



Introduction

Prolonged emergency department (ED) stays adversely affect patient health outcomes and may increase mortality rates. This is particularly important for patients with hemophilia, who often experience medical emergencies related to bleeding and present challenges in diagnosis due to rarity of the condition.

**Objectives:** To assess demographic, clinical, and health system factors associated with ED length of stay (LOS) in patients with hemophilia.

Methods

- Study Population and Design:** A retrospective analysis of electronic health records from University of Florida Health Physicians (UFHP) practice was conducted, including adult and pediatric with hemophilia visiting any of the 4 University of Florida Health EDs from January 2018 to November 2023.
- Data Collection:** Patient LOS defined as time from ED registration to departure (discharge or admit). Patient demographics, clinical characteristics, and health system factors were collected for each patient at time of ED arrival.
- Statistical Analysis:** Accelerated Failure Time model (with log-logistic distribution) was used to compute the Time Ratios (TRs) for ED LOS. A TR above 1 indicates a longer ED stay relative to the reference group, whereas a TR below 1 suggests a shorter stay. For instance, a TR of 0.6 indicates that the covariate reduces the ED stay by 40% compared to the reference. We used forward selection to determine covariates to be included. Analyzed covariates included age, sex, race, bleeding event, type of hemophilia, day of ED arrival, and hematology consultation.

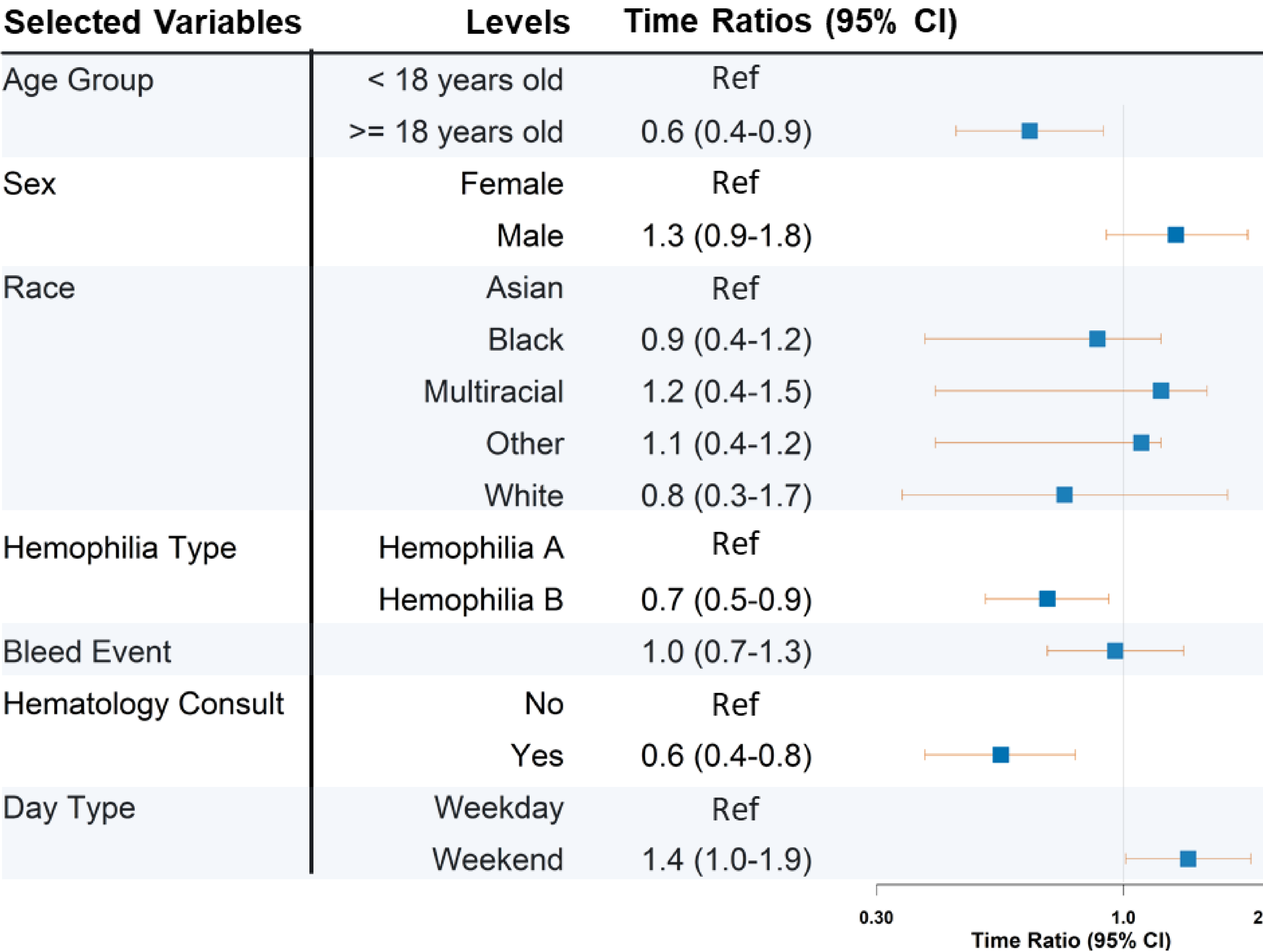
Table 1: Baseline Characteristics of included Patients

