VTE Reduction

STARTER PACK – WEBINAR #1

GREAT LAKES
PARTNERS FOR PATIENTS

Illinois | Michigan | Wisconsin
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Accelerating Improvement at the Point of Care

Why is it important to reduce VTE?

Why VTE Reduction?

- Key Statistics
  - 350,000 to 600,000 VTE's annually
  - 100,000 of these patients die
  - One of the most common causes of preventable hospital death
  - Increased LOS and 10- 15 percent die

Why VTE Reduction?

Why VTE Reduction?

- Acute Inpatient Costs
  - Average $8,000 per event
- Long Term Costs
  - Causes long term sequelae
  - 40% may suffer a recurrent event within 10 years

Why VTE Reduction?

Can we prevent VTE?

Can It Be Done?

Effective means exist to reduce VTE but are not routinely or systematically applied.

Can It Be Done?

- Mayo Clinic, December, 2016[1]:
  - Required physician risk assessment as part of EMR pathway
  - Increased appropriate prophylaxis to 97% (CMS VTE-1 and VTE-2)
  - Reduced preventable VTE's to zero for three consecutive quarters (VTE-6)

[1]Morgenthaler, T. I., and Rodriguez, V., Preventing Acute care-Associated Venous Thromboembolism in Adult and Pediatric Patents Across a Large Healthcare System, J of Hospital Medicine, 11(S2):S15-21, 2016. Retrieved at http://onlinelibrary.wiley.com/doi/10.1002/jhm.2662/full

Can It Be Done?

- Johns Hopkins, December, 2016[2]:
  - used a variety of approaches that increased risk-appropriate prophylaxis to 96% and reduced preventable VTE by >80%

Streiff, M. B., Lau, B. D., Hobson, D. B., et al, The Johns Hopkins Venous Thromboembolism Collaborative: Multidisciplinary Team Approach to Achieve Perfect Prophylaxis, J of Hospital Medicine, 11(S2):S8-14, 2016. Retrieved at http://onlinelibrary.wiley.com/doi/10.1002/jhm.2657/full

Can It Be Done?

Getting Started

Project Goal

- HIIN goal -20% reduction in post-operative VTE
- Great Lakes is one of 16 HIINs working to achieve this bold goal!

First Things First

- Ask:
  - Are we ready?
  - Is there urgency?
  - Is there leadership support?
  - Who owns this effort?
  - What resources are needed?
  - What if we are not ready for full-scale change?
- Assess the readiness before you proceed

Establishing Your Team

- Successful VTE teams are multi-disciplinary
- Who do you need on your team?
  - Executive Champion – senior leader who will provide support
  - Team Leader – a person with authority to test the change ideas
  - Team Members –
    - Physicians, Pharmacists, Front Line Nursing, IT, Biomed, Physical Therapy, Patient/Family Advisor

Tips for Effective Meetings

- Plan ahead
  - Set the agenda
  - Gather data/materials
  - Do pre-work
- Be brief
  - there is no rule that says a meeting needs to last an hour!
- Timed Agenda
- “Parking Lot”
- Take “actionable” minutes
- FOLLOW UP

Best Practices

WHAT WORKS

Summary of *Required* Practices

- Risk screen every patient on admission and after change in status
  - Physician must do it
- Risk screen must drive appropriate prophylaxis order selections
- Engage nurses and patients
- Employ “measure-vention”
- PDSA…PDSA…PDSA…Create Learning Loops

Risk Screen Every Patient

- *Hardwire* into the admission order sets and unit to unit transfer order sets *a process that requires the physician to determine the patient's risk for VTE*
- *Hardwire process that requires the physician to determine patient's risk for bleeding*

Risk Screen Every Patient

- Why the physician and not the nurse?
  - Knows the history
  - Knows the risk
  - Drives the orders

But How?

