

Dr. Dario Moscoso RPh., PharmD., ACPR.; Dr. Shreena Amin RPh., PharmD.; Darren Hu RPh., MPharm.; Dr. Simon Fong RPh., PharmD.; Navtej Gill RPh., MHM, BScPharm., BScPsych, CRE.; Albert Karas RPh., BScPharm.

DESCRIPTION

VTE prophylaxis is a required organizational practice of Accreditation Canada. Hospital-acquired VTE (HA-VTE) is preventable. Common prophylactic measures include anticoagulants, mechanical compression devices, and early ambulation. Humber River Health (HRH)'s VTE prophylaxis program ensures patients receive appropriate prophylaxis, translating evidence into practice.

Pharmacy Program Initiatives:

- Automatic Substitution (Auto-Sub) Policy enabling dose adjustments
- VTE prophylaxis policy and Meditech order set development
- Committee involvement (Anticoagulation, Pharmacy and Therapeutics)

Direct Patient Care Initiatives:

- Patient bleed vs. thrombosis risk assessments using validated scoring systems within 24 hours post-admission or change in clinical status
- Anticoagulant dose adjustments
- Anticoagulant allergy assessment and suggesting alternatives
- Worklist documentation

OBJECTIVE

To prevent HA-VTE by innovating the VTE prophylaxis program and monitoring initiatives to meet best practices.

ACTIONS TAKEN

Pharmacy Program Initiatives:

1. Revamped Tinzaparin Auto-Sub Policy in 2021, which is HRH's standard prophylactic agent. These revisions broadened the scope of dose adjustments for optimal care of specialized populations including bariatric and pregnant patients.
2. Measured completion of pharmacist-led clinical assessments, recommendations, and documentation. Monthly audits conducted and presented to Anticoagulation Committee.
3. Completed chart audits in collaboration with Medical Records to determine rates of HA-VTE at HRH in comparison to national average.
4. Adjusted pharmacist documentation to align with multidisciplinary standards.

