

## **Supplemental Material**

### **Appendix 1**

#### **ICD 9 CM codes:**

**Gastrointestinal hemorrhage:** 4560, 45620, 5307, 53082, 53100, 53101, 53120, 53121, 53140, 53141, 53160, 53161, 53200, 53201, 53220, 53221, 53240, 53241, 53260, 53261, 53300, 53301, 53320, 53321, 53340, 53341, 53360, 53361, 53400, 53401, 53420, 53421, 53440, 53441, 53460, 53461, 5693, 5780, 5781, 5789.

#### **Acute Coronary syndrome**

4100, 41000, 41001, 41002, 4101, 41010, 41011, 41012, 4102, 41020, 41021, 41022, 4103, 41030, 41031, 41032, 4104, 41040, 41041, 41042, 4105, 41050, 41051, 41052, 4106, 41060, 41061, 41062, 4107, 41070, 41071, 41072, 4108, 41080, 41081, 41082, 4109, 41090, 41091, 41092 411, 4111, 4118, 41181, 41189, V4581, V4582

**Shock:** 78550, 78551, 78552, 78559

**Blood Transfusion:** V58.2

#### **Diabetes mellitus (DM):**

24900, 25000, 25001, 7902 79021, 79022, 79029, 7915 7916, V4585, V5391, V6546, 24901, 24910, 24911, 24920, 24921, 24930, 24931, 24940, 24941 24950 24951 24960 24961 24970 24971 24980 24981 24990 24991 25002 25003 25010, 25011, 25012, 25013, 25020, 25021, 25022, 25023, 25030, 25031, 25032, 25033, 25040, 25041, 25042, 25043, 25050, 25051, 25052, 25053, 25060, 25061, 25062, 25063, 25070, 25071, 25072, 25073, 25080, 25081, 25082, 25083, 25090, 25091, 25092, 25093

#### **Hypertension:**

4011, 4019, 4010, 40200, 40201, 40210, 40211, 40290, 40291, 4030, 40300, 40301, 4031, 40310, 40311, 4039, 40390, 40391, 4040, 40400, 40401, 40402, 40403, 4041, 40410, 40411, 40412, 40413, 4049, 40490, 40491, 40492, 40493, 40501, 40509, 40511, 40519, 40591, 40599, 4372

**Alcohol-related disorders:** 2910, 2911, 2912, 2913, 2914, 2915, 2918, 29181, 29182, 29189, 2919, 30300, 30301, 30302, 30303, 30390, 30391, 30392, 30393, 30500, 30501, 30502, 30503, 3575, 4255, 5353, 53530, 53531, 5710, 5711, 5712, 5713, 76071, 980

**Smoking:** 3051, V1582

**ICD 9 procedures:**

**Gastrointestinal endoscopy:** 451, 45.11, 45.12, 451.3, 45.16, 452, 45.21, 45.22, 45.23, 45.24

**Mechanical ventilation:** 967, 967.0, 967.1, 967.2

**Blood Transfusion:** 990, 990.3, 990.4

**Exclusion Criteria:**

Chronic ischemic heart disease, unspecified: 414.9

Old myocardial infarction: 412

Acute peptic ulcer of unspecified site with perforation: 533.1

Personal history of peptic ulcer disease: V12.71

Chronic or unspecified duodenal ulcer with perforation: 532.5

Acute duodenal ulcer without mention of hemorrhage or perforation: 532.3

Chronic duodenal ulcer without mention of hemorrhage or perforation: 523.7

Chronic gastric ulcer without mention of hemorrhage or perforation: 531.7

Acute gastric ulcer without mention of hemorrhage or perforation, with obstruction: 31

Esophageal varices in diseases classified elsewhere, without mention of bleeding: 456.21

Esophageal varices without mention of bleeding: 456.1

**Supplementary Table 1 Elixhauser (The Agency for Healthcare Research and Quality) comorbidities**

	<b>Total</b>	<b>Endoscopy</b>	<b>No Endoscopy</b>	
	<b>(n = 269483)</b>	<b>(n= 183409)</b>	<b>(n = 86073)</b>	<b>P value</b>
Acquired immune deficiency syndrome	290 (0.1%)	164 (0.1%)	127 (0.1%)	0.045
Alcohol abuse	17632 (6.5%)	10120 (5.5%)	7512 (8.7%)	< 0.001
Deficiency anemias	48743 (18.1%)	33968 (18.5%)	14776 (17.2%)	< 0.001
Rheumatoid arthritis/collagen vascular diseases	6929 (2.6%)	4867 (2.7%)	2062 (2.4%)	0.077
Chronic blood loss anemia	47714 (17.7%)	34802 (19.0%)	12913 (15.0%)	< 0.001
Congestive heart failure	57437 (21.3%)	39311 (21.4%)	18126 (21.1%)	0.398
Chronic pulmonary disease	57522 (21.3%)	39608 (21.6%)	17915 (20.8%)	0.056
Coagulopathy	27743 (10.3%)	15978 (8.7%)	11764 (13.7%)	< 0.001
Depression	20417 (7.6%)	13818 (7.5%)	6600 (7.7%)	0.572
Diabetes, uncomplicated	78150 (29.0%)	53407 (29.1%)	24743 (28.7%)	0.326
Diabetes with chronic complications	18649 (6.9%)	12298 (6.7%)	6352 (7.4%)	0.005
Drug abuse	3662 (1.4%)	2198 (1.2%)	1464 (1.7%)	< 0.001

Hypertension (combine uncomplicated and complicated)	188382 (69.9%)	130742 (71.3%)	57640 (67.0%)	< 0.001
Hypothyroidism	29010 (10.8%)	20223 (11.0%)	8787 (10.2%)	0.005
Liver disease	15596 (5.8%)	8693 (4.7%)	6903 (8.0%)	< 0.001
Lymphoma	2256 (0.8%)	1500 (0.8%)	756 (0.9%)	0.494
Fluid and electrolyte disorders	89768 (33.3%)	59171 (32.3%)	30597 (35.5%)	< 0.001
Metastatic cancer	4775 (1.8%)	3145 (1.7%)	1630 (1.9%)	0.151
Other neurological disorders	16952 (6.3%)	11501 (6.3%)	5451 (6.3%)	0.691
Obesity	20366 (7.6%)	14071 (7.7%)	6295 (7.3%)	0.127
Paralysis	5411 (2.0%)	3515 (1.9%)	1896 (2.2%)	0.025
Peripheral vascular disorders	36209 (13.4%)	25036 (13.7%)	11173 (13.0%)	0.032
Psychoses	5466 (2.0%)	3548 (1.9%)	1917 (2.2%)	0.031
Pulmonary circulation disorders	8555 (3.2%)	5789 (3.2%)	2765 (3.2%)	0.622
Renal failure	61276 (22.7%)	41315 (22.5%)	19961 (23.2%)	0.080
Solid tumor without metastasis	6312 (2.3%)	4118 (2.2%)	2194 (2.5%)	0.030
Peptic ulcer disease excluding bleeding	833 (0.3%)	628 (0.3%)	205 (0.2%)	0.040
Valvular disease	28374 (10.5%)	19985 (10.9%)	8388 (9.7%)	< 0.001

Weight loss	17673 (6.6%)	11073 (6.0%)	6600 (7.7%)	< 0.001
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This table compares comorbidities in patients' acute coronary syndrome and concomitant gastrointestinal (GI) bleeding that underwent GI endoscopy to the group who didn't undergo endoscopy. Values are presented as number (percentage).