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# Highlights from the issue

doi:10.1136/emered-2014-204595

Ellen J Weber, *Editor in Chief*

## Editor's choice: Initial validation of the International Crowding Score in Emergency Departments

As I wrote in my inaugural editorial last January, emergency medicine shares a common set of challenges regardless of where you practice, and ED crowding is one of the biggest.

In 2012, a Delphi study of emergency physicians from the USA, Canada, UK, Australia, The Netherlands and Hong Kong led to derivation of the International Crowding Measure in Emergency Departments (ICMED). ICMED defines crowding thresholds for 8 measures routinely measured by EDs. In this issue, Boyle and colleagues report on the first prospective validation of the ICMED in 4 hospitals in England. They compared providers' subjective impressions of crowding and danger with the number of measures that exceeded the threshold. As 'violations' increased, so did physicians' concerns; 3 or more violations had PPV+ of 100%, although the NPV was more variable. The AUC for the score was 0.80% somewhat below NEDOCS and EDWIN, both of which are well-validated but have their own limitations. Obviously the next step will be to see if the international score can be validated...internationally.

## Who are all these (WAAT) people?

Answer: Boarders. One of the best titles ever for an article about crowding, this quote from a visitor to the ED at Beaumont Hospital in Dublin Ireland prompted Gilligan and colleagues to survey the Beaumont ED 3 times a day for a month and determine the stage of care patients were in. In a somewhat fascinating (if you like this sort of thing) snapshot of the department, at any one time, 2.9% of patients were being triaged, 21% were undergoing assessment by ED clinicians, 9% were awaiting review by the on-call team and 67% were awaiting a bed, having had a full ED assessment and having been accepted by the on-call admit team.

Which leads to our editorial. "The paradox of crowding is that those who are most affected, emergency department staff and patients, are least able to influence beneficial change" writes Adrian Boyle. The commentary focuses on guidance issued by the UK College of Emergency Medicine to

address crowding. "Emergency physicians have a useful overview in developing hospital-wide full capacity plans" Boyle says. "The guideline should help reduce the harms from crowding by providing a consistent message for clinical leads in emergency departments to share with their managers and the wider hospital."

## Improving treatment of stroke

Recognition of stroke patients by prehospital personnel and pre-alerting EDs has been shown to shorten time to CT and treatment in the US, Australia and other countries. However, the frequency of prehospital recognition and pre-alerting varies, and the tools used to recognise stroke differ. In the first UK study of prehospital stroke recognition, Sheppard *et al* found that EMS staff performed the FAST in 93% of patients later diagnosed with stroke, but it was positive in only 75%. Time of symptom onset was recorded in 67%, and the ED was pre-alerted in 44% of cases. Each of these factors was statistically associated with a timely CT ( $\leq 1$  hour), but alerting the ED had the greatest impact. Of course, pre-alerting requires recognition of an eligible patient, but the other message here is: "if you see something, say something."

In another study focused on time is brain, investigators in the AGWS (Avon, Gloucester, Wiltshire and Somerset) Stroke Network implemented a pathway, similar to the so-called 'Helsinki protocol' to improve call-to-needle time. 7 hospitals and 2 ambulance services participated; results were monitored for 6 months. Multiple interventions were used including pre-alerting, and patients going directly to CT on hospital arrival. Kendall *et al* report that, compared with the pre-intervention period, door-to-needle time decreased by 19 minutes on average and the proportion of patients receiving thrombolysis within 90 minutes doubled from 12% to 24%. As in most quality improvement projects, determining which intervention was key is difficult, and perhaps simply greater attention to the problem is responsible for the impact. It would be interesting to know if this improvement has been sustained.

## Are you missing myocarditis?

When a child presents with fever, vomiting and shortness of breath, is your first

thought: myocarditis? Pediatric myocarditis is notorious for mimicking other childhood illnesses and showing few cardiac signs. Chong and colleagues, using a retrospective case-control design, identified 5 findings independently predictive of myocarditis: respiratory distress, poor perfusion, hypotension, abnormal chest x-ray or any ECG abnormality. AUC was 0.90 (.83. to 0.97). The presence of 2 or more of these elements had a true and false positive rate of 90% and 23%, for an LR + of 3.9 and LR- 0.13.

## Gender discrimination in pain management? Not here

Disparities in pain management based on patient gender have previously been reported, but a prospective study conducted in an Israeli ED by Uri *et al* found no evidence of gender-related bias. Male and female patients with musculoskeletal complaints completed a 100-point VAS and were found to have similar mean levels of pain. Amounts and timing of pain medication were similar, and patients experienced similar pain relief. The authors postulate their results differ from prior studies due to the use of the VAS, perhaps facilitating more objective evaluation of the patients' pain.

## Can a Health Information Exchange reduce CT scanning?

CT utilisation in the ED has grown exponentially in the US (and other countries); one target for reduction is duplicate scans. It's suggested that an electronic health information exchange (HIE) would eliminate scans for patients who had recent CTs at other hospitals. A study by Kamat and colleagues suggests this expectation, like many other hopes for electronic records, may be overly optimistic. At two EDs in Rhode island, physicians ordering CTs for patients known to have had a scan within 30 days at another facility were asked whether having the report or even the image would prevent them from ordering this one. In only 0.4% of cases physicians said they would not order a repeat scan. It was a hypothetical question, and real practice may differ, but the results suggest that the HIE may not have as big an impact on scanning as we think.