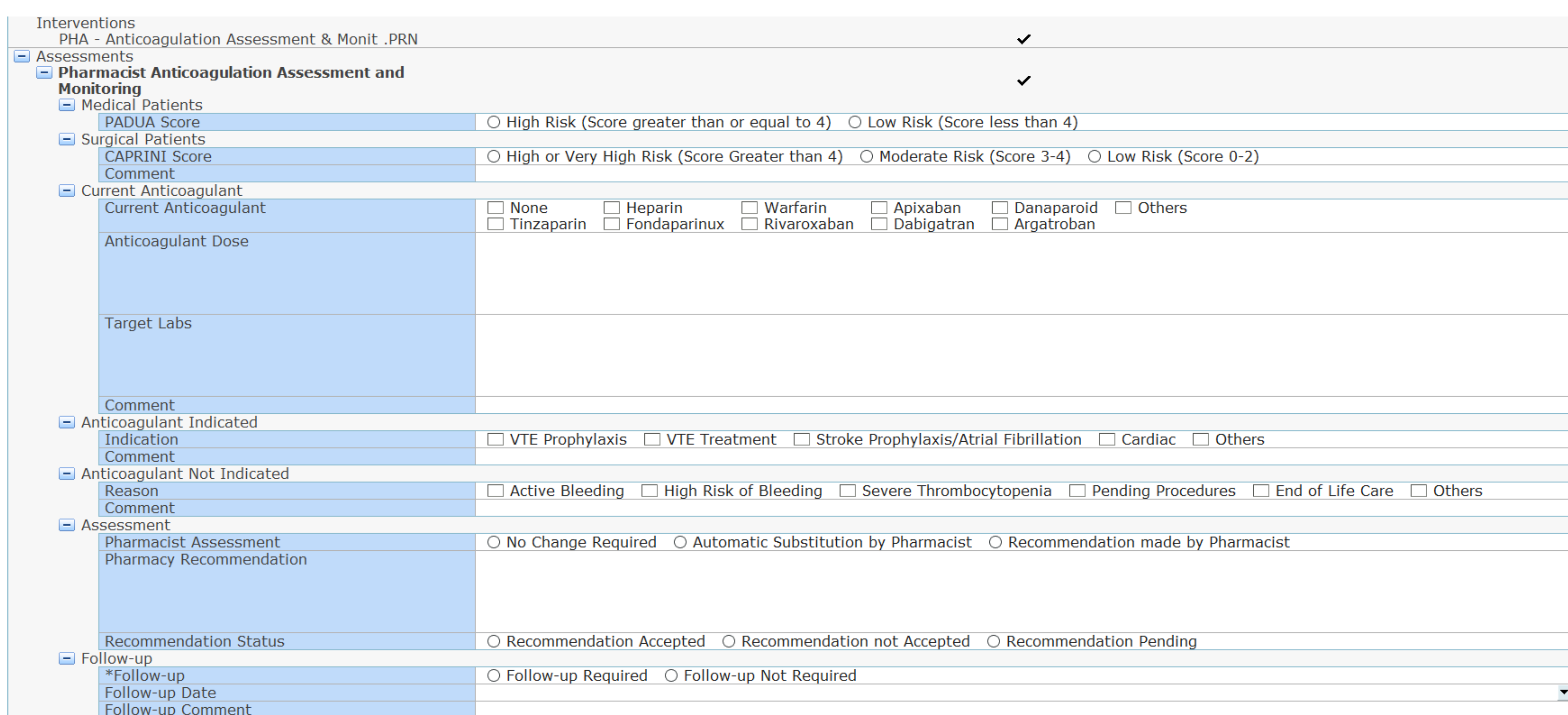


Figure 1. An example of pharmacist clinical assessment of VTE prophylaxis using validated risk assessment tools (e.g. PADUA score, CAPRINI score). Worklist documentation allows for concise documentation of assessment, recommendations, and any follow-ups needed for other pharmacists and the healthcare team.

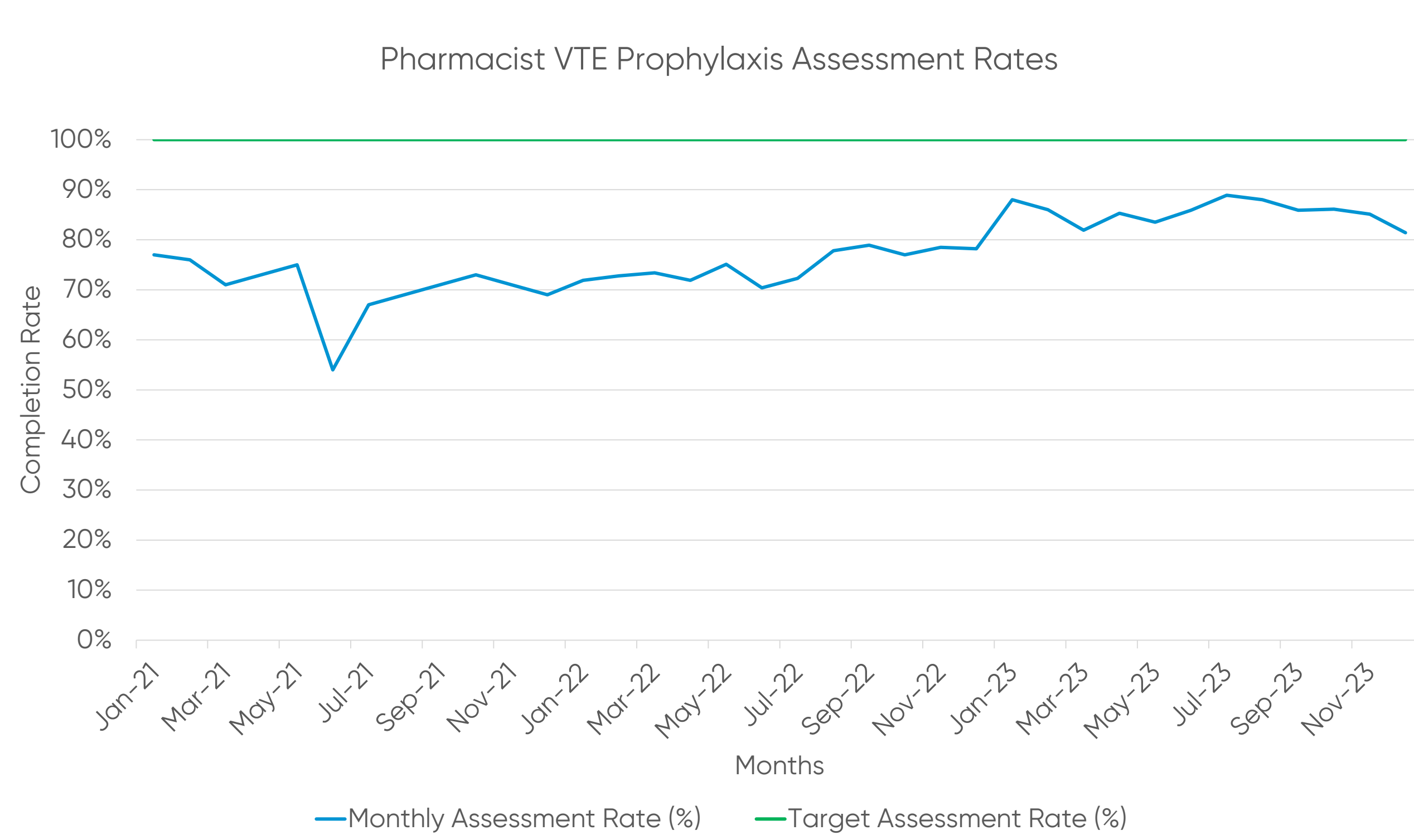


Figure 2. A month-to-month comparison of the completion rates of VTE assessments on admitted patients at Humber River Health over 2021-2023. There was a noticeable yearly average increase from 70% in 2021 to 86% in 2023. The pharmacy department target is an assessment rate of 100%.

