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Highlights from the issue

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Paul M Middleton

Editor's Choice: ED and GP patients

Causes of Emergency department crowding are complex, but the proportion of 'inappropriate GP patients' has often dominated the debate. Recent Australian research suggested that ~10% of patients could be classified as appropriate for general practice, whilst demonstrating that the preferred government methodology doubled these figures.

In this issue, Harris and McDonald investigate the case-mix of patients attending ED, GPs, a walk-in clinic (WIC) and an out-of-hours (OOH) telephone service. There was a similar case-mix of presentations to the WIC, OOH and GP, with the only difference being respiratory illness presented more frequently to GPs. Injuries were 12 times as likely to be seen in ED, whereas non-traumatic musculoskeletal conditions were twice as likely to be seen in GP practice. Patients were also 4 times more likely to present to ED with chest pain suggestive of myocardial ischaemia as compared with non-ED sites.

These findings, although based on a small sample of a highly diverse population, demonstrate that patients are making relatively sophisticated choices. This paper highlights that, rather than concentrating on the blunt tools of "reducing 'inappropriate' attendances", governments need to take note of Gerry Fitzgerald's comment that there are "...not general practice patients or ED patients; there are just patients, who need medical care", and our job is "...to understand those needs and to provide accessible, affordable and quality services that meet those needs. Patients should not be blamed for our failure to do so."

Sepsis survey

Almost 13 years ago, Manny Rivers changed the paradigm for the sepsis syndrome with the outcomes of Early Goal Directed Therapy (EGDT). Since then, studies from PROCESS to ARISE have suggested that EGDT is not in itself more successful in preventing sepsis mortality, but that a high-quality, process-of-care approach results in the best outcomes. Jiwaji *et al* surveyed ED and ICU consultants across Scotland, with a 2/3 response rate, and compared approaches to sepsis resuscitation. Almost 90% of ED consultants used normal saline to resuscitate, compared to only a quarter of ICU consultants; many of the ICU group preferred Hartmann's, but 63% used gelofusine, despite little evidence for its benefit. Half

as many again ICU consultants initiated central venous and intra-arterial monitoring in the ED compared with ED consultants, and similar proportions used specific transfusion triggers. This variability suggests the need for harmonisation of approach with the patient remaining the central concern, whoever is providing care. In a time-critical environment, recognition of which is an undoubted result of Rivers' work, ED and ICU need to work towards common skill sets and protocols to ensure that early recognition, source control, antimicrobial therapy, fluid resuscitation and escalation remain the fundamental goals of sepsis treatment.

Basic Life Support

Exponentially growing levels of evidence supports the primacy of early recognition of cardiac arrest, immediate instigation of high-quality CPR and urgent defibrillation. In the last 20 years, ubiquitous courses in BLS train essential psychomotor skills, but these skills deteriorate in weeks or months. Video-based Practice While Watching (PWW) programs, with participants observing a standardised video with an instructor, have been successful in initial skill teaching and maintenance, but Na and colleagues investigated a novel small group discussion and debriefing (SGD) program, allowing participants to watch themselves and discuss with an instructor. 2000 people were studied. Healthcare professionals' (HCPs) performance of compression skills was better using SGD compared to PWW methods, but showed no difference in non-compression skills (ventilation, AED use etc). In non-HCPs there was a significant improvement in both sets of skills using the SGD method. This interesting study points the way to possible mass-instructional methods that could be highly useful in community and HCP education in order to improve the often dire outcomes of cardiac arrest.

Capillary refill

Although normal finger capillary refill time (CRT) is considered to be less than 2 seconds, upper limits of 4 seconds may be seen at the chest or foot, and in the upper CRT limit in neonates may be up to 5–7 seconds. Longer times are seen in lower extremities and lower skin temperatures. Schriger and Baraff also showed that CRT varied with age and gender, with approximately 2 seconds for children and men, and longer times for women and the elderly.

We know that turning a continuous variable into an ordinal or categorical variable loses both information and precision, but clinical practice often demands these simplifications. Mrgan and colleagues assessed the relationship between CRT and with mortality as both categorical and continuous variable in 3000 patients. Although based on limited data, multivariate analyses showed no relationship between CRT and either 1 or 7 day mortality when used as a categorical variable, as in the Trauma Score, but when used according to the Schriger and Baraff definitions, CRT was associated with odds ratios of mortality of 5.8 and 4.2, with, however, very wide limits of agreement. The authors concluded that CRT should really be used as a continuous variable, but implementation of this statistically sound approach will be challenging without substantial further research.

Light rather than heat in stroke?

Stroke treatment over recent years has generated a lot more heat than light, but no one can disagree that stroke evolution is time-dependent. The PIL-FAST study casts an intriguing light on the challenges of research into a time-dependent pathology, seeing the patient journey as an emergency care continuum and implementing pre-hospital interventions.

This pilot study by Shaw *et al* investigates the ability of an ambulance service to implement a randomised controlled trial (RCT) in the prehospital phase of stroke care, treating hypertension using lisinopril or placebo. The truly illuminating aspects of this study are the difficulties encountered, and the subsequent limitations imposed on this research. Of 1463 suspected stroke admissions only 40 fulfilled inclusion criteria, and of these only 14 were recruited; some missing enrolments were caused by the attendance of a PIL-FAST trained paramedic to only one third of cases, with only 58% of those patients being enrolled. 76 from an eligible 200 paramedics volunteered to be trained in the research protocol. Paramedic concerns about longer scene times among those recruited did not materialize. A new paramedic record system was introduced during the study, preventing the investigators to review the entire trial period. Most worrying, these groups identified concerns relating to 'professional boundaries' despite apparent 'enthusiasm for research'.

