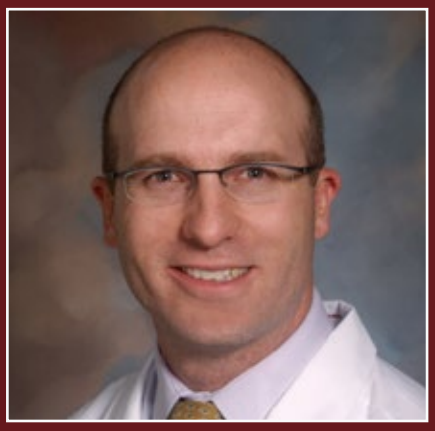
Healthcare-Associated
VTE Prevention Challenge

2015 CDC HA-VTE PREVENTION CHALLENGE CHAMPION



ORGANIZATION:

Intermountain Healthcare | Murray, Utah
In conjunction with Twine Clinical Consulting, LLC and Medical Impact Ventures, LLC

PATIENT POPULATION:

- 35,492 inpatient admissions in 2014 at 2 facilities; 726 beds.
- 13% belong to a racial or ethnic minority.
- 12% are enrolled in Medicaid.

BACKGROUND

Without prophylaxis, up to 15% of hospitalized medical patients will develop venous thromboembolism—VTE (characterized as deep vein thrombosis—DVT and/or pulmonary embolism—PE) during hospitalization. PE occurs more frequently in hospitalized medical patients than in surgical patients, and represents a leading cause of sudden death during hospitalization. Yet only about 40% of hospitalized medical patients at high risk for VTE receive appropriate thromboprophylaxis. Guideline authors have recommended individualized VTE risk assessment of hospitalized medical patients. While formalized risk assessment models (RAMs) for VTE exist they have not been uniformly adopted. Benefits associated with the individualized application of thromboprophylaxis include exposing only those patients that would likely benefit from thromboprophylaxis to its risks (e.g. bleeding, heparin induced thrombocytopenia [HIT]) and the associated expense.

OBJECTIVES

- To report the rate of appropriate chemoprophylaxis provided by hospitalists among medical patients at high risk for VTE before, during, and after the implementation of a VTE Reduction Initiative (VRI).
- To report associated 30- and 90-day rates of symptomatic HA-VTE, all-cause mortality, in-hospital heparin-induced thrombocytopenia (HIT) and major bleeding, and physician satisfaction and alert fatigue.

METHODS

The VRI was implemented at 2 large metropolitan teaching hospitals that included one hospitalist group. The project was presented to the hospitalist group at a Division meeting and each Hospitalist (100%) agreed to participate. The implementation of the VRI consisted of three main periods: a control period (2010), an intervention period (2011), and subsequent year to assess sustainability (2012).

CDC

The components of the VRI included:

Daily Risk Assessment and Monitoring of Appropriate Prophylaxis

Once daily, each medical patient was classified either at high risk for VTE or not and as receiving appropriate chemoprophylaxis, or not. This was done in two stages.

- First, an electronic VTE Risk Assessment Module (RAM) (previously studied in hospitalized medical and surgical patients), interrogated the electronic medical record (EMR) and generated a VTE risk score for each hospitalized medical patient.
- Next, another electronic tool interrogated the medical administration record for appropriate chemoprophylaxis (as defined by the American College of Chest Physicians16); or for therapeutic anticoagulation.

During the intervention period, if a patient was: a) at high risk for VTE and, b) not receiving appropriate chemoprophylaxis, an electronic VTE risk alert was sent to the attending hospitalist's pager in conjunction with an electronic message sent within the EMR. This permitted the hospitalist to interface with the electronic alert system to document any reasons that prophylaxis was being withheld (e.g. active bleeding, hospice care, etc.). By doing so, the daily alert would be turned off for 5 days, and the hospitalist would be credited with having appropriately dispensed VTE prophylaxis.

Hospitalist Audit, Feedback and Education

A proprietary targeted online performance feedback and education portal ("the portal") was developed in conjunction with Twine Clinical Consulting, LLC and Medical Impact Ventures, LLC. An audit-and-feedback assessment of each hospitalist's VTE prophylaxis rates was developed to generate a monthly report of each hospitalist's performance in comparison with their de-identified peers. Feedback assessments were delivered to hospitalists via the portal. Six discrete CME sessions were hosted on the portal; each with a different focus on VTE thromboprophylaxis, and targeted to the individual hospitalist based on recent chemoprophylaxis behaviors. Each CME activity was completed by each hospitalist.

See details at: http://www.vte.physicianimprovement.com.

Monitoring of Effectiveness and Adverse Outcomes

Associated 30- and 90-day rates of symptomatic HA-VTE, all-cause mortality, in-hospital HIT and major bleeding, physician satisfaction and alert fatigue were assessed to monitor the utility and accuracy of the VRI.

RESULTS

The VRI is presently under external peer review for publication, therefore the results will become available and posted at this website upon publication.

The rate of appropriate VTE chemoprophylaxis among patients at high risk for VTE comparing the control period with the intervention and the subsequent year will be reported.

The 30-day and 90-day rates of symptomatic HA-VTE among high-risk patients comparing the control period with the intervention and the subsequent year will be reported.

Rates of in-hospital HIT and major bleeding in conjunction with hospitalist satisfaction will be reported.

The rate of behavioral change by the hospitalist group (defined as an appropriate response to an alert within 24 hours) will be reported.

Both in-hospital and 90-day all-cause mortality will be reported.

CONCLUSIONS

This VTE reduction initiative that included an EMR-based VTE risk assessment tool, a targeted electronic alert for high-risk patients, comparative practitioner metrics, and practitioner-tailored CME was employed in a large multi-hospital network. The results will be reported shortly. Because the RAM resides within the EMR and the alerts were sent automatically, it was possible to provide the intervention without additional cost to the healthcare system. The VRI is sustainable and scalable to the entirety of the 22-hospital system. The VRI has been expanded to 6 additional (mostly rural) hospitals in the Intermountain network, and we will be reporting results of the expansion of the VRI soon.