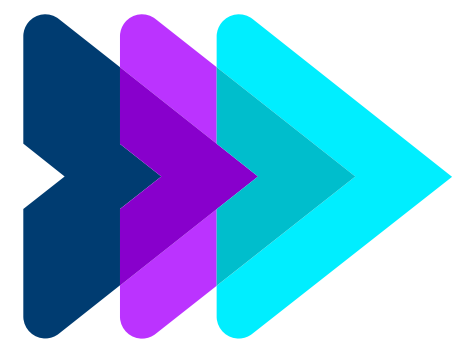


# Costs of Inferior Vena Cava Filter Placement for Medicare Beneficiaries with Acute Venous Thromboembolism



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## BACKGROUND

- Venous thromboembolism (VTE) affects an estimated 900,000 Americans annually and 10-30% die within 30 days.<sup>1</sup>
- The annual medical cost of incident VTE events is estimated to be \$7 to \$10 billion.<sup>2</sup>
- Studies examining the costs of inferior vena cava filter (IVCF) placement are lacking.

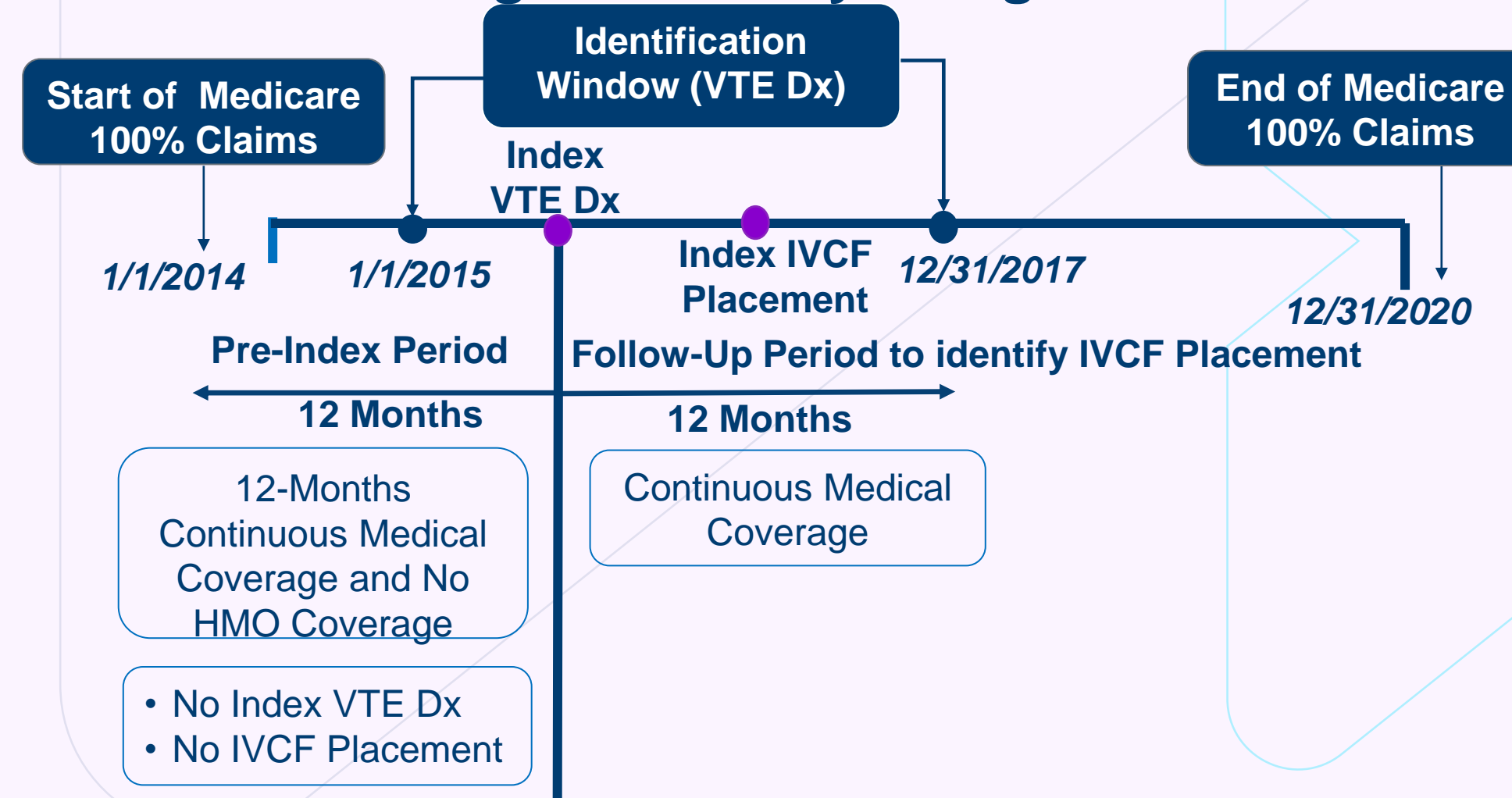
## OBJECTIVE

To quantify the costs incurred by Medicare for index IVCF placement in beneficiaries with VTE.