- Use standard risk assessment tools
- Allow for specialty variation
  - American College of Physicians
  - American College of Chest Physicians
  - American Academy of Orthopedic Surgeons
  - Society of Hospital Medicine
  - OB, Neurosurgery, Trauma, Oncology, etc.
- Allow for patient driven variation

Let's Simplify This a Little

- Quantitative Risk assessment models (point scoring)
  - Caprini
  - Padua
  - Others
- Limited validation
- Unpublished records of success with Caprini at U. of Wisconsin and U. of Michigan[3]

[3]AHRQ VTE Guide, Chapter 5.
http://www.ahrq.gov/sites/default/files/publications/files/vteguide.pdf

Let's Simplify This a Lot

- UC San Diego Updated 3 Bucket model[4]
  - Qualitative
  - Validated
  - Simple
  - Proven to work in broad range of hospitals
  - Most widely used

[4]AHRQ VTE Guide, Chapter 4.
http://www.ahrq.gov/sites/default/files/publications/files/vteguide.pdf

UC San Diego Updated 3 Bucket Model

Low Risk: Observation status, expected LOS <48 hours. Minor ambulatory surgery unless multiple strong risk factors. Medical patients ambulatory in hall and not moderate or high risk. Ambulatory cancer patients admitted for short chemotherapy infusion.	No prophylaxis; reassess periodically, ambulate.
Moderate Risk (most general medical/surgical patients): Most general, thoracic, open gynecologic, or urologic surgery patients. Active cancer or past VTE/known thrombophilia in medical patient with LOS >48 hours. Medical patients with decrease in usual ambulation **AND** VTE risk factors (myocardial infarction, stroke, congestive heart failure, pneumonia, active inflammation/infection, dehydration, age >65).	UFH or LMWH prophylaxis*
High Risk: Hip or knee arthroplasty, hip fracture surgery, multiple major trauma, spinal cord injury or major neurosurgery, abdominal-pelvic surgery for cancer.	IPCD **AND** LMWH or other anticoagulant*

* For those at moderate or high VTE risk and contraindications to anticoagulation, use IPCD alone until bleeding risk subsides.

And Now Comes The Magic!

- Because the physician assesses and documents the risks of both VTE and bleeding…
- The physician is only presented with the prophylaxis choices appropriate for that specific patient's risk!

Nurses/Patients Must Also Be Engaged

- Nurses and Patients often do not know the risks of VTE (frequency, morbidity, mortality)
- Prophylaxis is not fun
- Prophylaxis is work
- Failure to do it correctly every day leads to increased risk of VTE
- Correct risk assessment + correct orders + occasional lapses in order implementation

= FAILURE

Nurses/Patients Must Also Be Engaged

- Nurses are key
  - Nurses must understand that prophylaxis is important
  - Nurses must understand any process failure puts the patient at increased risk
- Patients are key
  - Patients want to know the risks/consequences of VTE
  - Patients want to hear of the risks / benefits / alternatives of prophylaxis
  - Patients want this discussion with their *doctor*!

Why is This So Hard?

- Ambulation
  - Studies show that only 27% of patients who can walk in the hospital actually walk (Callan, 2004)
  - Who walks them? Nurses? PT? Nobody?
  - What is "ambulation"?
  - "Get Up and Go" (1986)

https://www.healthcare.uiowa.edu/igec/tools/mobility/getUpAndGo.pdf

Subcutaneous anticoagulants

- It hurts
- It bruises
- Patients often decline one or more doses

Sequential Compression Devices

- Where does the nurse get one when ordered?

+

+

Sequential Compression Devices

- The best place to find them is…

OR

Graduated Compression Stockings? VTE Prevention?

- Possibly effective in surgery patients (Cochrane, 2014)
  - Need to be started one day prior to surgery
- Not effective in medical patients (ACP, 2011)

Employ "Measure-vention"

- How many lives do we save by finding "failure" after discharge?
- Can we find failure in real time?

What is “Measure-vention”

- It is very hard to implement a process that works >95% of the time
- So do one that works 80% of the time
- Find the 20% failures
- Correct 80% of those……
- Your process is now >95%

Roger Resar, IHI

How Does That Work With VTE?

