A quality improvement project to increase accuracy of venous thromboembolism prophylaxis prescribing by improving documentation of patient weight

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Introduction

Hospital-acquired venous thromboembolism (VTE) accounts for 25,000 deaths in the UK each year, of which 50% are preventable with appropriate pharmacological and/or mechanical VTE prophylaxis (1).

Low molecular weight heparin (LMWH) is the most evidence based option for pharmacological prophylaxis (2), which requires dose adjustments depending on patient weight (3). Therefore, in order for accurate and safe prescribing to occur the patient’s weight should be known and documented on the drug chart.

The aims of this quality improvement project were to:
- Investigate whether a weight was recorded on each patient’s drug chart
- Investigate if LMWH was prescribed if no weight was recorded
- Investigate whether the correct dose of LMWH was prescribed for the weight recorded

Methods

Data were collected over a two week period in January 2015 capturing all patients transferred to general medical wards from the acute medical unit.

Local intervention measures were established after the initial data collection:
- A presentation was given at the Trust-wide teaching meeting
- Small group sessions were held with nurses before their drug rounds, which emphasised the importance of checking weight documentation on drug charts
- A poster was developed and attached to each ward drug cupboard and in the emergency department as a reminder to document patient weights
- The poster was also converted to a hospital-wide computer screensaver (Figure 1).

Data was re-collected over a 2 week period in June 2015 and analysed.

Results

Data from 243 patients was collected in the initial phase of the project. 46 of these patients (19%) had no weight documented on their drug chart. Despite having no weight documented 83% of these patients had LMWH prescribed, meaning that 38 patients potentially had incorrect doses.

After the interventions, the repeat data collection sampled 270 patients. 95% of these patients had a documented weight on their drug chart, a statistically significant improvement (p ≤ 0.001) from the pre-intervention data collection. LMWH was never prescribed if the weight of the patient was not documented.

Conclusions

Accurate VTE prophylaxis prescribing in acute medical inpatients is an important factor in reducing the morbidity and mortality from VTE and its complications.

A multifactorial approach to improving weight documentation, including data presentation and education of responsible clinicians, visual and verbal reminders, and feedback of the change achieved was shown to be successful in this project. These steps could be used to target and improve other aspects of patient safety.

There is still a lack of evidence for the effectiveness of VTE prophylaxis for medical inpatients. The 2010 NICE VTE prophylaxis guidelines have recommended this as a specific area for further research (1). This would be beneficial so medical patients could be risk-stratified and have prophylaxis prescribed accordingly, as is performed for surgical patients.

References


Figure 1: Screensaver used to raise awareness of weight documentation

Figure 2: Graph to show proportion of patients with VTE prophylaxis prescribed, with and without a weight documented

Figure 3: Graph to show percentage of patients with weights documented on their drug chart pre- and post-intervention (** p<0.001)