



Increasing the Rate of Venous Thromboembolism Chemoprophylaxis Using the EMR

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Attending: Robert A. Maxwell, MD, FACS

AIM Statement

To have a 10% increase in the rate of venous thromboembolism chemoprophylaxis administration at our institution by august 2023

Background

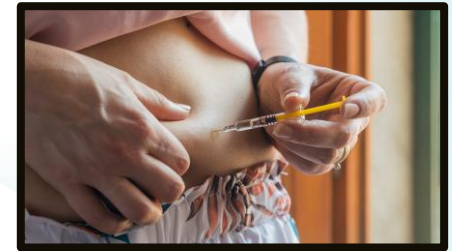
- Venous thromboembolic (VTE) events are defined as:
 - Deep Vein Thrombosis
 - Pulmonary Embolisms
- Inpatient VTE is a preventable cause of morbidity and mortality
- American Heart Association Call to Action – reduce VTE by 20%
- In 70% of patients that have a VTE event, at least one dose of VTE prophylaxis was missed
- Prophylactic Lovenox or Subcutaneous Heparin (SQH) can reduce VTE events by 60%
- At John's Hopkins Hospital, 30% of prescribed VTE prophylaxis not administered



American
Heart
Association®

Problem

- Prescribed Lovenox or SQH is not administered
 - Majority due to patient refusal or nursing withholding
- Patient education reduces refusal
- Nursing education increases administration
- Hospital-wide nursing and patient education is labor intensive and expensive



Hypothesis

Electronic medical record (EMR) prompts may be a useful tool to decrease withholding of critical VTE prophylaxis medication.

Pre-intervention analysis

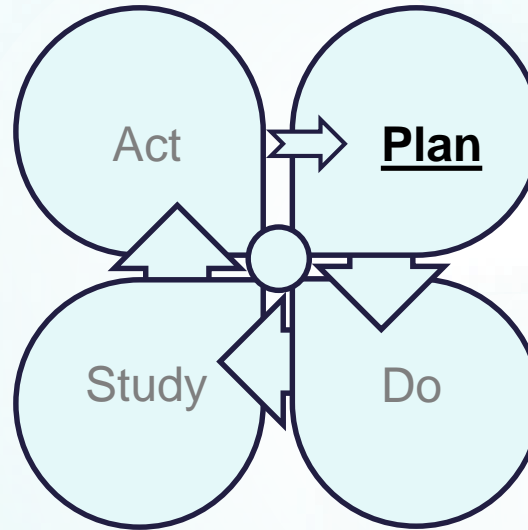
- Erlanger Baroness Hospital August 2020-August 2021
- 16740 patients receiving VTE prophylaxis were reviewed
- 78% were prescribed Lovenox
- 36% of prescribed doses of VTE prophylaxis were not administered



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PDSA: Cycle One



- Clinical Pharmacist Staff Meeting
- Nursing Staff Meeting
- Develop EMR Prompt

PDSA: Cycle One

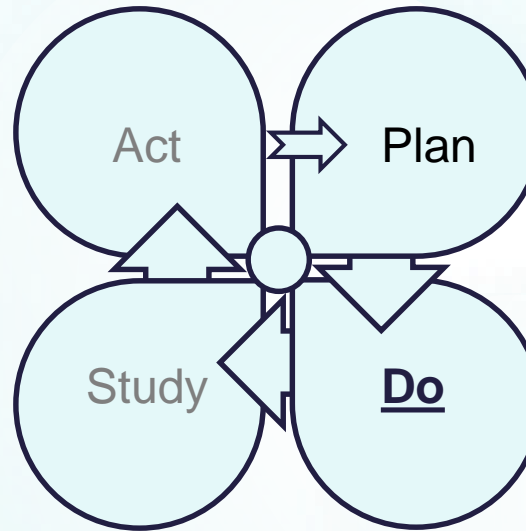
ANTICOAGULANTS

enoxaparin (LOVENOX)
syringe 30 mg

30 mg, subcutaneous, Every 12
hours, First dose on Mon 3/28/22
at 1400

Adult patients-Do not hold dose
without contacting provider

Show Less



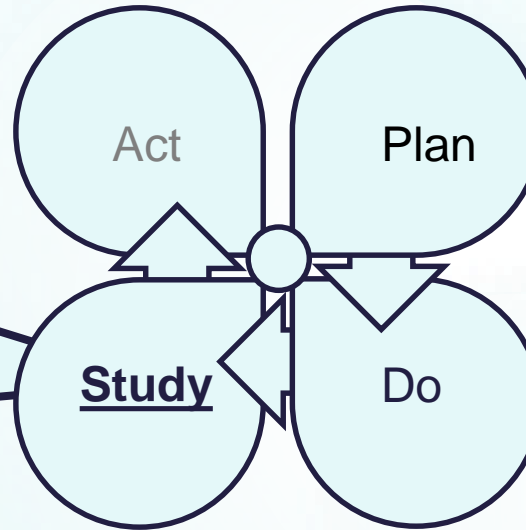
- Clinical Pharmacist Staff Meeting
- Nursing Staff Meeting
- Develop EMR Prompt

- Prompt implemented 08/04/2021
- Data collected 08/21 to 05/21

PDSA: Cycle One

Postintervention analysis:

- 3631 patients were reviewed
- 81% were prescribed Lovenox
- 31.6% of doses were missed
- MAR Hold most common



