

Improving hospital VTE venous thromboembolism prophylaxis

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Introduction

Venous thromboembolism is a preventable cause of death in hospitalized patients. But despite available evidence clearly supporting prophylaxis, it remains widely underutilized.

Purpose

Our aim is to improve VTE prevention in our institution by

- Ensuring risk assessment for all patients.
- Reducing inappropriate anticoagulant use.
- Reducing inappropriate anticoagulant dosing.

In order to reach our objectives a multiple strategy approach is put in place, including:

- Continuous education for Doctors and Nurses through regular orientations.
- Integration of a DVT/VTE risk assessment form in every patient chart to serve as a visual reminder for prophylaxis (Figure 1).
- Increased awareness through posters, and patient educational brochures in Arabic and English (Figure 2).
- Availability of a clinical pharmacist in charge to increase the rates of appropriate VTE prophylaxis by performing audits and providing feedback through on site timely interventions to prescribers.

Figure 1. DVT/VTE risk assessment form

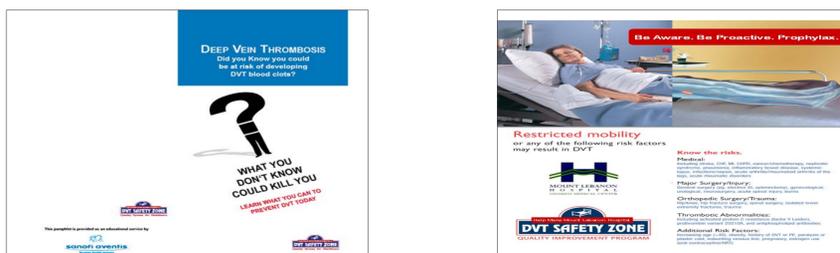


Figure 2. Posters and Patient Brochures

Methodology

Data collection was initiated in August 2010 with a baseline analysis and is still ongoing.

The target population consists of all hospitalized medical and surgical patients except: neonatal intensive care unit, psychiatry service, patients receiving therapeutic doses of anticoagulants, and those with admission diagnosis of VTE.

Procedure

Data are collected from the review of hospital charts and from the DVT/VTE risk assessment form within those charts. They are reported on a specifically designed data collection sheet that reflects the risk assessment form availability and filling, the prophylaxis assessment based on demographics and laboratory values of interest. Collected data are integrated into Microsoft office for monthly analysis using the following indicators:

- Rate of patients with risk assessment = (Patients with risk assessment / Target population) * 100
- Rate of inappropriate drug use = (Number of overuse + number of underuse / Target population) * 100
- Rate of inappropriate drug dosing = (Number of overdosing + number of under dosing / Target population on drug) * 100

Results

A total of 2587 charts are reviewed. The comparison between the baseline audit on 176 records and the mean results of 2411 subsequent audits over 19 months are presented in table 1.

	Baseline audit	Subsequent audits
Rate of patients with risk assessment	33.30%	63.51%
Rate of inappropriate drug use	13.10%	5.56%
Rate of inappropriate drug dosing	10.20%	4.80%

Table 1.

Figures 3, 4, 5 illustrate an increasing trend in the rate of patients who had a risk assessment for VTE and a decreasing trend of inappropriate use and dosing with a few peaks.

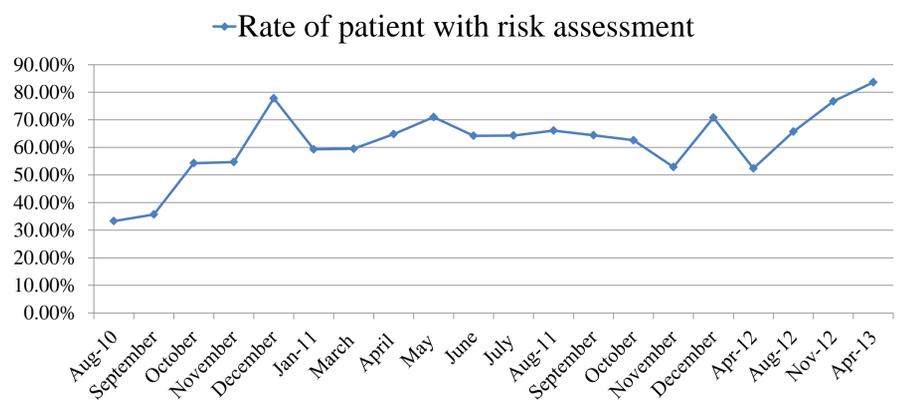


Figure 3.

