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doi:10.1136/emered-2017-207009

### Clinical pharmacists improve practice in emergency departments

There are 2 studies in this month's issue which show the benefits of clinical pharmacy input in the setting of an emergency department (ED). It is a relatively high risk area for drug medication errors as there is a fast turnover of large numbers of patients, the use of drugs which include those with significant toxic effects as well as potentially life threatening impacts, plenty of opportunity of miscommunication and many interruptions to nursing and medical staff whilst carrying out prescribing duties and administering therapeutic agents.

### Clinical relevance of pharmacist intervention in an emergency department

The first study looked at the impact of a clinical pharmacist working between 8 am to three pm Monday to Tuesday over a non-consecutive 6 month period in an ED with over 100 000 attendees per year. There was an electronic prescription system and a short stay facility (for 24 hours maximum).

Severity scales that looked at the drug errors and their potential impact of patient's well-being, the clinical impact of the intervention by the clinical pharmacist were used as outcome measures. About 10% of patients were reviewed, over one fifth of whom were in the short stay facility, of whom 13% were finally admitted to hospital.

The majority of activity was to prescribe drugs that the patient was on at home or to give a suitable alternative from the hospital formulary. Other trends noted included the 'over prescription' of certain drugs like omeprazole and simvastin. There may have been a Hawthorne effect as there was not a rise or drop in the error rate of 'high alert medications and increased errors or interventions' as compared with other studies.

### Developing a decision rule to optimise clinical pharmacist resources for medication reconciliation in the emergency department

The second study produced a clinical decision rule (CDR) for the identification of patients admitted from ED with discrepancy in the initial medical history taking about medications.

This was a study based on looking at 3592 patients and using variables such as age, gender, the medical discipline who admitted them, when in the year they were admitted and if there were any high risk drugs administered, among other factors. The purpose was to reduce error and to save time in the ED (the gold standard of a complete assessment by a clinical pharmacist was 20min, with an estimated average number of 20 such assessments being possible in a working shift.

The most common error found in validating this was the omission of drugs that the patient was taken when looking at routine clerkings. In the final CDR chosen for ED, there were the advantages that many of the fields were already included in routine data collection as part of the patient's journey to being admitted (reducing time and the need for repeated history taking). Key features for future developments are to quantify the potential benefits associated with the use of the CDR from a patient perspective, and as with the first study, health economic modelling would be an important addendum in prospective work.

### Validating the Manchester Acute Coronary Syndromes (MACS) and Troponin-only Manchester Acute Coronary Syndromes (T-MACS) rules for the prediction of acute myocardial infarction in patients presenting to the emergency department with chest pain

This observational study was to validate and compare both rules in an Australia and New Zealand ED settings. The results showed that both could determine low risk patients, with sensitivity results of

99%, MACE identifying 10.7% and T-MACS in 19.8% of patients with acute MI at 30 days.

### 'The year of first aid': effectiveness of a 3 day first aid programme for 7-14 year-old primary school children

Can you teach young children adult BLS, use an AED, managing an unconscious patient, deal with haemorrhage and calling for an ambulance?

The answer is yes to most of the parameters recorded- after teaching, by theoretical knowledge and skill teaching, there was a marked improvement in the delivery of performing BLS including giving ventilation and chest compressions and using of an AED in over 90% of children. The height, weight, age and BMI played a part in the ability to deliver adequate force required to have chest compressions. This is not surprising, given the change in muscle bulk and maturation of the fibre types with the onset of adolescence. This links to the annual Restart a Heart Day on 16<sup>th</sup> October when children across Europe are taught basic life support ([www.erc.edu](http://www.erc.edu); [www.resus.org.uk/events/rsah](http://www.resus.org.uk/events/rsah))- in the UK, last year over 150 000 children received training. The conclusions of the article that 'beginning first aid education in schools is strongly recommended' should be legally mandated- other studies have shown that although very young children may not be physically capable of producing adequate force for chest compressions, they are able to instruct others (and often teach their parents at home what to do, after learning about it at school!)

### Emergency department care of childhood epistaxis

What works? This review looks at 32 articles after a comprehensive literature search and provides a framework of treating active and recurrent nose bleeding. A very practical and useful guide to a common problem.

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