

Venous Thromboembolism Rates among Patients Hospitalized for Inflammatory Bowel Disease Exacerbation: A Time Trend Analysis of the National Inpatient Sample

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Background

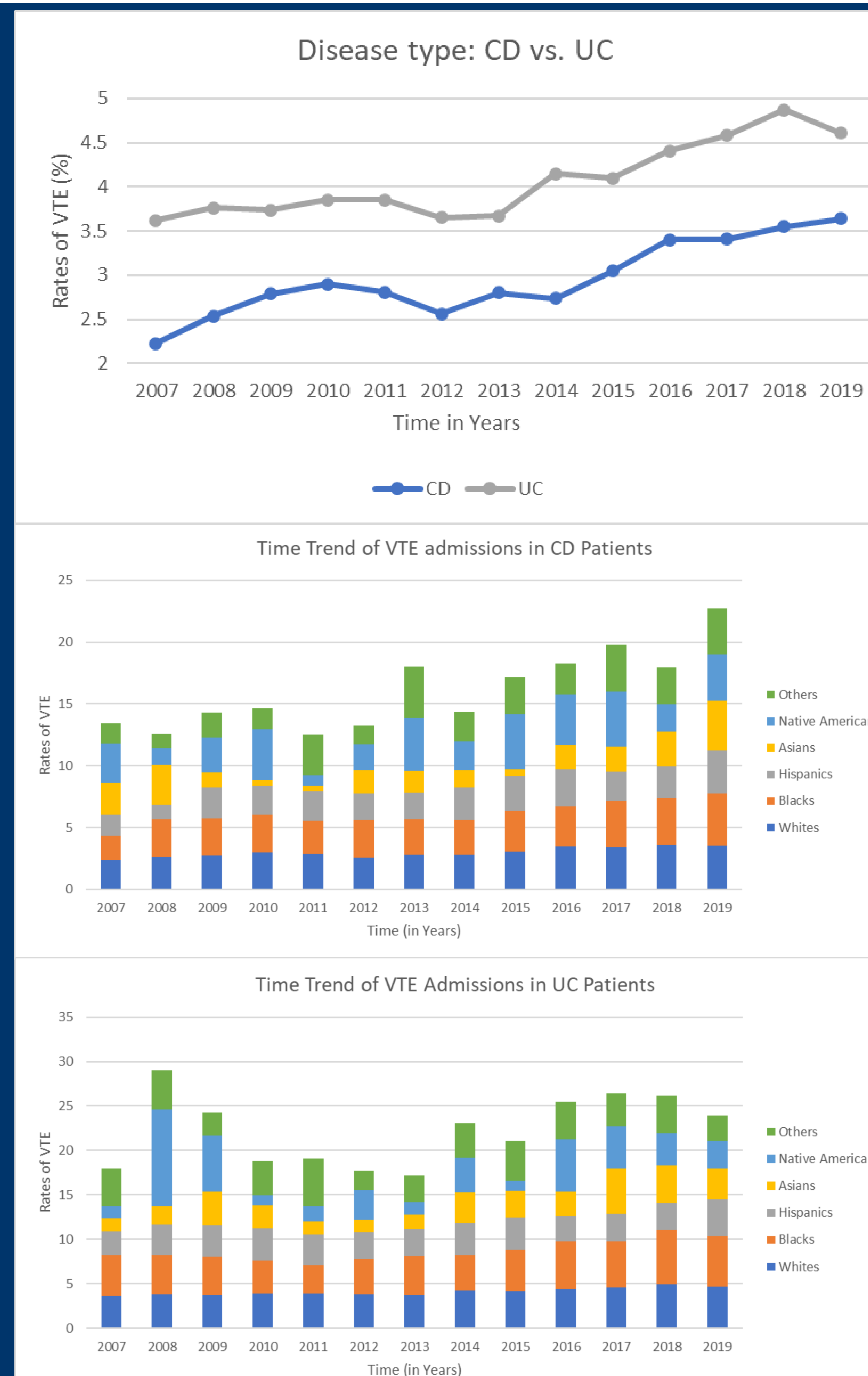
Guidelines support the use of VTE prophylaxis for IBD patients admitted with flares, but it is unclear if this has impacted rates of VTE during IBD hospitalizations

Methods

- Hospitalizations from 2007-2019 from the National Inpatient Sample (NIS)
- IBD flares were selected by a) a primary diagnosis of Crohn's disease (CD) or Ulcerative colitis (UC) or b) a secondary diagnosis of CD or UC with a primary diagnosis of GI manifestations of IBD
- Selected primary / secondary diagnosis of VTE with patients with any prior history of thrombosis were excluded
- Cochran-Armitage trend tests were used for binary variables; linear regression for mean averages; Rao-Scott adjusted chi-square test was used for binary variables

Results

- There were 3,888,195 weighted cases of IBD flare during our study period
- 131,541 weighted cases of an IBD flare were complicated by VTE: 73,530 had CD and 58,011 had UC
- VTE prevalence was 42.6 in UC and 30.7 in CD per 1,000 hospitalizations
- Rate increased from 3.58% to 4.62% for UC and from 2.22% to 3.66% for CD ($p < 0.0001$)
- Black IBD patients had higher risk of VTE (aOR 1.075, $p = 0.002$)
- Hispanic and Asian/Pacific Islanders had lower risk of VTE vs. Whites (aOR 0.873 and 0.658, respectively; $p < 0.0001$)
- Aside from Hispanic and Native American UC patients, all races/ethnicities had increased VTE trends over time



Results

Patient Demographics and Hospital Characteristics of IBD Patients Admitted with VTE

Variable	Crohn's Disease (n=73,530)	Ulcerative colitis (n=58,011)
Patient Age (Years)		
Mean (SD)	56 (0.16)	60 (0.19)
Sex		
Male	43.7%	50.3%
Female	56.4%	49.7%
Race*		
White	81.1%	79.6%
Black	12.3%	10.4%
Hispanic	3.8%	6.1%
Asian or Pacific Islander	0.5%	1.1%
Native American	0.4%	0.4%
Other	1.9%	2.5%
Insurance Type		
Medicare	48.5%	48.9%
Medicaid	12.5%	8.8%
Private Insurance	32.7%	36.4%
Self-Pay	3.2%	2.8%
Other	3.1%	3.1%
Hospital Bed Size		
Small	13.8%	13.5%
Medium	25.1%	24.8%
Large	61.1%	61.7%
Hospital Location/Type		
Rural	7.2%	6.1%
Urban Nonteaching	28.0%	28.9%
Urban Teaching	64.8%	65.0%
Charlson Comorbidity Index (CCI)		
CCI = 0	36.4%	35.5%
CCI = 1	21.8%	21.3%
CCI = 2	15.5%	14.7%
CCI ≥ 3	26.3%	28.6%
Hospitalization Costs	\$95,500	\$110,473
Length of Stay (in mean days)	10.39	11.25
Death (per 1,000 hospitalizations)	41.8	61.4

*There were some charts where race was documented in NIS as unknown.

Conclusions and Clinical Implications

Our findings highlight that despite current VTE prophylaxis guidelines and increased awareness of the elevated risk of VTE, that rates of first time VTE continue to increase for those hospitalized with IBD flares. Further study is needed to determine whether this trend is due to inadequate implementation of VTE prophylaxis guidelines, or whether the interventions recommended by the guidelines are truly adequate to prevent VTE.

Disclosure Information None