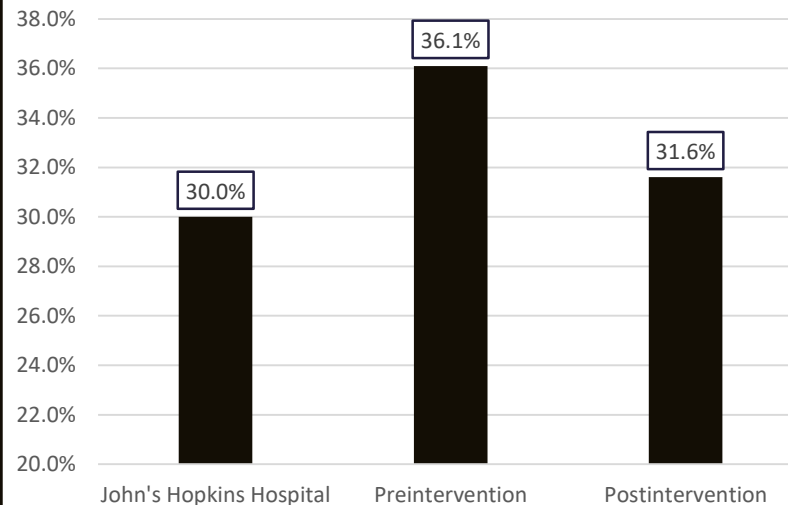
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PDSA Cycle One: Results

4.5% increase in VTE prophylactic medication administration rate in just two months of intervention!

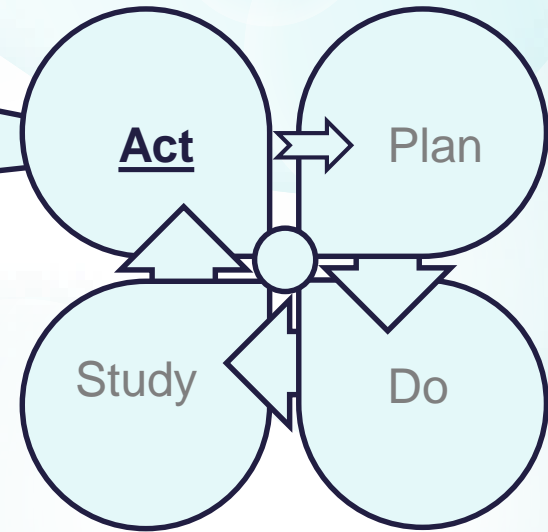
Rate of VTE Prophylaxis Non-Administration



PDSA: Cycle One

Proposed project improvements and future plans:

- Make prompt a hard stop
- Nursing education at monthly staff meetings
- Evaluating MAR Hold effectiveness
- Increase frequency of PDSA analysis



Discussion

- Aim to have 10% decrease in withholding, we obtained 4.5% in two months → 5.5% room for improvement
- A sustainable, low-cost intervention with high reward
- Barrier to project progression: Hard-stop in Epic is technically challenging
- Unresolved Issues: reason for medication withholding is not statistically significant
- Cycle Two in planning stage

Conclusion

EMR prompts is effective at decreasing the rate of missed VTE prophylaxis administration

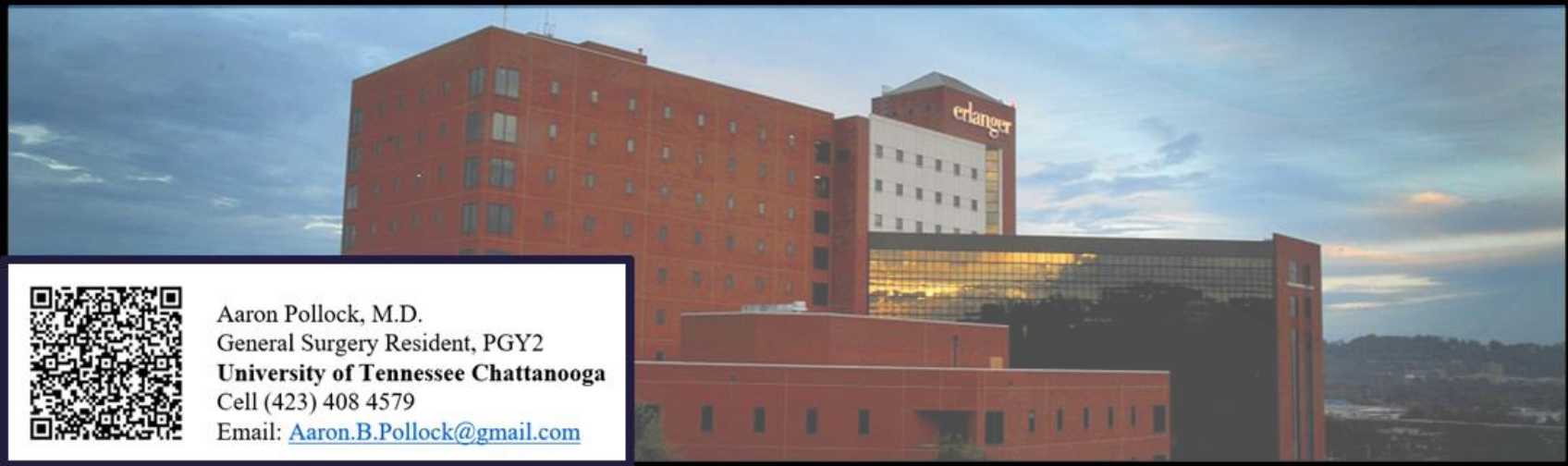
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Thank you! Questions?



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