



**Jefferson**

Philadelphia University +  
Thomas Jefferson University

# Present on Admission: VTE Incidence in Transferred Trauma Patients

Brock Hewitt, MD MPH MS

Thomas Jefferson University Hospital

January 16<sup>th</sup>, 2020

# Background

## THE FACTS

A blood clot that forms in the leg is called deep vein thrombosis (DVT). If the blood clot breaks loose and travels up to your lungs, it is called a pulmonary embolism (PE).

Together, they are known as venous thromboembolism (VTE).

## THE NUMBERS

**1** IN **4**

people die from causes related to blood clots

**1-3**

top cardiovascular killers are linked to blood clots

**#1**

cause of preventable death in hospitals is VTE

**60%**

of all VTE cases occur during or following hospitalization

- Deep vein thrombosis quality metrics: PSI 12, PSI 90, ACS NSQIP
- TJUH - High outlier (not good) in multiple metrics
- Ultrasound screening program for trauma transfer patients

# Methods

- Single institution study
  - Center City Campus
- Trauma patients discharged from January 2016 - May 2019
- Screening lower extremity ultrasound to detect present on admission (POA) DVTs
  - DVT -> popliteal vein or proximal (i.e., isolated calf vein thromboses were excluded)
- T-tests for continuous and chi-square for categorical data

# Results - Transferred vs Not Transferred

	Transfer	Not Transfer
Total	984	3,052
Case Mix Index*	3.6	2.1
Complication Rate*	9.6%	5.0%
Length of Stay*	11.2 days	6.6 days
Mortality Rate*	9.5	1.9

\*Significant  $p < 0.01$

# Results - No VTE vs POA DVT

	No VTE	POA VTE
Total Transferred (n=984)	949	35
Case Mix Index*	3.3	5.3
Length of Stay (days)*	10.0	19.6
Mortality Rate*	9.0	11.6

\*Significant  $p < 0.01$

# Summary

- **Patients that transfer to TJUH are more complex with higher morbidity and mortality compared to non-transferred patients**
- **High rate POA DVT that would have been miscategorized as occurring at TJUH otherwise**
- **Patients with DVT POA do worse compared to patients that never develop a DVT**

# Conclusion

- **Screening ultrasound on admission for transferred trauma patients:**
  - Properly categorize patients -> Quality and monetary implications for hospitals
  - Identify patients at high-risk for complications/mortality



**Jefferson**

**Philadelphia University +  
Thomas Jefferson University**