

# An Interdisciplinary Approach to Reduce PE/DVT across the Continuum of Care: Hindenburg A, Sicuranza G, Spitz L, Becker R, Castiglia C, Martin RA, Sandre P

## Introduction:

According to The Centers for Disease Control and Prevention(CDC),<sup>1</sup> “Deep Vein Thrombosis and Pulmonary Embolism (DVT/PE) are often underdiagnosed and serious, but preventable medical conditions.

Deep vein thrombosis (DVT) is a medical condition that occurs when a blood clot forms in a deep vein. These clots usually develop in the lower leg, thigh, or pelvis, but they can also occur in the arm.

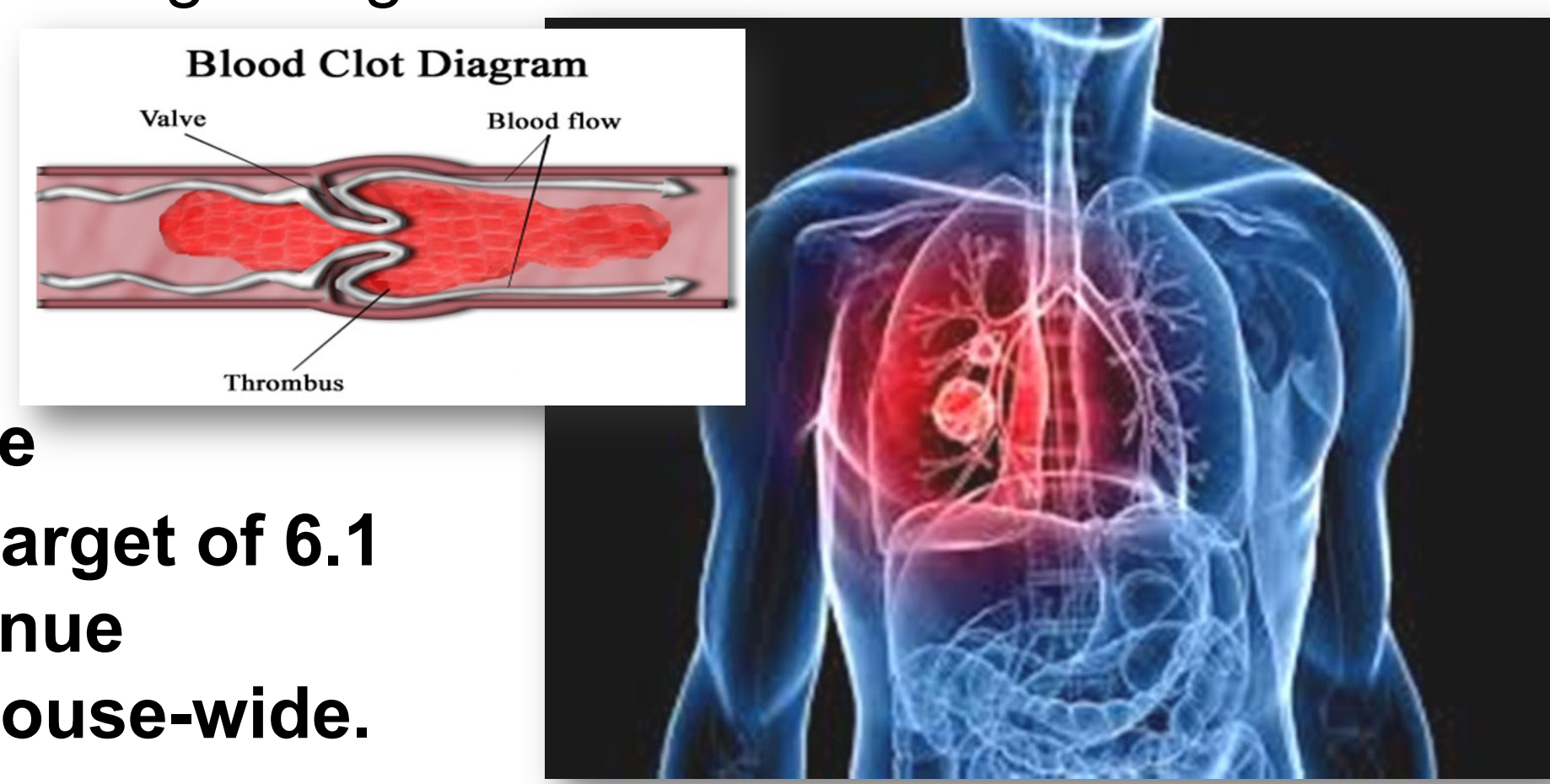
It is important to know about DVT because it can happen to anybody and can cause serious illness, disability, and in some cases, death. The good news is that DVT is preventable and treatable if discovered early.

