Patient Safety Indicator 27 (PSI 27) Perioperative Hemorrhage or Hematoma Rate

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Area-Level Indicator

Type of Score: Rate

Prepared by:

Agency for Healthcare Research and Quality

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DESCRIPTION

Perioperative hemorrhage or hematoma cases with control of perioperative hemorrhage, drainage of hematoma, or a miscellaneous hemorrhage- or hematoma-related procedure following surgery per 100,000 population ages 18 years and older. Excludes cases with a diagnosis of coagulation disorder and obstetric cases.

[NOTE: The software provides the rate per population. However, common practice reports the measure as per 100,000 population. The user must multiply the rate obtained from the software by 100,000 to report events per 100,000 population.]

NUMERATOR

Discharges, for patients ages 18 years and older, with either:
• any secondary ICD-9-CM diagnosis codes for perioperative hemorrhage or hematoma and any-listed ICD-9-CM procedure codes for control of perioperative hemorrhage or evacuation of hematoma

Perioperative hemorrhage or hematoma diagnosis codes: (POHMRI2D)

99811	Hemorrhage complicating a procedure	99812	Hematoma complicating a procedure

Control of perioperative hemorrhage and evacuation of hematoma procedure codes: (HEMOTH2P)

0124	Other craniotomy	3998	Control of hemorrhage nos
0131	Incision of cerebral meninges	4223	Other esophagoscopy
0139	Other incision of brain	4233	Endoscopic excision or destruction of lesion or tissue of
0213	Ligation of meningeal vessel	4239	Other destruction of lesion or tissue of esophagus
0239	Other operations to establish drainage of ventricle	4291	Ligation of esophageal varices
0241	Irrigation and exploration of ventricular shunt	430	Gastrotomy
0309	Other exploration and decompression of spinal canal	4341	Endoscopic excision or destruction of lesion or tissue of
0602	Reopening of wound of thyroid field	4413	Other gastroscopy
0609	Other incision of thyroid field	4440	Suture peptic ulcer nos
0692	Ligation of thyroid vessels	4441	Sut gastric ulcer site
0700	Adrenal exploration nos	4442	Suture duoden ulcer site
0701	Unilat adrenal explorat	4443	Endosc control gast hem
0702	Bilat adrenal explorat	4444	Transcath embo gast hem
0743	Ligation of adrenal vessels	4449	Other control gast hem
0751	Exploration of pineal field	4491	Ligation of gastric varices
0771	Exploration of pituitary fossa	4500	Intestinal incision nos
0791	Exploration of thymus field	4501	Duodenal incision
1289	Other operations on sclera	4502	Small bowel incision nec
149	Other operations on retina, choroid, and posterior chamber	4503	Large bowel incision
1609	Other orbitotomy	4513	Other endoscopy of small intestine
1809	Other incision of external ear	4516	Esophagogastroduodenoscopy (egd) with closed biopsy
2100	Control of epistaxis, not otherwise specified	4523	Colonoscopy
2101	Control of epistaxis by anterior nasal packing	4524	Flexible sigmoidoscopy

2102	Control of epistaxis by posterior (and anterior) packing	4543	Endoscopic destruction of other lesion or tissue of large
2103	Control of epistaxis by cauterization (and packing)	4549	Other destruction of lesion of large intestine
2104	Control of epistaxis by ligation of ethmoidal arteries	480	Proctotomy
2105	Control of epistaxis by (transantral) ligation of the	4823	Rigid proctosigmoidoscopy
2106	Control of epistaxis by ligation of the external carotid	4921	Anoscopy
2107	Control of epistaxis by excision of nasal mucosa and skin	4945	Ligation of hemorrhoids
2109	Control of epistaxis by other means	4995	Control of (postoperative) hemorrhage of anus
270	Drainage of face and floor of mouth	540	Incision of abdominal wall
287	Control of hemorrhage after tonsillectomy and adenoidectomy	5411	Exploratory laparotomy
3402	Exploratory thoracotomy	5412	Reopening of recent laparotomy site
3403	Reopening of recent thoracotomy site	5419	Other laparotomy
3409	Other incision of pleura	5421	Laparoscopy
341	Incision of mediastinum	5495	Incision of peritoneum
3421	Transpleural thoracoscopy	5521	Nephroscopy
3639	Other heart revascularization	5522	Pyeloscopy
3699	Other operations on vessels of heart	5631	Ureteroscopy
370	Pericardiocentesis	5719	Other cystotomy
3799	Other operations on heart and pericardium	5731	Cystoscopy through artificial stoma
3800	Incision of vessel nos	5732	Other cystoscopy
3801	Intracran vessel incis	5793	Control of (postoperative hemorrhage of bladder)
3802	Head/neck ves incis nec	5822	Other urethroscopy
3803	Upper limb vessel incis	5909	Other incision of perirenal or periureteral tissue
3804	Incision of aorta	5919	Other incision of perivesicle tissue
3805	Thoracic vessel inc nec	6081	Incision of periprostatic tissue
3806	Abdomen artery incision	6094	Control of (postoperative) hemorrhage of prostate
3807	Abdominal vein incision	610	Incision and drainage of scrotum and tunica and vaginalis
3808	Lower limb artery incis	6372	Ligation of spermatic cord
3809	Lower limb vein incision	6601	Salpingotomy
3880	Other surgical occlusion of unspecified site	680	Hysterotomy
3881	Other surgical occlusion of intracranial vessels	6812	Hysteroscopy

