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Background

- Venous thromboembolism (VTE) is a leading cause of preventable death
- Despite recommendations, many hospitalised patients do not receive VTE risk assessment and are not prescribed appropriate VTE prophylaxis¹
- This is the first Australian study to explore the effectiveness of a VTE stewardship program to provide oversight of initiatives to prevent VTE

Aim

- ↑ Risk-appropriate VTE prophylaxis
- ↑ VTE risk assessment using electronic clinical decision support (eCDS) tool, the VTE PowerPlan, Cerner®, Figure 1.
- ↑ Any documented risk assessment
- ↓ Incidence of hospital acquired VTE (HA-VTE)

Methods

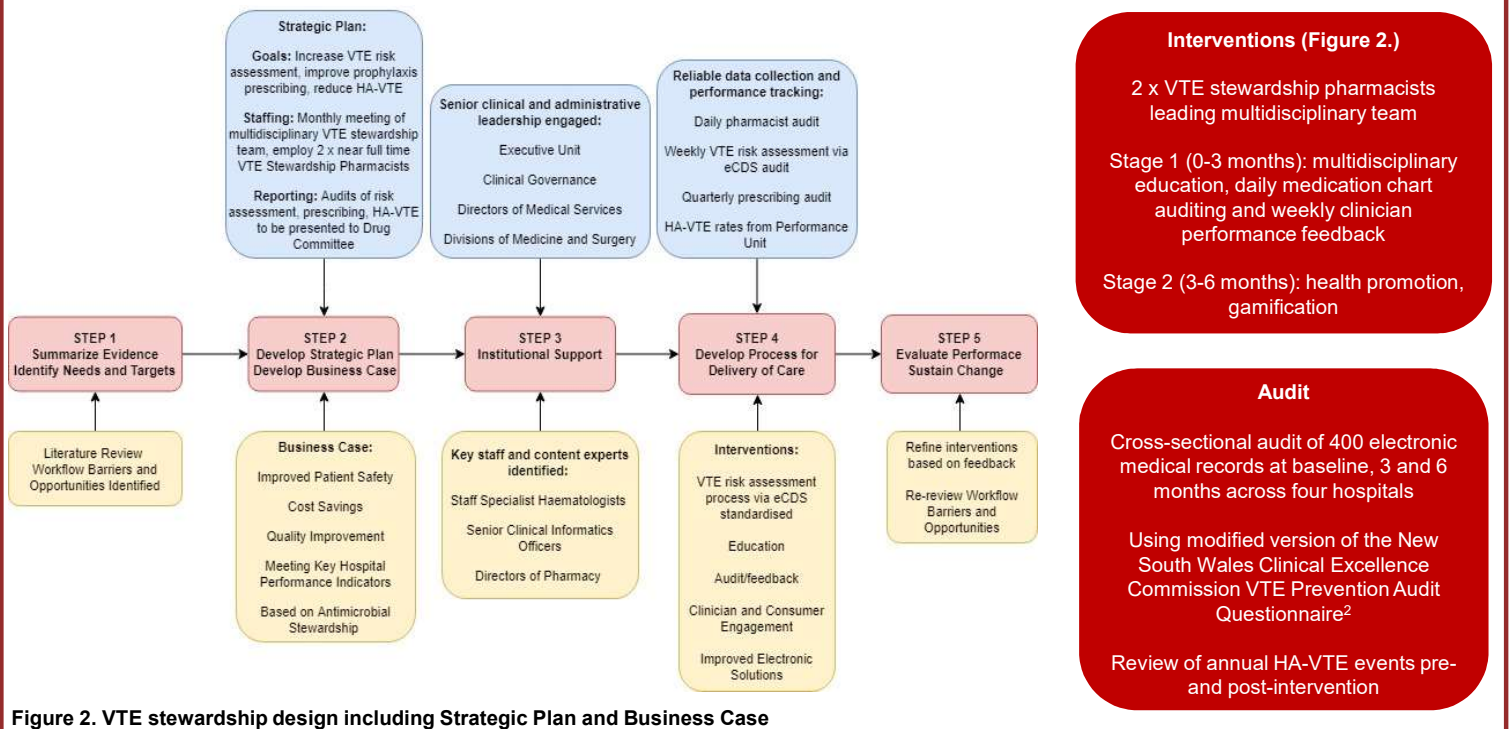


Figure 2. VTE stewardship design including Strategic Plan and Business Case

Results

Table 1. Results

Appropriate VTE-Prophylaxis	• 78% → 88% • p = 0.004
eCDS Use	• 20% → 87% • p < 0.001
VTE Risk Assessment	• 71% → 93% • p < 0.001
HA-VTE	• 7.88 → 6.99 events per 10,000 episodes of care, p=0.43
Mean Cost	• \$0.82 per patient

eCDS use associated with prescription of risk-appropriate VTE prophylaxis (p<0.001)

Discussion

- Now a permanently funded program
- VTE stewardship provides for expansion of pharmacist role
- Electronic force function for risk assessment NOT implemented
- Prioritisation of positive engagement and culture change
- Future research: reasons for inappropriate prophylaxis

References

1. Cohen AT et. al. Lancet. 2008;371:387-94.
2. Clinical Excellence Commission. VTE Prevention Audit: Auditor Reference Guide. 2020.

Component	Status	Details
VTE Prophylaxis		Suggested On: 4/11/2018 4:42 PM Reason: All Inpatients Require DVT Assessment
VTE Risk Assessment		Refer to VTE Risk Assessment Form for clinical guidance on risk assessment for individual patients