Over the past three years we have had a Hospital Wide Program to reduce the number of hospital acquired (HAC) DVT/PE. A multi-prong education strategy was followed using:

- a) Hospital Wide Anticoagulation Committee addressing team education,
- b) Nursing education, c)Pharmacy-driven education and
- d) Physical Therapy education, as well as, e) over 700 multidisciplinary contact hours on DVT/PE produced by QI and CME Department, all converged together to educate their staff and patients.

## Specific Aims:

The purpose of the project is to decrease our incidence to a centrally defined target of 6.1 cases/1000, and continue education to sustain house-wide.



## Methods:

**Using an IHI-PDSA approach, five distinct education efforts were pursued iteratively to reach various clinician populations, many of which overlap:**

1. All members of the Hospital Wide Anticoagulation Committee (HWACC) are educated on best practices and all new medications are discussed at the committee level. Barriers to ambulation, pre admission testing for high risk patients are discussed.
2. Random audits are completed on charts for the following:
  - Completion of the appropriate admission screening tool
  - Appropriate chemical or non-chemical prophylaxis is ordered
  - Documentation of the orders and that sequential compression devices (SCDs) are on the patient.
3. Real time education of house-staff is done by the chief residents and PA service chiefs, and when needed by the attending staff, by Dr. Hindenburg. Subsequent adjustments to prophylaxis are made to avoid a DVT/PE.
4. Review of all cases that fail or develop after Admission and after Surgical Procedures including:
  - Assessment and reassessments
  - Proper treatment and adjustments pre and post procedure
  - Blood transfusions
  - Mobility
 These cases are reviewed by service and then reviewed in our committee. Suggestions and recommendations are rendered.
5. Education through Grand Rounds for Prophylaxis, Diagnosis and Treatment of VTE.

## Interventions:

- We have updated out VTE assessment forms for all services with a scoring system and recommendations for appropriate non chemical and chemical prophylactics.
- We have have switched to Lovenox daily from the use of heparin three times a day, when appropriate. This alone was a big step. Anecdotal reports are that patient and nursing satisfaction increased, due to giving only one injection a day as opposed to three. We place Lovenox as the first choice on the admission orders for anticoagulation chemical prophylactics.
- Physical Therapy has increased staff and hours to accommodate many of our surgical patients and getting them up and moving on day zero.

## Limitations:

- Black box warnings on medications for particular services pre and post op. Services.
- Culture change in ambulation and getting patients mobile on Post-op day ZERO
- Increased staff needs
- No clear indications or recommendations from certain medical societies for anticoagulation.
- Communication on all services.

## Results:

Over the past three years our rates for PSI-12 and HAC have decreased from a quarterly average of 7 to 6 cases per 1000 (15%↓) over 10 quarters of intervention, resulting in better outcomes for our patients. There is an increased awareness for caregivers to get patients moving and provide safe patient care. We have a slight increase in the first 2 QTRs of 2018. This is a new fiscal year for us starting in September, previous it was January start.