## METHODS

- A retrospective claims analysis was conducted using the 100% Medicare Standard Analytic Files to identify newly diagnosed VTE patients from 1/1/2015-12/31/2017.
- The mean cost associated with the index IVCF placement was estimated by VTE type and by service location.

Figure 1. Study Design



## RESULTS

- Of the 194,016 VTE Medicare beneficiaries identified, 2,118 (1.1%) had an IVCF placed.
- The mean time from VTE diagnosis to index IVCF placement was 56 days (SD 68.2).

Table 1. Patient Characteristics

	IVCF Placement (n=2,118)	No IVCF Placement (n=192,229)
Age on Index VTE		
Mean (SD)	75.64 (7.56)	75.53 (7.4)
Race, n (%)		
Black	170 (8.2)	18,856 (10.0)
White	1,863 (89.8)	165,995 (87.8)
Other	41 (2.0)	4,256 (2.2)
Sex, n (%)		
Female	1,191 (56.2)	111,016 (57.8)
Male	927 (43.8)	81,213 (42.3)
Index Diagnosis, n (%)		
DVT and PE	379 (17.9)	35,256 (18.3)
DVT only	1,200 (56.7)	76,318 (39.7)
PE only	539 (25.5)	80,660 (42.0)
Index IVCF Placement Site of Service, n (%)		
Emergency department	266 (13.2)	-
Inpatient hospital	98 (4.8)	-
Outpatient hospital	1,654 (82.0)	-
Baseline Elixhauser Comorbidity Score		
Mean (SD)	3.6 (3.15)	3.2 (3.0)