VTE Mechanical Prophylaxis contraindicated		1 CHECK, Other, Once
VTE Chemoprophylaxis contraindicated		1 CHECK, Other, Once
VTE Prophylaxis not required (low risk)		1 CHECK, Other, Once
Mechanical Prophylaxis		
graduated compression stockings (TEDs)		1 CHECK, Top, BD, VTE Prophylaxis, BOTH LEGS
intermittent pneumatic compression (calf compresso...		1 CHECK, Top, BD, VTE Prophylaxis, BOTH LEGS
intermittent pneumatic compression (foot pump)		1 CHECK, Top, BD, VTE Prophylaxis, BOTH LEGS
Chemoprophylaxis		
Unfractionated Heparin (UFH)		
heparin		5,000 unit, Subcut, Soln, inj, BD, VTE Prophylaxis
heparin		5,000 unit, Subcut, Soln, inj, TDS, VTE Prophylaxis
Low Molecular Weight Heparin (LMWH)		
enoxaparin (Clexane)		20 mg, Subcut, Inj, daily, VTE Prophylaxis
enoxaparin (Clexane)		40 mg, Subcut, Inj, daily, VTE Prophylaxis
Used in Orthopaedics Only		
dalteparin		2,500 unit, Subcut, Inj, daily, VTE Prophylaxis, Prophylaxis
dalteparin		5,000 unit, Subcut, Inj, daily, VTE Prophylaxis, Prophylaxis
Other Anticoagulants		
Doses should be adjusted in renal impairment. Contraindicated if:		
Apixaban - CrCl < 25 mL/min		2.5 mg, Oral, Tablet, BD, VTE Prophylaxis, Anticoagulant
Dabigatran - CrCl < 30 mL/min		220 mg, Oral, Capsule, daily, VTE Prophylaxis, Anticoagulant, Swallow whole.
Fondaparinux - CrCl < 30 mL/min		2.5 mg, Subcut, Inj, daily, VTE Prophylaxis
Rivaroxaban - CrCl < 30 mL/min		10 mg, Oral, Tablet, daily after food, VTE Prophylaxis, Anticoagulant

Figure 1. VTE Risk Assessment eCDS tool: The VTE PowerPlan

Conclusion

This study demonstrates that investment in hospital VTE stewardship using eCDS is associated with significant improvements in clinical processes and outcomes at a relatively minor cost per patient

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