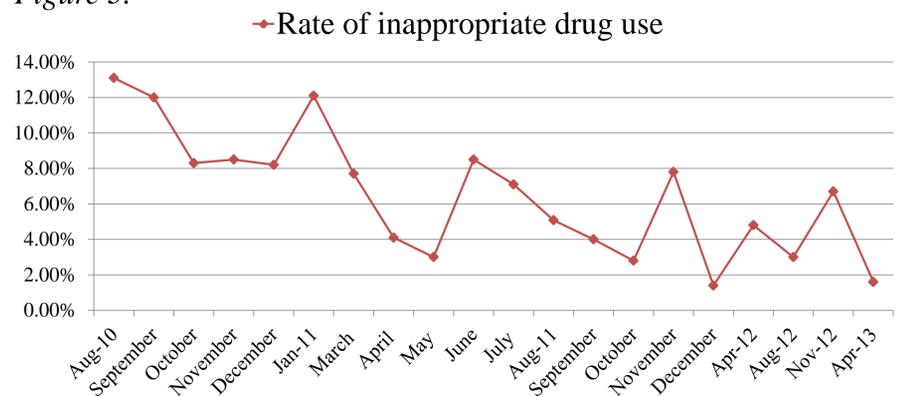


Figure 4.

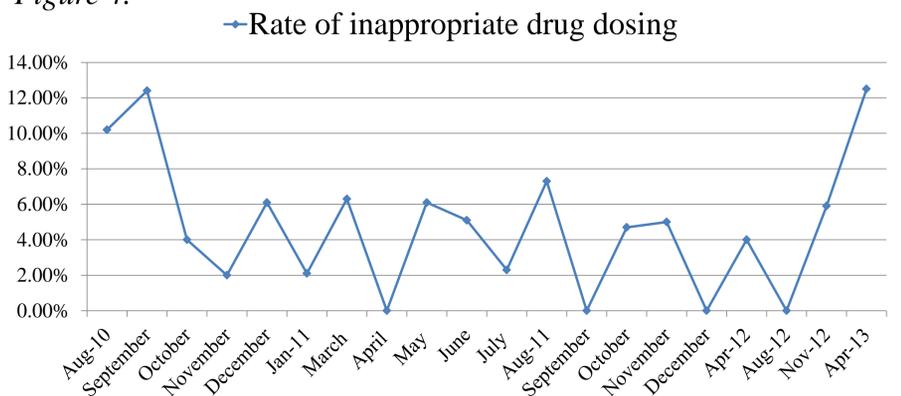


Figure 5.

Discussion

The general objective behind our efforts is to become a VTE free hospital, meaning that no death should result due to a lack or inappropriate prophylaxis.

On site interventions by the Clinical Pharmacist allows for timely improved prophylaxis and daily reminders for prescribers.

The fluctuations depicted in our results as seen in Figure 4 were correlated with alternating interns and residents rotations. This led us to add an orientation for each new team and to perform our audit three times yearly in correlation with team changes.

Other noted limitations were the lack of availability of the risk assessment form within the charts. This also improved upon increased awareness among Nurses.

Venous thromboembolism is a preventable life threatening cardiovascular condition associated with high mortality and morbidity. **Our results clearly highlight the benefits of implementing a multiple strategy approach for VTE risk reduction within our hospital.**

Acknowledgement

Thank you for Mount Lebanon Hospital Nurses and Physicians who are always eager to improve.