Implementation of electronic prescribing to improve quality and efficiency of anaesthetic pre-operative assessments at Royal Brompton Hospital.

Primary Author: Arianna Gaspari Medical Doctor (Italy), Anaesthetic and intensive care trainee (Italy)
Royal Brompton Hospital (London, UK), University of Modena and Reggio Emilia (Italy)

Co-Authors: Sara Mele, Medical Doctor (Italy) and anaesthetist and intensive care doctor (Italy); Siân Isobel Jaggar, MBBS FRCA FFPMRCA MD CertMedEd;

Abstract:
The development of paperless clinical systems is considered desirable to improve operational efficiency and patient safety. The 2016 Guidance from the Royal College of Anaesthetists endorses the adoption of such electronic systems for preoperative assessment1.

An electronic prescribing system has recently been introduced at the Royal Brompton Hospital for electronic medication in level 1 areas. Individual clinical data such as weight, allergy status, venous thromboembolism assessment should be input on admission, making them available to all the healthcare givers. If electronic prescribing is correctly used, it is possible for anaesthetists to conduct pre-operative assessment and prescribe premedication as soon as the operating schedule is published. However, if initial data is missing, this is not possible, delaying appropriate documentation of premedication. Some individuals had been unhappy about the situation following introduction of the system. We ran an audit on the use of the new electronic prescribing, in order to analyse level 1 healthcare givers’ compliance with this system, aiming to improve the quality and efficiency of anaesthetic pre-operative assessments.

The main conclusion was that, despite electronic prescribing files being created for 96.2% of hospitalised patients, only 9.6% had all the clinical data available. This reduces the ability of anaesthetists to promptly document pre-operative assessments and pre-medications.

Introduction:
A new electronic prescribing software system has recently replaced the paper drug chart in level 1 areas. This aimed to enhance safety and facilitate rapid, remote access to data. Anaesthetists should be able to start pre-operative assessment and prescribe premedication as soon as the list of scheduled activity is published. Unfortunately, patient data on the system appeared to be frequently missing at the time of anaesthetic review, resulting in delays to the process.

The Guidance on the provision of Anaesthesia services for pre-operative assessment and preparation1 from the Royal College of Anaesthetists in 2016 stated the importance of a prompt recording and storing of patient data on an electronic system for pre-operative assessments.
We conducted an audit, evaluating the quality of patient-related information availability on electronic prescribing at the time of anaesthetic pre-operative assessment. This included: weight, allergy status and venous thromboembolism (VTE) assessment.

Methods:

Data input to the electronic prescribing system for inpatients scheduled to undergo elective cardiac surgery or cardiac catheter procedures was assessed for completeness on five consecutive days in May 2017. Particular attention was paid to the status of weight, allergy documentation and VTE assessment, which is necessary to safely prescribe premedication.

Results:

During the period of observation, 52 patients fulfilled the inclusion criteria, 33 (63.5%) surgical patients and 19 (36.5%) for cardiac catheter procedures. All but one patient had been admitted when the operating schedule was published and electronic prescribing files were available for 50 (96.2%) patients.

In only 6 (11.5%) cases was the patient weight documented on the system, allergy status was available for 37 (71.2%) patients and the VTE assessment was completed for 23 (44.2%) patients. As a result, it was possible to run the full assessment and safely prescribe premedication only for 5 (9.6%) patients whose clinical data were fully documented.

Conclusions:

This audit highlighted the need to improve the collection of patient clinical data on electronic prescribing systems to allow a prompt and safe preoperative assessment. On the basis of the results, we suggested possible solutions to improve quality and efficiency of pre-operative assessment.

A communication campaign regarding the importance of recording weight and allergy status on the system resulted in the suggestion that these data could be input by nursing staff at the time of collection.

Secondly, since the VTE assessment is compulsory to prescribe drugs on our electronic prescribing system (although not strictly necessary for anaesthetic pre-operative assessment) we discussed with the electronic prescribing and medicine administration (EPMA) team gaining exemption from VTE assessment for the anaesthetic group.

This work highlights the importance of ongoing review following introduction of new systems aimed at enhancing patient safety. Whenever novel systems are commenced it is likely that unexpected glitches will occur, and to minimise their negative impact it is important to actively review such changes.

References:

1. Guidance on the provision of Anaesthesia services for pre-operative assessment and preparation 2016 (Royal College of Anaesthetists).