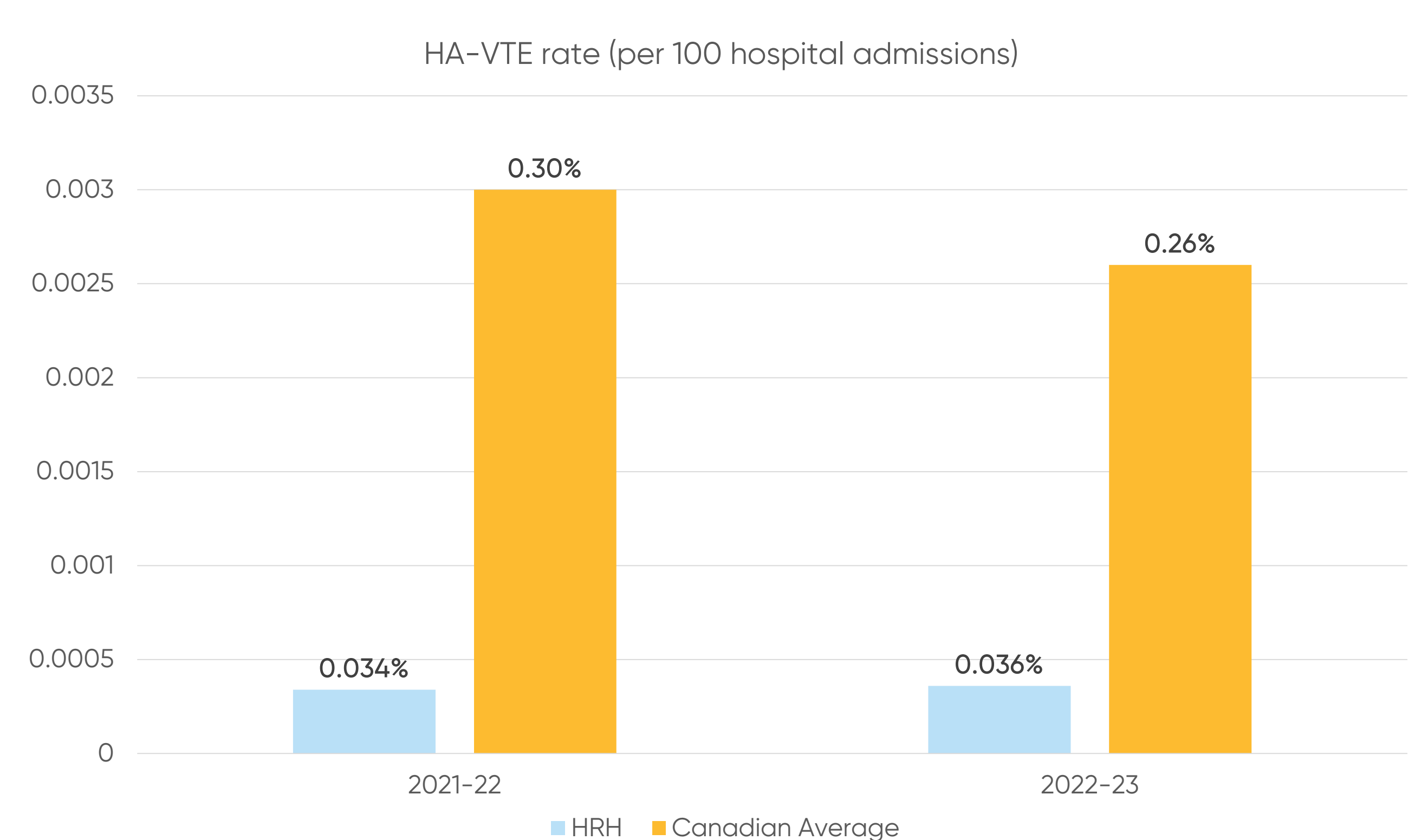


Figure 3. A comparison of hospital acquired VTE rates between Humber River Health and the Canadian average. The CIHI hospital harm report measures the rate of acute care hospitalizations with at least one occurrence of unintended harm such as HA-VTE that could potentially have been prevented.

Year	Number of Assessments by Clinical Pharmacists	Number of Dose Changes as per Auto-Sub Policy	Number of Recommendations made (hold, dose adjustment, etc.)
2021	15650	410	1457
2022	15268	272	1112
2023	16773	289	1218

Figure 4. A summary table comparing the yearly number of VTE assessments performed by clinical pharmacists on admitted patients with the number of dose changes made using the Auto-Sub policy and the number of recommendations made to clinicians.

SUMMARY OF RESULTS

Pharmacist adherence to VTE prophylaxis assessment and documentation improved as completion rates increased from 70% to 86% from 2021 to 2023.

Year-over-year, the number of pharmacist assessments increased. On average, 2% of assessments resulted in dose adjustment per Auto-Sub, whereas a recommendation was made in approximately 7% of cases. However, Auto-Sub rates may be higher as not all adjustments were captured under worklist documentation.

Importantly, HRH HA-VTE rates are significantly below the Canadian Institute for Health Information (CIHI) average per 100 hospital admissions, indicating robust performance of the program.

LESSONS LEARNED

Multipronged pharmacy efforts have supported HRH in achieving lower HA-VTE rates.