## Next Steps:

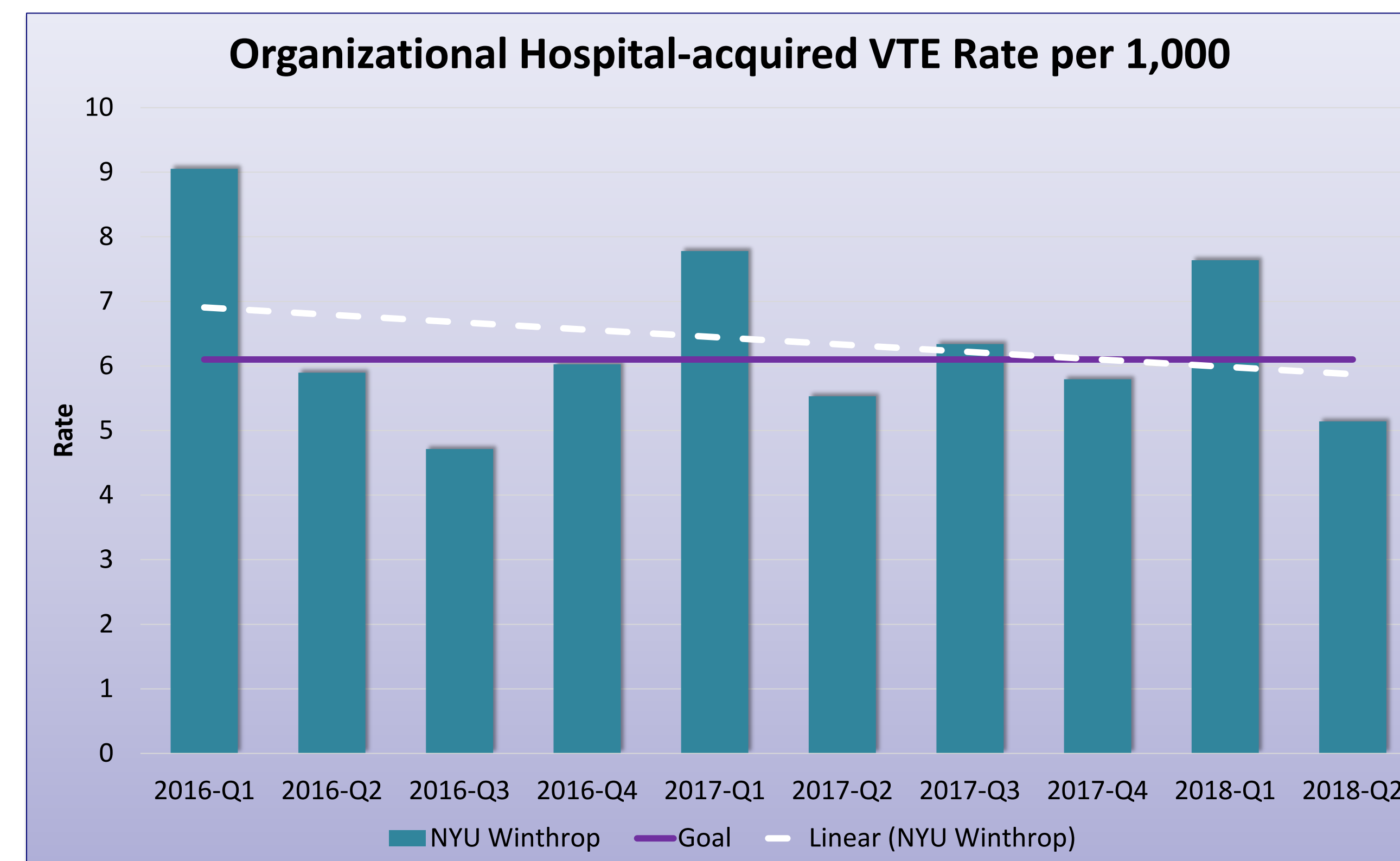
- Continue with ongoing education.
- Continue with random chart orders
- Continue to get our patients moving!
- Communicate to clinical staff the survival and financial outcomes

