



REDUCTION OF VTE PROPHYLAXIS FOR LOW-RISK PATIENTS

• **Location:** UHNBC Internal Medicine • **Contact:** Dr. Nikhil Anish • **Date:** Jan-July 2025

▶ AIM STATEMENT

To reduce VTE prophylaxis given to low-risk patients by 50% for Internal Medicine Clinical Teaching Unit (CTU) inpatients UHNBC by July 2025.

▶ BACKGROUND

Current admission orders indicate VTE prophylaxis for all patients admitted to UHNBC IMU with the exception of very low risk post-surgical cases. Guidelines such as the IMPROVE-VTE tool have been developed to refine risk assessments for clotting and support clinical decision making by stratifying patients into low and high risk categories and reducing unnecessary prescription of blood thinners and bleeding incidents. This project seeks to support UHNBC IMU to adopt appropriate evidence-based tools to reduce unnecessary VTE prophylaxis.

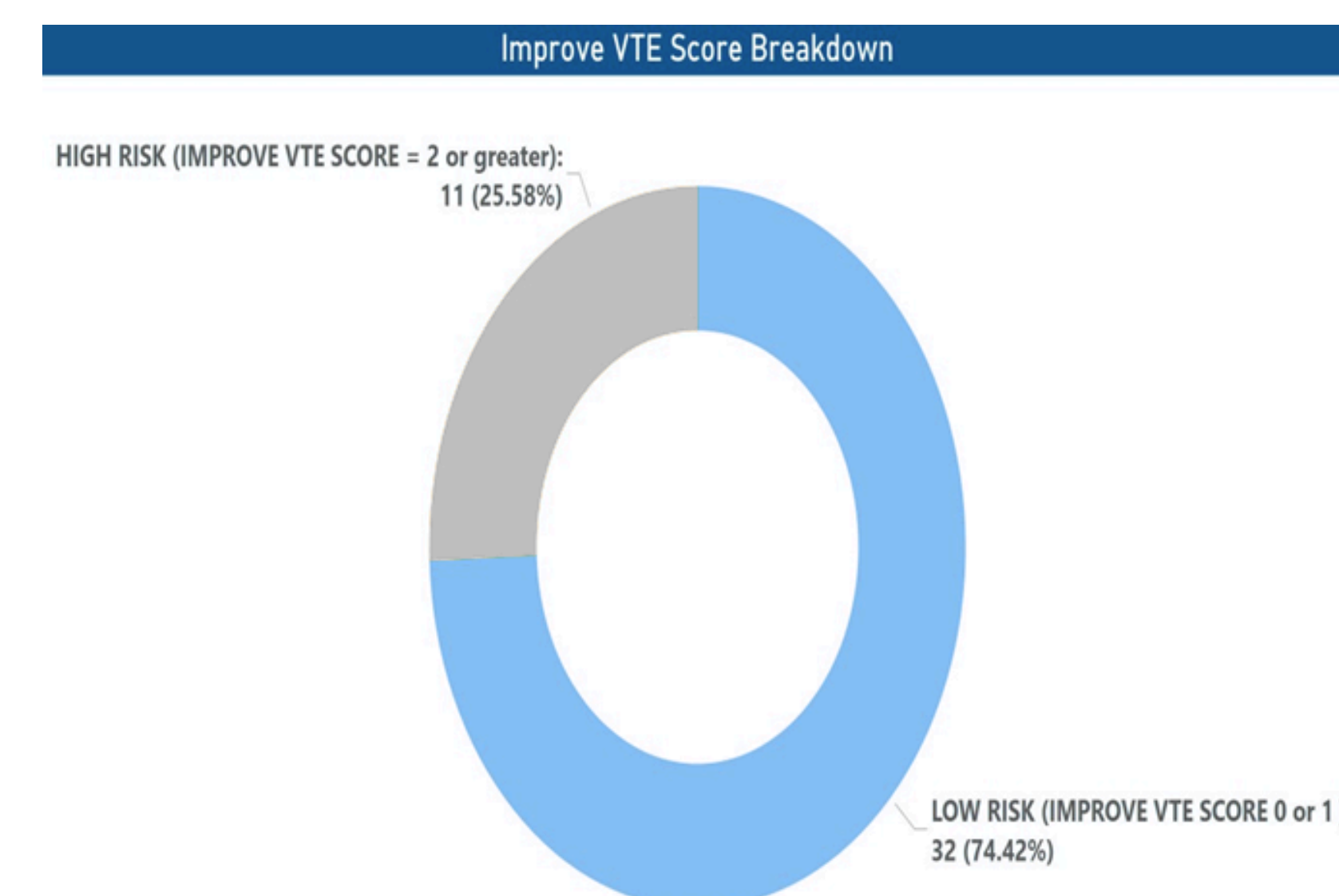
▶ PROBLEM STATEMENT

Current admission orders indicate VTE prophylaxis for all patients admitted to UHNBC Internal Medicine Unit with the exception of very low risk post-surgical cases. Guidelines such as the International Medical Prevention Registry on Venous Thromboembolism (IMPROVE) risk scoring tool have been developed to refine risk assessments for clotting and support clinical decision making to reduce unnecessary prescription of blood thinners to low risk patients. A chart review of 47 Internal Medical Unit inpatients in March 2024 indicated that 43 patients were given VTE Prophylaxis. This places a burden of cost on the system as well as having a negative environmental impact as the most common drug used for prophylaxis is sourced from pigs.

▶ CURRENT STATE

A chart review of IMU patients indicated that VTE prophylaxis was prescribed to 68% of low-risk patients. This resulted in bleeding incidents and longer length of stay for these low-risk individuals. This places a burden of cost on the system as well as having a negative environmental impact as the most common drug used for prophylaxis is sourced from pigs. One dose costs the life of one pig.

▶ RESULTS



The IMPROVE- VTE risk scoring tool was used on the 43 patients who were on prophylaxis from the March 2024 chart review, only 11 patients fell under the high-risk category.

Use IMPROVE risk scoring tool and add IMPROVE score equals = # (Low Risk, high Risk) VTE Prophylaxis and whether ordered or not ordered in admission history and physical chart.

The first test was to see how many low-risk patients already prescribed VTE prophylaxis and how many of those patients could be recommended to discontinue after using the risk scoring tool. The second test showed that the % of low risk patients being prescribed VTE was reduced by **41.4%** based on the results below.

