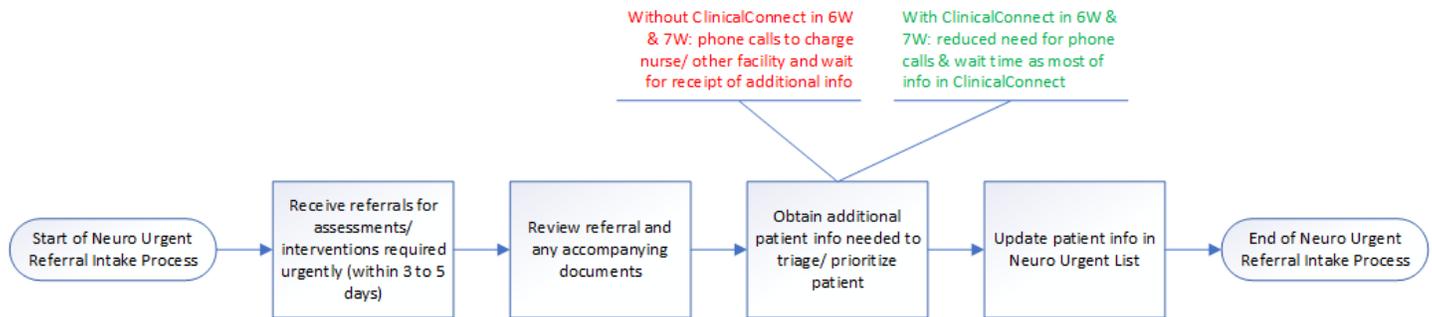


Figure 1: Neuro Urgent Referral Intake Workflow

## Testimonial

“ClinicalConnect enables me to gain real time data for patients requiring urgent neurosurgical services. When our neurosurgeons require me to follow up with patients in the community, I can easily access all relevant clinical information. The information obtained from ClinicalConnect directs our decision making and we can work with our community partners to obtain the best care in a timely manner. ClinicalConnect provides data about the patient that is significant and comprehensive. Without this valuable resource, my work would be much more difficult and less efficient.”

Sue DiSabatino, CNS, 6 West Spine Unit

## Questions

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## Sources

<sup>1</sup> Rutka, J. (2007). Report of the Neurosurgery Expert Panel. Ontario Ministry of Health and Long-Term Care

<sup>2</sup> Hamilton Health Sciences Neurosciences Program. (2018). Retrieved from: <http://hamiltonhealthsciences.ca/body.cfm?id=241>