3882	Other surgical occlusion of other vessels of head and neck	6824	Uterine art emb w coils (begin 2011)
3883	Other surgical occlusion of upper limb vessels	6825	Uterine art emb w/o coil (begin 2011)
3884	Other surgical occlusion of aorta, abdominal	6998	Other operations on supporting structures of uterus
3885	Other surgical occlusion of thoracic vessel	7014	Other vaginotomy
3886	Other surgical occlusion of abdominal arteries	7109	Other incision of vulva and perineum
3887	Other surgical occlusion of vessels abdominal veins	7591	Evacuation of obstetrical incisional hematoma of perineum
3888	Other surgical occlusion of lower limb arteries	7592	Evacuation of other hematoma of vulva or vagina
3889	Other surgical occlusion of lower limb veins	8010	Other arthrotomy, unspecified site
3930	Suture of vessel nos	8201	Exploration of tendon sheath of hand
3931	Suture of artery	8202	Myotomy of hand
3932	Suture of vein	8204	Incision and drainage of palmar or thenar space
3941	Control of hemorrhage following vascular surgery	8209	Other incision of soft tissue of hand
3952	Other repair of aneurysm	8302	Myotomy
3953	Repair of arteriovenous fistula	8309	Other incision of soft tissue
3972	Endovascular repair or occlusion of head and neck vessels	850	Mastotomy
3975	Endovascular embolization/occlusion vessels head/neck using bare metal coils	8604	Other incision with drainage of skin and subcutaneous tissue
3976	Endovascular embolization/occlusion vessels head/neck using bioactive coils	8609	Other incision of skin and subcutaneous tissue
3979	Other endovascular repair (of aneurysm) of other vessels	9929	Injection or infusion of other therapeutic or prophylactic

NUMERATOR EXCLUSIONS

Exclude cases:

• with any-listed ICD-9-CM diagnosis codes for coagulation disorder

• MDC 14 (pregnancy, childbirth, and puerperium)

• with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

Coagulation disorder diagnosis codes: (COAGDID)

2860	Cong factor viii diord	2871	Qualitative platelet defects
2861	Cong factor ix disorder	28730	Primary thrombocytopenia,unspecified
2862	Cong factor xi disorder	28731	Immune thrombocytopenic purpura
2863	Cong def clot factor NEC	28732	Evans syndrome
2864	Von willebrands disease	28733	Congenital and hereditary thrombocytopenic purpura
28652	Acquired hemophilia	28739	Other primary thrombocytopenia
28653	Antiphospholipid antibody with hemorrhagic disorder	28741	Sttransfusion purpura
28659	Ot hem d/t circ anticoag	2875	Thrombocytopenia unspecified
2866	Defibrination syndrome	2878	Other specified hemorrhagic conditions
2867	Acq coagul factor defic	2879	Unspecified hemorrhagic conditions
2869	Coagulat defect nec nos		

DENOMINATOR

Population ages 18 years and older in metropolitan are† or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

† The term "metropolitan area" (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs) and primary metropolitan statistical areas (PMSAs). In addition, "area" could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.