

Promising Practices In Research Use

Organizations investing in people, processes, and structures to increase their capacity to use research

Number 19, November 2008

Dispersing the crowds:

How a health region is being guided by evidence and theory to chip away at emergency department overcrowding

Emergency department (ED) overcrowding can intermittently plague hospitals across Canada. Fingers point at factors such as too many people using the emergency department, efficiency issues within the department itself or a lack of inpatient beds.

The Calgary Health Region is no stranger to ED blockages. There, the wait for an initial assessment by an emergency physician for patients classed third (urgent) in a five-level priority ranking is four times longer than recommended national guidelines, and twice as long as Ontario's median wait time.

According to the Ward Flemons, the region's vice president of health outcomes and a fellow of the Executive Training for Research Application (EXTRA) program¹, the perceptions of ED overcrowding are moving from being viewed as simply a departmental problem to a larger systems issue. He suggests that it is important for hospitals to examine all facets of the issue, including the reasons that people come to the ED (the input side), what happens to patients when they are in the hospital (the throughput side), and how they are moved out of the system (the output side).

Dr. Flemons' EXTRA intervention project took a systemic approach to decreasing the time it took for a patient to be seen by an emergency physician. In looking at the literature, however,

Key messages

- ED overcrowding is a concern across Canada and is recognized as a system issue, involving "input" (ED demand), "throughput" (ED efficiency) and "output" (ED discharge/hospital admission) issues. However, there is little literature on system-based interventions.
- The implementation of multiple intervention projects across the ED system – from input to output – can result in a number of successful and potentially replicable projects, extensive staff buy-in, and an acknowledgement that ED overcrowding goes well beyond the ED.
- Projects of this sort demonstrate the trade-offs between a system-wide approach and a single focus: the former improves chances of achieve a system level impact but decreases chances of early success; the latter improves chances of early success but decreases chances of system-wide impact.

he found little published research on system-based interventions. "Most research is on the throughput stage – on elements within the ED itself," he notes. "Yet most experts in the field are certain that the biggest piece of the puzzle is at the output end; namely, a lack of inpatient beds for those needing admission."

Are you interested in bringing this practice to your organization? The Foundation may be able to help. Please visit www.chsrf.ca/promising for information. You can also find more stories about how organizations are increasing their capacity to use research and tell us your own stories, which may be used for future installments of this series.

¹ The EXTRA program is supported by a group of partnering organizations and managed by the Canadian Health Services Research Foundation. More information about this program and its partners can be found at www.chsrf.ca/extra.

Dr. Flemons used the literature to design numerous intervention projects to cover the whole system from input to output – about 30 projects across various sites and services. The overall project, named GRIDLOCC (Getting Rid of Inappropriate Delays that Limit Our Capacity to Care), used an approach based on the Theory of Constraints, which stresses dealing with the most serious impediments first. Six-sigma process improvement methods and the Lean Thinking Method were also used in many of the projects.

On the input side, one project assessed ED arrivals to see if there were other care pathways available for certain groups. “But there were no low-hanging fruit,” says Dr. Flemons. “We couldn’t identify any groups for which new primary care models would likely result in a substantial reduction in ED demand.”

On the throughput side, the project teams focused on two areas: improving work and patient flow to reduce length of stay for patients being discharged or sent home; and reducing the time from the initial ED consult request until the decision to admit was made. One team discovered that ED physicians spent 51% of their time traveling between patients. They redesigned patient flow so that doctors remained in zones designated for different patient categories. As a result, time spent with patients rose from 14% to 59%, travel time dropped from 51% to 4%, and the median wait time for patients’ initial assessment by an ED doctor fell by 21%.

For more information,
contact Ward Flemons at
[Ward.Flemons@
calgaryhealthregion.ca](mailto:Ward.Flemons@calgaryhealthregion.ca).

Output strategies accounted for the majority of GRIDLOCC projects – all looking at ways to speed up hospital admitting and discharging processes. One team found that it took 27 forms used by different providers to process a discharge order for a patient, and seven hours for a new patient to occupy the room. The team was able to eliminate most of the forms and reduce the interval to one hour.

“We’ve had a number of very successful projects like this, many of which we can replicate across the region,” says Dr. Flemons, “but we haven’t yet made a permanent dent in overcrowding.” He knows that the approach of trying to improve several issues concurrently to achieve a system level impact would make early success challenging.

“We’ll continue to work on it,” he says, “because though we’re convinced that the biggest impediment is the region’s ongoing 100% inpatient bed occupancy, we see opportunities like a new region-wide patient information system, which can help us chip away at admission and discharge procedures.”

Dr. Flemons is happy with individual project outcomes, but underlines some broader successes as well. “For example, front-line employees have bought into the concept of improvement, as they had the power to fix inefficient processes themselves, rather than having change imposed from on high. We successfully got diverse groups thinking in the same way about the same problem. Above all, we effectively demonstrated to the entire organization that ED overcrowding is not just an ED issue.”