

Emergency department overcrowding: a system-wide proposal to solve a systemic problem

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In this month's volume of EMERGENCIAS two papers are presented that report on attempts to improve hospital patient flow. In the first¹, Marin and co-authors describe their experience, including economic impact, with an "Emergency Hospitalization Unit" or Short Stay Unit at Fundación Hospital Calahorra. (Calahorra, La Rioja), while in the second Antoni et al report on administrative efforts to improve in-patient flow and its effect on boarding patients in the emergency department (ED) at Hospital Sant Boi de Llobregat (Barcelona).

Both reports show positive impacts on costs and flow without apparent negative impact from the interventions studied. They are included here mainly because of their interest to emergency providers looking to ease overcrowding in the ED's.

The short stay unit is an extension of the emergency department, a buffer between the ER and in-patient wards. Pressures from newly arriving patients require relatively rapid disposition decision-making on emergency patients within hours of arrival. Busy ED's are staffed and run to provide care in real time 24 hours/day – allowing discharge at any time of day or night as soon as possible. However in-patient wards are run differently. Physicians usually round only once or twice/day, access to imaging and other key resources are more limited, and discharges usually only take place during sunlight hours. There are some patients who can be assessed and/or treated, if the resources are available, with an intermediate duration and intensity somewhere between that of the newly arrived ED patient and that of the ward patient. Such units, either within or beside an ED, usually have target length of stays of

24-48 hours or less. For efficiency, patients should be selected who have a low likelihood of admission beyond the unit; perhaps 20-30%, or the unit risks becoming blocked by boarded patients with no in-patient beds to go to.

The benefits of such units will depend on the gap between efficiency of care in the ED/short stay unit and the ward. Experience however validates the outcomes cited here; a properly constituted and efficiently run ED short stay unit can reduce length of stay for these patients by 1 – 3 days. Economic savings will depend on how the hospital is funded, what use they make of the increased capacity and other factors that will vary locally and by system.

The paper by Antoni *et al.* includes an excellent review of the widespread nature of the problem of ED overcrowding and its negative potential impacts^{3,4}. They also review the factors contributing to overcrowding; pre-emergency factors that drive demand for emergency services, size/capacity of the ED and its efficiency of processing, and flow out from the ED to the hospital wards. They report on the efforts at their own hospital to improve ED outflow (among other benefits) by improving overall hospital patient flows. My own jurisdiction, Ontario, Canada is currently in the final year of a multi-year ambitious approach to ED overcrowding across the province.

Ontario is the most populous province in Canada with over 13 Million people (1/3rd of Canada's population). Health care is publicly funded in Canada, but service delivery is the jurisdiction of the province.

In Ontario there are approximately 70 hospitals with ED's whose census is over 30,000 visits/year, spread over a huge geographic area,

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RECEIVED: 25-5-2010. **ACCEPTED:** 28-5-2010.

CONFLICT OF INTEREST: None

and approximately another 60 smaller units in rural centres. ED overcrowding has been a problem in Ontario for many years⁵, and had been blamed for some tragic cases involving delays in provision of care to newly arriving patients. Overcrowding had also led to high rates of ambulance diversion, problems with staffing of units with physicians and nurses due to high stress and low morale and was generally becoming a political problem. In response to these pressures the government commissioned a report on the subject in 2006⁶. The report reviewed the problem of overcrowding in general and made many recommendations but the key elements of the report were;

- ED crowding is due primarily to sick patients who need care and often in-patient beds, not inappropriate ED use by patients with low acuity problems (they require few resources). Thus reducing ED demand is a small part of the solution.

- ED crowding is most commonly due to the boarding of in-patients lacking beds for extended periods – reducing or eliminating this should greatly improve ED efficiency.

- The problem is system-based, and related to lack of incentives, or even perverse incentives for hospital administrators, as well as problems in the wider health care system. It is beyond the capacity of individual hospitals to solve alone- it requires a system response.

The government responded with a major investment of effort and funds to try and solve the problem definitively. They appointed an expert panel to advise on their strategy (I have been a member of the expert panel since inception and am currently the acting co-chair). Total investment is roughly \$500 Million Can (approx. \$350 M euros) over 3 years. The program began officially April 1, 2008. The approach has been summarized by one of it's architects as "data, money, and shame" and built on experience reducing waiting lists for scheduled surgical and imaging procedures in the province. The key elements were;

- Ordering hospitals to report a common data set to the government monthly (we now have province wide data on a host of indicators within 3 weeks of month end). This is "the data".

- Setting targets for length of stay of ED patients based on triage acuity and disposition – target for patients being admitted is 8 hours from arrival to departure to unit, for discharged patients target is 4 or 8 hours based on arrival acuity. Overall goal for the program is to have 90% of patients seen within target by end of March, 2011.

- Hospitals receive targeted funds each year contingent on meeting hospital specific improve-

ment marks in achieving targets. This is called pay for performance; the "money".

- Hospital performance is publicly reported (the "shame")⁷.

Other features include an expert panel to advise government on program planning, an intensive coaching program for hospitals to provide staff with information on best practices, introduce them to LEAN management techniques etc..., and a major effort to improve hospital outflow by reducing the number of patients in hospital wards waiting for care in non-acute facilities such as nursing homes, rehabilitation centres etc...

After two years the results are mixed; the ED reporting system is a great success, some hospitals have achieved dramatic improvements in flow, and ambulance offload delays and diversions have largely been solved. We are likely to achieve our targets of 90% of discharged patients treated and released within the benchmarks by the end of this fiscal year. However, some hospitals have not made significant improvements yet. The improvement in flow of admitted patients overall is modest (provincially as of March 2010 only 40% of patients are being admitted within the target) and the effort to create capacity by reducing in-patients waiting for alternate levels of care has had only some local success stories. However, changes have been made to the program in year III which we hope will build on our success so far and target efforts better in those areas that need attention.

At the unit level, and the patient experience level, I believe the changes have been significant and worthwhile. At my own facility, Mount Sinai Hospital, an urban academic centre in Toronto, flow is dramatically improved, morale is better, patient satisfaction is better, conflict between triage and ambulance staff has disappeared. In October 2009, due to H1N1, Ontario had a record volume of ED visits (450,000 visits compared with expected of 400,000), but flow performance improvement was maintained, demonstrating the sustainability of the improvements in the face of a significant volume surge. The surprising thing so far is that the improvements have been largely due to coordinated efforts to improve processing within ED's as flow out of the ED is only modestly improved.

One of the most successful and widely adopted strategies within ED's has been what we have called "RAZ" for Rapid Assessment Zones. To prevent stretcher gridlock, an area in the ED is set aside for an internal waiting room, and patients who are able, wait in a chair, only using the

stretcher when the doctor examines them, for nursing procedures etc... and at all other times they wait in the chair. Patient acceptance has been surprisingly good.

Perhaps the greatest barrier to solving ED overcrowding is an attitude of nihilism, that nothing can be done. Efforts at the individual unit and hospital level to improve flow are to be supported, reported and celebrated. However, ultimately the experience in Ontario and other jurisdictions^{4,8,9} prove ED overcrowding is a system problem requiring a system solution.

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