A Multidisciplinary Approach To Venous Thromboembolism Prevention In Hospital Patients

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Introduction

Venous thromboembolism (VTE) prevention is recognised as a national clinical priority for improving patient safety and quality with an aim to reduce avoidable death, disability and chronic illness from VTE events.

Context

Our acute care hospital adopted a multifaceted approach with a multidisciplinary team involving pharmacists, haematologists, radiology staff, obstetrics team and VTE link nurses and midwives to deliver the national and local VTE prevention programmes.

Problems

- Following the launch of an electronic VTE risk assessment in June 2010, completion rates were around 50%. There was no mechanism for reporting back on the performance of VTE risk assessment completion rates to departments and Consultants.
- The electronic VTE risk assessment was not specific for pregnant women due to different thrombosis and bleeding risk factors.
- There was little awareness of VTE prevention amongst patients and staff.
- There was no robust system to monitor appropriate pharmacological and mechanical thromboprophylaxis.
- There was no formal system for performing root cause analysis on hospital associated VTE events.

Analysis of Problems

- Support from the Trust Board and Quality Committee were essential in prioritising VTE as a patient safety quality improvement objective, which was introduced in the hospital’s Quality Account (Figure 1).
- The national Commissioning for Quality and Innovation (CQUIN) VTE goal linked financial incentive with performance on completed VTE risk assessments.
- Senior Executives supported mandatory VTE risk assessments for all adult patients on admission to hospital.
- The Trust Board and Quality Committee agreed for the development and implementation of an obstetrics-specific VTE risk assessment to be prioritised within the electronic prescribing team.
- Educational programmes were required to increase the profile and awareness of VTE.
- The Quality Committee agreed to include patients receiving appropriate thromboprophylaxis as quality indicators to be monitored and reported monthly.
- The Thrombosis and Thromboprophylaxis Committee explored how new VTE diagnoses could be identified for patients and how the root cause analysis process could be user-friendly to engage Consultants and improve the return of completed forms.

Interventions and Improvements

- Appointment of a Specialist Anticoagulation Pharmacist
  - To support the delivery of national and local VTE initiatives, lead on appropriate thromboprophylaxis, and proactively implement reforms to enhance the service
- Design, development and implementation of two electronic VTE risk assessments
  - Medical, surgical and obstetric patients appropriately risk assessed for VTE
  - Mandatory VTE risk assessment popup alert implemented to prompt completion before staff users access the prescribing screen (Figure 2)
  - VTE report (searched by ward, speciality or Consultant) displays patients with incomplete risk assessments – useful on ward rounds and handover meetings
  - Training video’s on how to complete VTE risk assessments are available on the hospital intranet (Figure 3)
  - Monthly VTE performance reports show over 90% compliance and national target met
  - Performance on completion rates (including graphical charts) reported monthly to all directorates from the Medical Director
- Introduction of a ‘No More Clots’ campaign
  - Educational meetings provided to medical, nursing/midwifery, pharmacy staff to increase VTE awareness. VTE link nurse role introduced on each adult ward.
  - VTE bulletins on updates/news, produced quarterly, circulated to all staff (Figure 4)
  - VTE posters, displayed in public areas, to increase VTE awareness amongst staff and patients (Figure 5)
- Development of patient information leaflets on VTE prevention
  - VTE information leaflets for inpatients, outpatients, emergency department and pregnant women – to increase awareness of signs and symptoms of VTE (Figure 6)
  - VTE patient information added to the hospital’s admission and discharge checklist
- Development of anticoagulation pocket guides
  - Guidance developed on appropriate thromboprophylaxis for medical, surgical and obstetrics patients (Figure 7)
  - Over 90% of adult patients receive appropriate pharmacological thromboprophylaxis – monitored by monthly audits completed by pharmacists
  - Pharmacist-led interventions can help reduce inappropriate thromboprophylaxis prescribing, thus improving patient safety
- VTE root cause analysis (RCA)
  - Radiology department agreed to provide weekly reports of new VTE diagnoses
  - Radiology reports are screened to identify hospital associated VTE events (HATs)
  - Tools and guidance notes (Figure 8) were specifically developed for RCA to identify contributory factors for HATs, and implement action plans to prevent reoccurrence

Lessons Learnt and Key Messages for Others

A multidisciplinary and integrated approach with senior support is key to VTE prevention.

Engage key stakeholders to determine requirements of systems, communicate developments and act on user feedback to enhance the service. Provide continuous VTE awareness, education and stewardship.

Monitor progress (real-time auditing/data capture) and provide regular reports to staff user groups on performance. Implement local action plans to drive and excel performance.

Our project successfully supported VTE:
- Quality of VTE risk assessments and management assured by a robust and established electronic system
- Innovative interventions implemented
- Productivity improved through a reduction of VTEs
- Preventing hospital associated VTE events

References