Week	Total Patients	High Risk Patients	% High Risk Prescribed VTE	Low Risk Patients	% Low Risk Prescribed VTE	Low Risk Patients Prescribed, Recommended to Discontinue	% Low Risk Prescribed Patients Recommended to Stop
8	10	5	40%	4	25%	1	100%
9	18	7	29%	11	36%	4	100%
Total	28	12	33%	15	33%	5	100%

It was identified that capacity was an issue for the pharmacy team, and they did not have time to do these reviews. A process change is needed to include the IMPROVE scoring tool in the preprinted orders.

Thromboembolism (VTE) Prophylaxis in Medical Patients

Not Indicated for Stroke, Surgical, or COVID Patients

Goals Did you know symptomatic VTE occurs in only 0.3-2% of hospitalized medical patients?

- Reduce use of VTE Prophylaxis in low risk patients
- Reduce risk of adverse drug events, bleeding, HIT
- Reduce costs from unnecessary VTE Prophylaxis
- Reduce nursing time and unnecessary injections
- Reduce carbon footprint and need for anticoagulation from 11 billion pigs per year

What's new? Reduce the Use

- Use of the IMPROVE Risk Assessment Criteria prior to ordering VTE Prophylaxis
- The Risk Score estimates the probability of a VTE and identifies patients at low risk for thrombosis
- IMPROVE score (International Medical Prevention Registry On Venous Thromboembolism)

VTE Risk Factor • IMPROVE Criteria	Points
Previous VTE	3
THROMBOPHILIA Familial condition leading to an excess risk of thrombosis (e.g. antithrombin III deficiency, protein C and protein S deficiencies, Factor V Leiden, antiphospholipid syndrome, prothrombin G20210A mutation and resistance to activated protein C)	2
ACTIVE CANCER Active malignancy, treated or untreated within the past 6 months	2
LOWER LIMB PARALYSIS Hemiparesis, hemiplegia, paraplegia or quadriplegia	2
CRITICAL CARE STAY Critical care stay for greater than or equal to 24 hours during the same hospital admission	1
PREDICTED IMMOBILIZATION OF 7 DAYS OR MORE Immobility is defined as being confined to bed or chair during and/or prior to admission	1
AGE > 60 YEARS	1
Cumulative IMPROVE Score	No Prophylaxis 0 - 1 Consider VTE Prophylaxis and bleeding Risks 2 or greater

One-pager for orientation manual

▶ NEXT STEPS

- Continue to promote current workforce to use the IMPROVE risk scoring tool prior to ordering VTE Prophylaxis.
- Continue to share poster in physician lounges to increase awareness of risk scoring tool and encouraging its use.
- Continue to monitor use of Improve risk scoring tool.
- Monitor complication and hospital length of stay in low-risk patients.
- Include one-pager on IMPROVE risk assessment in orientation manual.
- Update VTE prophylaxis preprinted order (PPO) to include risk numbers.

▶ SUSTAINING THE GAINS

Spread the IMPROVE risk scoring tool criteria to other Northern Health sites

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