## References:

•<https://www.cdc.gov/ncbddd/dvt/facts.html>

## Authors:

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## Methods of Intervention

### Patient Ambulation Program



VTE Prophylaxis Chart Audit Form

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Attending: \_\_\_\_\_  
 Patient Name: \_\_\_\_\_ MRN# \_\_\_\_\_ ACT \_\_\_\_\_  
 Date of Admission: \_\_\_\_\_ Service: \_\_\_\_\_ Location: \_\_\_\_\_  
 Admission Diagnosis: \_\_\_\_\_ PE/DVT diagnosis date: \_\_\_\_\_  
 Was Risk Assessment Form completed on admission? Pre-Admission Testing BMI \_\_\_\_\_  
 Yes \_\_\_\_\_ No \_\_\_\_\_

1. What VTE risk was assigned to this patient on admission?  
 Low \_\_\_\_\_ Moderate \_\_\_\_\_ High \_\_\_\_\_ Highest \_\_\_\_\_
2. Was the VTE Assessment done on admission appropriate?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
3. Does patient have relative or absolute contraindications to pharmacological prophylaxis or conditions of concern (co-morbidities)?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
4. Are the prophylactic measures taken adequate based on the VTE assessment?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
6. Document current prophylaxis. Date ordered \_\_\_\_\_  
 Non Pharmacological  
 SCD's  
 Elastic Stockings  
 Pharmacological  
 Enoxaparin (Lovenox) 40 mg subcutaneous every day  
 Enoxaparin (Lovenox) 30 mg subcutaneous every day  
 Enoxaparin (Lovenox) 30 mg subcutaneous every 12 hours  
 Sargatan 5000 units subcutaneous every 12 hours  
 Heparin 5000 units subcutaneous every 8 hours  
 Fondaparinux (Arixtra) 2.5 mg subcutaneous daily (start 6 hours post-op)  
 Coumadin \_\_\_\_\_ mg daily  
 ASA 81 mg \_\_\_\_\_ once a day, Twice a day, \_\_\_\_\_  
 Enoxacin \_\_\_\_\_ mg daily  
 Warfarin \_\_\_\_\_ mg daily  
 Other (please name) \_\_\_\_\_  
 None
- PRE-OP: Anticoagulation ordered yes/no please list \_\_\_\_\_ if yes administered date and time \_\_\_\_\_
7. Has this patient's condition changed since the initial VTE assessment was completed on admission?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
8. If yes was their current VTE prophylaxis reassessed?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
9. Is the current VTE Assessment Appropriate?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
10. Are the current prophylactic measures taken adequate based on the current VTE assessment?  
 Yes \_\_\_\_\_ No \_\_\_\_\_
11. If you answered No to either question # 9 or 10 please explain \_\_\_\_\_
12. Any blood products given -NO \_\_\_\_\_ Yes \_\_\_\_\_ dates of administration and indications: \_\_\_\_\_