- Monitor all patients every 24 hours (0700?)
  - Can be done at unit or even nurse level
  - Manually or electronically
- Identify patients without orders appropriate for risk
- Identify patients not receiving prophylaxis as ordered
- Intervene

Manual Measure-vention

- At beginning of shift huddle
- Has the risk of VTE changed?
- Has the risk of bleeding changed? (e.g. falling?)
- Is the patient receiving the ordered pills, SQ injectons or SCD's or ambulation?
- If risk has changed, contact physician (scripted?)
- If not receiving orderd prophylaxis, understand why, make necessary changes

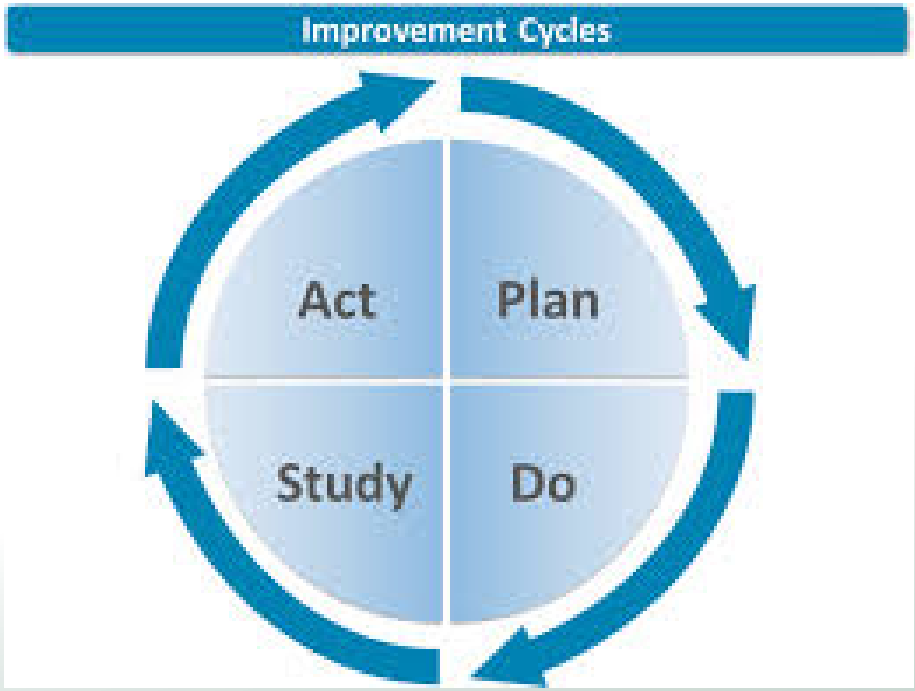
Electronic Measure-vention

BED_LABEL	VTE Risk Category	Medication	Dose	SCD order	SCD On	AC Contraindication	Braden Activity
601A	Low	No Anticoag Med	No Anticoag Dose	N	No SCD	N	Walks Frequently
601B	Moderate	No Anticoag Med	No Anticoag Dose	Y	On	Y	Chairfast
608B	Moderate	enoxaparin (LOVEN	40 mg DAILY Subcutaneous	N	No SCD	N	Walks Frequently
609A	Low	No Anticoag Med	No Anticoag Dose	N	No SCD	N	Walks Frequently
609B	Moderate	heparin injection 5,	5000 Units EVERY 12 HOURS	N	No SCD	N	Walks Occasionally
611A	High	enoxaparin (LOVEN	40 mg DAILY Subcutaneous	Y	Off	N	Chairfast
611B	Moderate	enoxaparin (LOVEN	40 mg DAILY Subcutaneous	N	Patient Refu	N	Walks Occasionally
612A	Moderate	No Anticoag Med	No Anticoag Dose	Y	Patient Refu	N	Bedfast
612B	Low - Anticoagulat	enoxaparin (LOVEN	1 mg/kg EVERY 12 HOURS Su	N	No SCD	N	Chairfast
615A	Moderate	No Anticoag Med	No Anticoag Dose	Y	On	N	Chairfast

