

CSHP 2015 Success Story Contest
Improving Rates of Appropriate Venous Thromboembolism Prophylaxis in a Community Hospital

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Background:

CSHP 2015 Objective 3.1 targets the active use of evidence-based therapies in the provision of direct patient care to individuals, and objective 3.2 aims to ensure that pharmacists are actively involved in the development, implementation of evidence-based drug therapy protocols. This initiative outlines the role of hospital pharmacists and pharmacy students in the achievement of these objectives as pertains to the provision of prophylaxis for venous thromboembolism (VTE).

VTE is responsible for significant hospital related morbidity and mortality, with 5-10% of hospital related mortality directly attributable to VTE (1,2,3). Despite the evidence supporting VTE prophylaxis, rates of prophylaxis vary between institutions and initiatives to improve prophylaxis are required. These data have led organizations such as Accreditation Canada, the National Quality Forum and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to call for appropriate provision of VTE prophylaxis as a required organizational practice for at risk patients.

A baseline one-day audit was held in early 2012 at our institution to determine the rate of compliance with internal VTE prophylaxis clinical practice guidelines. The audit revealed an 85% compliance rate in eligible patients at Credit Valley Hospital site (CVH) and 89% compliance at the Mississauga Hospital (M-Site, Formerly Trillium Health Centre). The emergency department stood out at CVH as having a 76% rate of appropriate VTE prophylaxis during the audit. Targeting prophylaxis rates in the emergency department had the potential to increase the overall rates for the hospital if appropriate VTE prophylaxis could be initiated prior to transfer to in-patient care units, it would likely be continued.

Description of Intervention

A plan to increase the rates of VTE prophylaxis was developed, and piloted at CVH.

The plan included

- Interprofessional education to heighten awareness of VTE prophylaxis;
- Recruiting a physician champion encourage the use of pre-printed orders and provide individual feedback to physicians;
- Electronic screening tools were developed to identify patients not receiving prophylaxis;
- Pharmacy students were trained to assess patients for indications and contraindications to VTE prophylaxis, were partnered with Pharmacists and deployed to areas of lowest rates of prophylaxis as identified during the baseline audit – targeting the Emergency Department (ER);

When students identified a patient who was not receiving prophylaxis who met the criteria for prophylaxis, they reviewed their findings with the emergency department clinical pharmacist using the SBAR communication method to ensure their assessment was accurate. If the pharmacist agreed, a recommendation was made to the physician to start VTE prophylaxis. Recommendations included both pharmacological and mechanical prophylaxis options, depending on patient bleeding risk.

Evaluation

During the first 60 days of the program, 247 patients were assessed by the students for prophylaxis, and the students made 64 recommendations, with results detailed in Table 1.

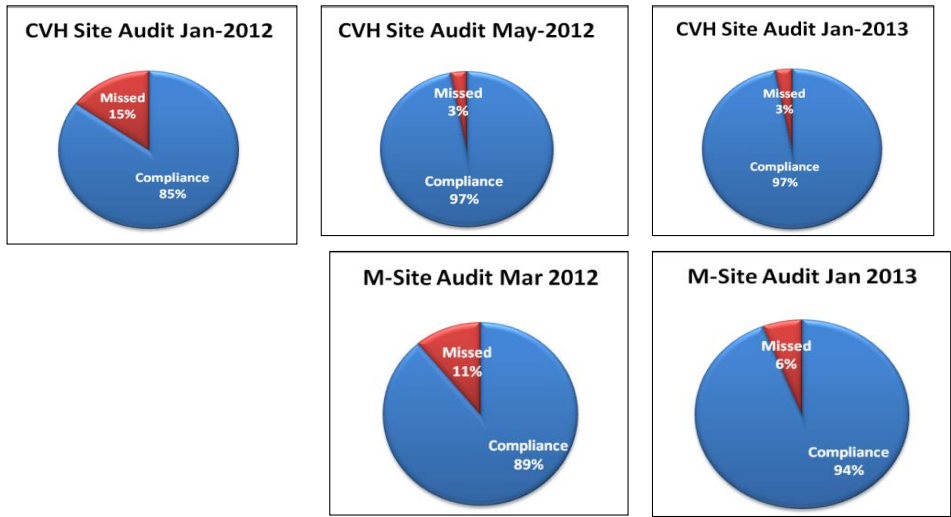
Table 1

Impact of Student Interventions on Rates of VTE Prophylaxis in Patients Admitted Through the ER in the First 60 Days	
Patients Assessed when Admitted through ER	794
Patients assessed by students	247
Patients identified by students where prophylaxis was "missed"	64/794 (8.06%)
Recommendations made by students accepted by prescriber	42 /64 (66%)
"Miss" rate in ER after recommendations	2.77% (5.3% absolute increase in compliance rate)
Mean student time for interventions	20 minutes per patient 2.5 hours per day

A post-implementation one-day audit was held in May 2012 to determine rates of appropriate VTE prophylaxis at site A after the VTE prophylaxis program was implemented. The rate of appropriate VTE prophylaxis had risen in just 5 months to 97% of hospitalized patients who were eligible to receive prophylaxis were receiving prophylaxis, a 12% increase in the absolute rate of appropriate VTE prophylaxis according to the hospital clinical practice guideline criteria.

A third, organization wide audit was done in January 2013 to determine if the improvement in VTE prophylaxis rates at CVH was sustained. Results of the audits are in Figure 1:

Figure 1: VTE Prophylaxis Audit Results at CVH and Mississauga Hospital



Creative use of student resources to act as pharmacist extenders and improve compliance with accreditation requirements is a promising and cost-effective approach to enhancing patient care which can potentially be extended to other clinical programs.

Follow up:

New hospital specific clinical practice guidelines are in the final phases of approval. The VTE clinical practice guidelines were updated by an interprofessional working group, including

pharmacists as team leads at both sites to review evidence and facilitate the consultation and approval process. These updated guidelines are due for final approval in May 2013.

The program continues beyond the initial pilot phase due to the excellent results, and has expanded to all sites, in an effort to maximize appropriate use of VTE prophylaxis throughout the organization. The use of pharmacy students, available year-round from a co-op program is an innovative, sustainable and cost-effective means to improve hospital rates of VTE prophylaxis to achieve goals of improved patient care.

1. Lindblad et al. BMJ 1991;302:709-11
2. Sandler et al. J R Soc Med 1989;82:203-5
3. Alikhan et al. J Clin Pathol. 2004;57: 1254-7