%=percent; SD=standard deviation

Figure 2. Index IVCF Placement Cost by VTE Type

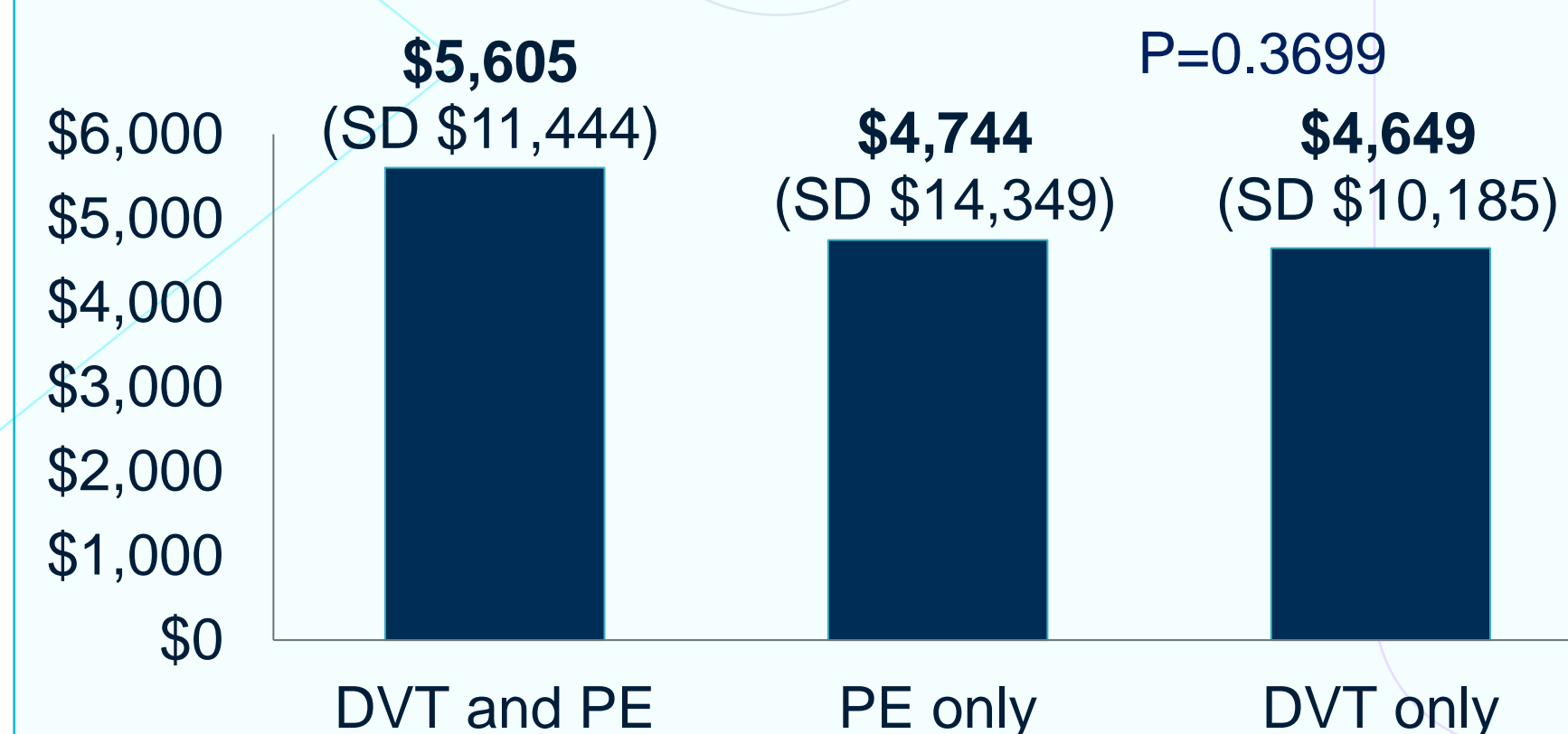
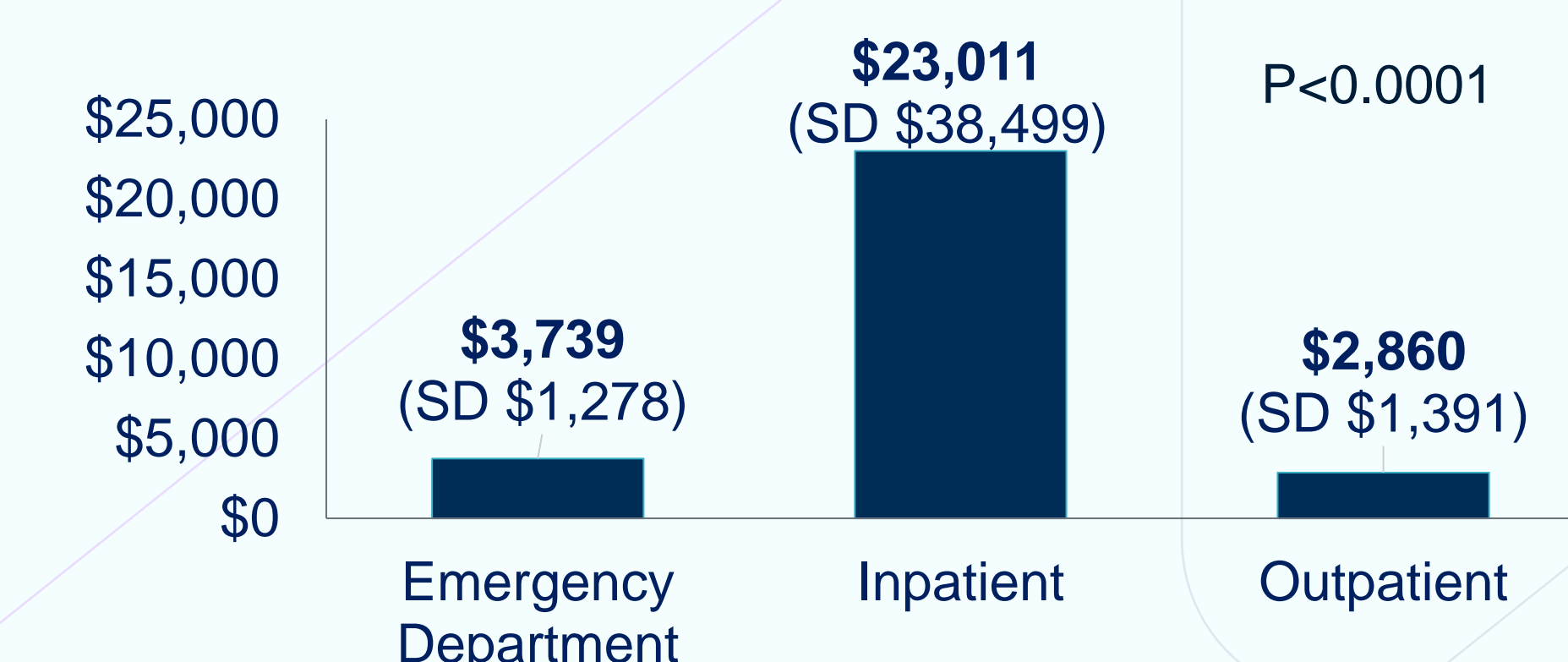


Figure 3. Index IVCF Placement Cost by Site of Service



## CONCLUSIONS

- In newly diagnosed Medicare beneficiaries with VTE, the costs of the index IVCF placement were significantly higher in the inpatient setting than in the outpatient setting.
- VTE type (DVT, PE, or DVT/PE) did not significantly impact the cost of the index IVCF placement.
- Future research is needed to explore the drivers of the cost differences by service location.

## LIMITATIONS

- Observational study design does not allow for randomization of treatment effect.
- Claims data is subject to limitations such as misclassification of codes.
- Study only included Medicare beneficiaries.

## DISCLOSURES

This study was supported by Boston Scientific. AW, SR, NA, and WW are employees of Boston Scientific. NS and RC are physicians at UPMC Presbyterian Hospital and were not compensated for their participation in this study.

## REFERENCES

1. Centers for Disease Control and Prevention. Data and Statistics on Venous Thromboembolism. 2020; Accessed 27 Jul 2021.
2. Grosse SD, Nelson RE, Nyarko KA, Richardson LC, Raskob GE. The economic burden of incident venous thromboembolism in the United States: A review of estimated attributable healthcare costs. *Thromb Res.* Jan 2016;137:3-10.