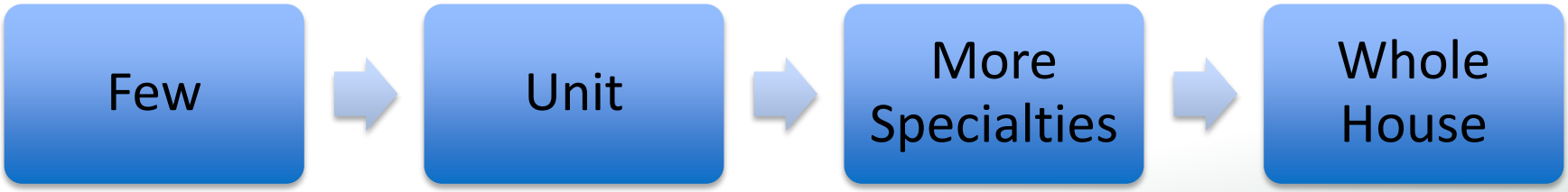
Develop your learning loop

PDSA…PDSA…PDSA…

- Small tests of Change/Rapid Cycle



Keep Learning as You Spread



Key Resources for More Information

Improvement Guides

- Maynard, G., Preventing hospital-associated venous thromboembolism: a guide for effective quality improvement, 2nd ed. Agency for Healthcare Research and Quality; August, 2016 . AHRQ Publication No. 16-0001-EF. Retrieved at: http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patient-safety-resources/resources/vtguide/vteguide.pdf
- The Society for Hospital Medicine VTE Prevention Implementation Toolkit. Retrieved at: http://www.hospitalmedicine.org/Web/Quality_Innovation/Implementation_Toolkits/Venous_Thromboembolism/Web/Quality___Innovation/Implementation_Toolkit/Venous/First_Steps/Implementation_Guide.aspx##
- Supplement: Preventing Hospital-Acquired Venous Thromboembolism: Lessons from the Field, Journal of Hospital Medicine, 11(Supplement S2):S5-S43. 2016 Retrieved at: http://onlinelibrary.wiley.com/doi/10.1002/jhm.v11.S2/issuetoc
- HRET HEN 2.0 VTE 2016 Change Package. Retrievable at http://www.hret-hen.org/topics/vte/HRETHEN_Change%20Package_VTE.pdf

Key Resources for More Information

Medical Society Clinical Guidelines:

- Antithrombotic Therapy and Prevent of Thrombosis, 9th edition: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Retrievable at: http://journal.publications.chestnet.org/issue.aspx?journalid=99&issueid=23443&direction=P
- Venous Thromboembolism Prophylaxis in Hospitalized Patients: A Clinical Practice Guideline From the American College of Physicians. Retrievable at: http://annals.org/article.aspx?articleid=1033137
- AAOS Clinical Practice Guidelines for Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty. Retrievable at: http://www.aaos.org/research/guidelines/VTE/VTE_guideline.asp

Understanding the Measures

HOW WILL YOU KNOW THAT YOU'RE MAKING A DIFFERENCE?

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Perioperative PE or DVT (PSI-12)

All Facilities

PE/DVT: CMS HIIN Evaluation Measure (AHRQ PSI 12)	
Number of surgical patients that develop a perioperative PE or DVT	
Measure type	Outcome
Numerator	Number of discharges with administrative codes for deep vein thrombosis (DVT) or pulmonary embolism (PE) in any secondary diagnosis field.
Denominator	Number of surgical discharges age 18 and older defined by specific DRGs or MS-DRGs and an administrative code for an operating room procedure.
Exclusions	-Cases with principal diagnosis for pulmonary embolism or proximal deep vein thrombosis -Cases with secondary diagnosis for pulmonary embolism or proximal deep vein thrombosis present on admission -Cases in which interruption of vena cava occurs before or on the same day as the first operating room procedure -Obstetric discharges
Rate calculation	$\frac{\text{number of discharges with code for DVT or PE}}{\text{number of surgical discharges}} \times 1{,}000$
Specifications/definitions Sources/Recommendations	Available from AHRQ: PSI 12 Surgical Discharge Specifications: PSI Appendix E Operating Room Procedure Codes: PSI Appendix A
Data source(s)	Administrative Claims data
Automatic transfer from	Inpatient databases (MI, IL, WI)
Baseline period	Calendar year 2014
Data collection period	Monthly, beginning 2016 Q4
KDS Survey Name	VTE PSI
KDS Measure ID(s)	KDS-HIIN-VTE-1
PfP Measure Name	PSI12

Gap Analysis

WHAT IT IS AND HOW YOU USE IT

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What is the Current State of VTE Prevention?

