

Supplemental Material

Data S1.

Supplemental Methods

The “unweighted group” is a 20% stratified sample of inpatient discharges from US hospitals, statistically representing the total “weighted” discharged population. The NIS sampling frame includes data from 47 statewide data organizations, covering more than 97% of the US population. The annual sample encompasses approximately 8 million discharges, which represent 20% of inpatient hospitalizations across different hospital types and geographic regions. The national estimates of the entire US hospitalized population are calculated using a standardized sampling and weighting method provided by the HCUP. The NIS dataset has been validated and used extensively over the years to accurately assess national trends in the utilization, disparities, and outcomes in various fields of medicine.

Table S1. ICD-9 Codes used to calculate the Deyo Comorbidity index.

ICD-9 CM codes	Condition	Score
410 – 410.9	Myocardial infarction	1
428 – 428.9	Congestive heart failure	1
433.9, 441 – 441.9, 785.4, V43.4	Peripheral vascular disease	1
430 – 438	Cerebrovascular disease	1
290 – 290.9	Dementia	1
490 – 496, 500 – 505, 506.4	Chronic pulmonary disease	1
710.0, 710.1, 710.4, 714.0 – 714.2, 714.81, 725	Rheumatologic disease	1
531 – 534.9	Peptic ulcer disease	1
571.2, 571.5, 571.6, 571.4 – 571.49	Mild liver disease	1
250 – 250.3, 250.7	Diabetes	1
250.4 – 250.6	Diabetes with chronic complications	2
344.1, 342 – 342.9	Hemiplegia or paraplegia	2
582 – 582.9, 583 – 583.7, 585, 586, 588 – 588.9	Renal disease	2
140-172.9, 174-195.8, 200-208.9	Any malignancy including leukemia and lymphoma	2
572.2 – 572.8	Moderate or severe liver disease	3
196-199.1	Metastatic solid tumor	6
042 – 044.9	Acquired Immunodeficiency syndrome (AIDS)	6

Table S2. ICD-9 codes for procedural complications used in the study.

Complication	ICD-9-CM Code(s)
Hemorrhage/Hematoma	
Hemorrhage/hematoma complicating a procedure	998.11-998.12
Acute post-hemorrhagic anemia	285.1
Hemorrhage requiring transfusion	(998.11-998.12, 285.1) AND (99.01-99.09)
Cardiac	
	997.1
(including postoperative cardiac block, myocardial infarction, cardiac arrest, congestive heart failure and others)	
Pericardial	
Hemopericardium	423.0
Tamponade	423.3
Pericardiocentesis	37.0
Acute pericarditis	420.90
Pulmonary	
Pneumothorax/hemothorax	512.1-512.2, 511.8
Diaphragm paralysis	519.4
Post-operative Respiratory Failure	518.51, 518.53
Other iatrogenic Respiratory Complications	997.3
Vascular	
Accidental puncture or laceration during a procedure	998.2, e8700-e709
Injury to blood vessels	900-904
Arteriovenous Fistula	447
Injury to retroperitoneum	8680.4
Vascular complication requiring surgical repair	39.31, 39.41, 39.49, 39.52, 39.53, 39.56, 39.57, 39.58, 39.59, 39.79
Other vascular complications	997.2, 997.7
Infection	
Fever	780.60, 780.62
Septicemia	038.*, 995.91-995.92, 998.02, 790.7
Post-procedural aspiration pneumonia	997.32
Neurological	
Nervous system complication, unspecified	997.00
Central nervous system complication	997.01
Iatrogenic cerebrovascular infarction or hemorrhage	997.02
Transient ischemic attack	435.9