Variables	Levels	Total Patients (N=141)	Discharged (N=77)	Admitted (N=64)	P-Value
Sex, n (%)	Male	114 (80.9%)	59 (76.6%)	55 (85.9%)	0.16
Age, Mean (SD)		34.7(22.5)	34.0 (20.2)	35.4 (25.1)	0.93
Age Group	< 18 years old	104 (73.8%)	67 (87.0%)	37 (57.8%)	<.001
	>= 18 years old	37 (26.2%)	10 (13.0%)	27 (42.2%)	
Race, n (%)	Asian	3 (2.1%)	1 (1.3%)	2 (3.1%)	0.82
	Black	21 (14.9%)	12 (15.6%)	9 (14.1%)	
	Multiracial	3 (2.1%)	1 (1.3%)	2 (3.1%)	
	Other	7 (5.0%)	3 (3.9%)	3 (4.7%)	
	White	107 (75.9%)	60 (77.9%)	47 (73.4%)	
Ethnicity, n (%)	Hispanic	9 (6.4%)	6 (7.8%)	3 (4.7%)	0.28
Health Insurance, n (%)	Commercial	45 (31.9%)	34 (44.2%)	11 (17.2%)	0.003
	Medicaid	41 (29.1%)	19 (24.7%)	22 (34.4%)	
	Medicare	35 (24.9%)	14 (18.2%)	21 (32.8%)	
	Other*	6 (4.3%)	1 (1.3%)	5 (7.8%)	
	Self Pay	14 (9.9%)	9 (11.7%)	5 (7.8%)	
Bleeding Event, n (%)	Yes	36 (25.5%)	10 (13.0%)	26 (40.6%)	<.001
Type of Hemophilia, n (%)	Hemophilia A	110 (78.1%)	61 (79.2%)	49 (76.6%)	0.7
	Hemophilia B	31 (22.0%)	16 (20.8%)	15 (23.4%)	
Body Mass Index, n (%)	Below 18.5	14 (9.9%)	1 (1.3%)	13 (20.3%)	<.001
	18.5–24	38 (27.0%)	20 (26.0%)	18 (28.1%)	
	25.0–29	27 (19.2%)	12 (15.6%)	15 (23.4%)	
	30.0–34	14 (9.9%)	8 (10.4%)	6 (9.4%)	
	35.0–39	5 (3.6%)	3 (3.9%)	2 (3.1%)	
	Above 40	10 (7.1%)	6 (7.8%)	4 (6.3%)	
	Missing	33 (23.4%)	27 (35.1%)	6 (9.4%)	
Charlson Comorbidity Index, n (%)	Mild (0-2)	115 (81.6%)	69 (89.6%)	46 (71.9%)	0.014
	Moderate (3-4)	15 (10.6%)	6 (7.8%)	9 (14.1%)	
	Severe (≥5)	11 (7.8%)	2 (2.6%)	9 (14.1%)	
Hematology Consult, n (%)	Yes	30 (21.3%)	3 (3.9%)	27 (42.2%)	<.001
Documentation by Hematology during ED encounter, n (%)	Yes	57 (40.4%)	11 (14.3%)	46 (71.9%)	<.001
Day of ED arrival, n (%)	Weekday	113 (80.4%)	60 (77.9%)	53 (82.8%)	0.5
	Weekend	28 (19.9%)	17 (22.1%)	11 (17.2%)	
Time of ED visit, n (%)	Evening (5 pm – 11 pm)	53 (37.6%)	25 (32.5%)	28 (43.8%)	0.009
	Morning (8 am – 5 pm)	52 (36.9%)	37 (48.1%)	15 (23.4%)	
	Night (11 pm – 8 am)	36 (25.5%)	15 (19.5%)	21 (32.8%)	

\*Other includes Federal/military, worker's compensation, and other programs

Conclusion

Timing of ED visits and consulting hematology are key factors influencing ED LOS in patients with hemophilia. These findings suggest areas for targeted improvements in ED management of patients with hemophilia.



Key Findings

The mean±SD ED LOS for discharged patients and patients admitted are 4.5±3.8 hours and 9.2±6.5 hours, respectively. Results showed that weekend visits (compared to weekdays) are associated with longer ED stays. Age ≥18 years, Hemophilia B diagnosis, and receiving a hematology consultation were associated with shorter.

Limitations

- Small sample size (n=141 patients) for hemophilia patients admitted to the Emergency Department
- Generalizability to other healthcare settings