What and How

- A tool that will help you understand what's currently in place and not in place in your facility
- Check items that are in place
- Prioritize gaps based on learnings

VTE Reduction Gap Analysis

- Domains
  - Contact info
  - Foundation
  - HIT
  - Best practices
  - Help

GREAT LAKES – VTE REDUCTION – GAP ANALYSIS SURVEY

Contact information:

The foundation:

1. Has an executive champion been named to support this work? Y/N
2. Has a measurable organizational AIM been established? Y/N
3. Has a multi-disciplinary team been identified? Y/N
4. Does team meet regularly (at least monthly)? Y/N
5. Has VTE data analysis been obtained or performed internally? Y/N
6. Are VTE events reviewed using pt. interview and case review to determine if the VTE was preventable? Y/N
7. Are VTE events reviewed using pt. interview and case review to determine if there were process failures? Y/N
8. Does monthly tracking of the VTE rate occur? Y/N
9. Does monthly tracking of key processes occur? Y/N
10. Is the monthly VTE data shared with all staff? Y/N
11. Does the organization prioritize improvement efforts based upon learnings from data and analysis? Y/N
12. Is there a written description of your VTE reduction program? Y/N

Health information technology:

1. Do you use an EHR for physician order entry? (if No/skip to Question 4) Y/N
2. Does the EHR have the capability to have risk assessment protocols within the workflow? Y/N
3. Can the EHR populate orders limited to those appropriate for the identified risk level? Y/N
4. Do you use paper physician order entry? (If No/Skip to Question 6) Y/N
5. Do you use standard paper orders that link risk assessment to orders? Y/N
6. Does the EHR allow for entry of patient's level of ambulation (often from the Braden scale)? Y/N
7. Can the EHR flag process failures (medication or SCD not given/applied)? Y/N

Best practices:

1. Upon every admission, does the *physician* use and document a standard model to assess the patient's risk of VTE? Y/N
2. Upon every admission, does the *physician* use and document a standard model to assess the patient's risk of bleeding? Y/N
3. Once the risk assessment is documented, does the process only allow the physician to choose prophylaxis options appropriate to the chosen risk level? Y/N
4. Does every physician discuss with every patient the risks and consequences of VTE? Y/N
5. Does every physician discuss with every patient the risks/benefits/alternatives for prophylaxis? Y/N
6. Do all nurses understand the risks/consequences of VTE? Y/N
7. Do all nurses understand the increased risk of VTE for any single process failure? Y/N
8. Do you have a policy that ensures that every patient will be ambulated daily by a nurse

Your First/Next Steps

GET GOING

Stop Talking. Start Doing.

"The way to get started is to quit talking and begin doing."

- Perform your Gap Analysis
- Access the Resources provided - make notes and ask questions
- View Webinar #2
  - How to engage and involve stakeholders
  - Learn about PDSA and Small Tests of Change
- Decide the next level of HIIN support
  - Onsite assistance
  - Improvement Action Network
  - Other

Where to find the Resources

Keystone Center Quality Initiatives Settings

Community Home | Discussion 0 | Library 19 | Blogs 0 | Events 4 | Members 645

19 Entries

Add To RSS Feeds

Folders

New | New Child | Delete

- Keystone Center Quality Initiatives
  - ~General HIIN information
  - Adverse Drug Events (ADE)
  - Antibiotic Stewardship (AMS)
    - AMS Starter Pack
    - AMS Resources
  - Clostridium difficile (C.Diff)
    - C.Diff/AMS Starter Pack
    - C.Diff/AMS Resources
  - Catheter-associated Urinary Tract Infections (CAUTI)
    - CAUTI Starter Pack
    - CAUTI Resources
  - Central Line-associated Blood Stream Infections (CLABSI)
    - CLABSI Starter Pack
    - CLABSI Resources

Folder Contents

New | View | Delete

- GAP Analysis
- Webinar 1
- Webinar 2

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