If you have any questions please call Lori Spitz, RN CPHQ ext: 4800

### Educating Trainees



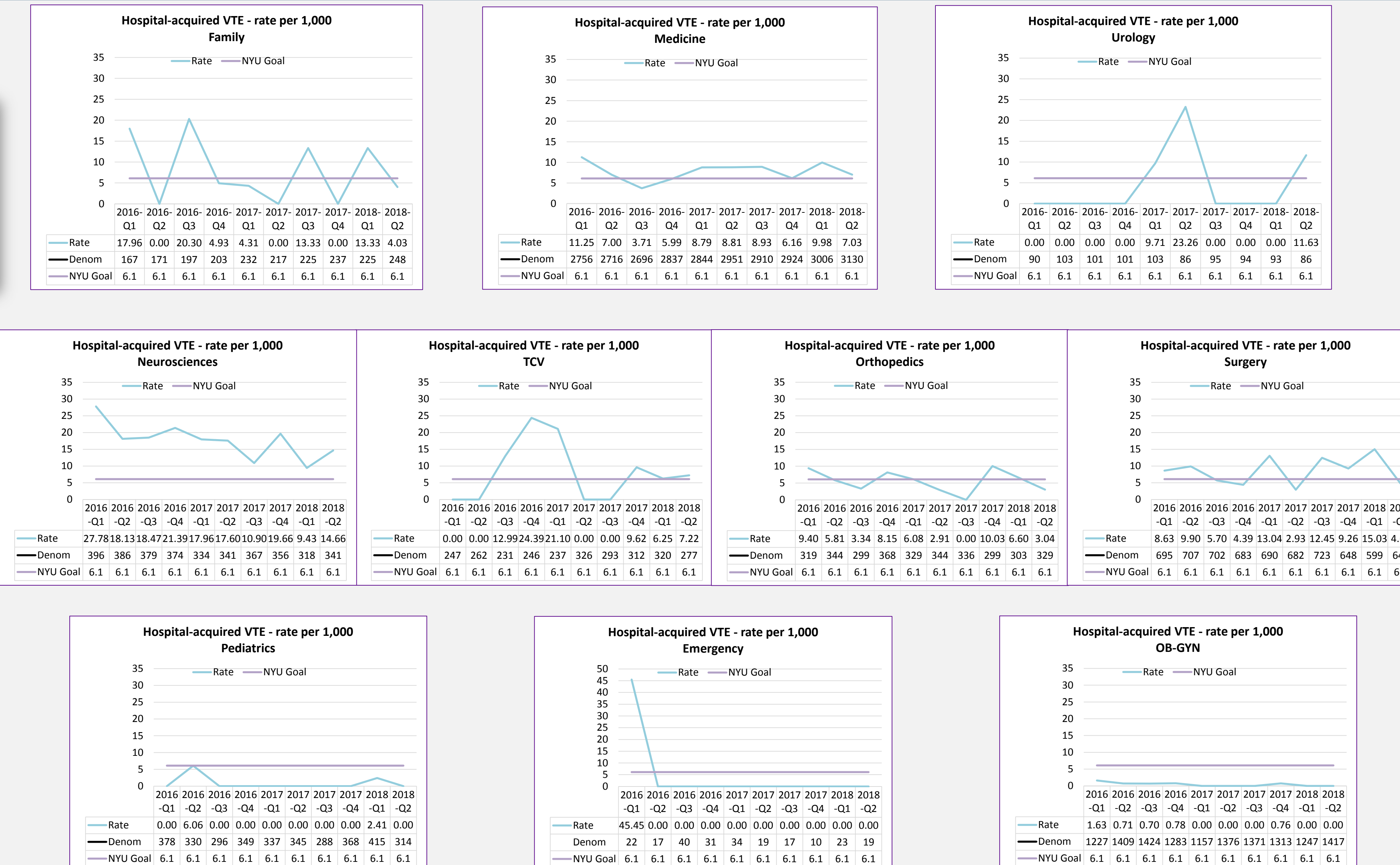
NYU –Winthrop				
	Num	Denom	Rate	Change
2016	164	25,586	6.41	-
2017	166	26,179	6.34	1.07%
2018*	85	13,359	6.36	-0.34%
			* Q1 and Q2 only	
			<b>NYU Goal:</b>	<b>6.1</b>

Thanks to 2016 Presenters: Drs. Sicuranza, Chenouda, Hindenburg, Allendorf, Tessler, Capozzi, Delacruz, John; Linnea Drew, Lori Spitz



### Annual CME/CE

Thanks to 2017 Presenters: Drs. Sicuranza, Massani, Hindenburg, Shubach, Speigler, Hon, Daggubati, Rosenthal; Alice Nash, Lori Spitz



## Chart Audit Tool