

Supplemental Table 1: Risk factor & demographic variables categorization and data

<i>Risk factor variables categorization and data</i>	<i>N (%)</i>	<i>N Missing</i>
<i>Categorical Variables</i>		
Gender		
Male	65962 (54.6%)	
Pressure ulcer		
None	118345 (98.0%)	
Stage 1	829 (0.7%)	
Stage 2	1013 (0.8%)	
Stage 3	144 (0.1%)	
Stage 4	108 (0.1%)	
Unstageable/unspecified	325 (0.3%)	
Fracture		
None	116021 (96.1%)	
Head/neck	742 (0.6%)	
Thorax (Rib Cage)	1792 (1.5%)	
Spine/pelvis	451 (0.4%)	
Hip/thigh	1532 (1.3%)	
Knee/ankle/lower leg	226 (0.2%)	
Polypharmacy		
None	5369 (4.5%)	
<5	29807 (24.7%)	
5-9	24132 (20.0%)	
10-14	22054 (18.3%)	
15-19	28323 (23.5%)	
≥20	11079 (9.2%)	
Medication Classification Types		
Non-narcotic Analgesics	105474 (87.3%)	
Proton pump inhibitors	35140 (29.1%)	
Narcotic analgesics	89511 (74.1%)	
Sedatives	6913 (5.7%)	
Anti-depressant	23880 (19.8%)	
Anesthetic	64600 (53.5%)	
Benzodiazepines	74439 (61.6%)	
Central nervous system stimulant	60443 (50.1%)	
Steroid	8913 (7.4%)	
Anti-epileptic	5575 (4.6%)	
Anti-cholinergic	10505 (8.7%)	
Anti-psychotic	44539 (36.9%)	
Narcotic antagonist	20167 (16.7%)	
Muscle relaxant	2922 (2.4%)	
Cholinergic	3360 (2.8%)	
Anti-Parkinson	3393 (2.8%)	
Chemotherapy	1845 (1.5%)	

Anti-dementia	1003 (0.8%)	
Anti-inflammatory	500 (0.4%)	
Bladder relaxant	309 (0.3%)	
History of Delirium	2558 (2.1%)	
Lab Results		
White blood cell count > 12*10 ⁹ cells/liter	27080 (25.9%)	16310
Hemoglobin < 10g/dl	22224 (21.3%)	16308
Creatinine > 1.5mg/dl	12338 (12.1%)	18412
Creatinine > 2 mg/dl	6478 (6.3%)	18412
Sodium < 130 mmol/dl	3264 (3.4%)	25134
Potassium < 3 mmol/dl	776 (0.8%)	23444
Hypoxia (SpO2 <90)	951 (0.8%)	2179
Comorbidities		
Coronary artery disease	39271 (32.5%)	
Diabetes	39905 (33.0%)	
Congestive heart failure	22301 (18.5%)	
Chronic obstructive pulmonary disease	17074 (14.1%)	
Atrial fibrillation	25055 (20.8%)	
Cerebrovascular accident	12531 (10.4%)	
Chronic kidney disease	20822 (17.2%)	
Cancer	802 (0.7%)	
Sleep Disorder	32717 (27.1%)	
Depression/Anxiety Disorder	24427 (20.2%)	
Other Psychiatric disorders	13433 (11.1%)	
Dementia	8853 (7.3%)	
Fever (temperature > 38)	1110 (0.9%)	2498
Functional Status		
ADL Bathing score		27456
1 – Independent	79380 (85.1%)	
2 – Partially dependent	10910 (11.7%)	
3 – Totally dependent	3018 (3.2%)	
ADL Eating score		28066
1 – Independent	91298 (98.5%)	
2 – Partially dependent	1105 (1.2%)	
3 – Totally dependent	295 (0.3%)	
ADL Mobility score		28349
1 – Independent	69455 (75.2%)	
2 – Partially dependent	21067 (22.8%)	
3 – Totally dependent	1893 (2.1%)	
ADL Toileting score		27420
1 – Independent	82338 (88.2%)	
2 – Partially dependent	11000 (11.8%)	

3 – Totally dependent	6 (0.01%)	27283
ADL Oral Care score		
1 – Independent	87989 (94.1%)	
2 – Partially dependent	4046 (4.3%)	
3 – Totally dependent	1446 (1.6%)	
Hearing Impairment		51619
1 – No Impairment	64836 (93.8%)	
2 – Mild hearing problems	516 (0.8%)	
3 – Severe hearing impairment	3793 (5.5%)	
Visual Impairment		26820
1 – No Impairment	13417 (14.3%)	
2 – Mild vision problems (uses glasses)	80089 (85.3%)	
3 – Severe vision impairment	438 (0.5%)	
Intensive Care Unit admission	26303 (21.8%)	
Anesthesia type		
General	35381 (29.3%)	
Local	436 (0.4%)	
Regional Block	4252 (3.5%)	
Sedation	3571 (3.0%)	
Surgical Type:		
Thoracic (Cardiac, Lung and Rib)	4611 (3.8%)	
Orthopedic	1019 (0.8%)	
Head	1388 (1.1%)	
Neuro (Cranial & Spine)	4448 (3.7%)	
Abdominal	8424 (7.0%)	
Emergency Surgery type	31580 (26.2%)	
<i>Continuous Variables</i>	<i>Value</i>	<i>N Missing</i>
Age		
Mean ± SD	68.0 ± 10.9	
Median (Q1, Q3)	67 (59, 76)	
Min, Max	50, 111	
Fall Risk Score		2061
Mean ± SD	2.6 ± 2.4	
Median (Q1, Q3)	2 (1, 4)	
Min, Max	0, 16	
Weighted Charlson Index		
Mean ± SD	3.0 ± 2.9	
Median (Q1, Q3)	2 (1, 4)	
Min, Max	0, 20	
Age Weighted Charlson Index		
Mean ± SD	5.4 ± 3.3	
Median (Q1, Q3)	5 (3, 7)	

Min, Max	1, 23
Transfusion Red Blood Cell units	
Mean ± SD	0.2 ± 1.2
Median (Q1, Q3)	0 (0, 0)
Min, Max	0, 87.7
<i>Delirium Positive</i>	9738 (8.1%)

Demographic distribution by Race and Ethnicity:

	Derivation (n=80000)	validation (n=40764)	Total (n=120764)
Race, n (%)			
Asian	740 (0.9%)	364 (0.9%)	1104 (0.9%)
Black/African American	1041 (1.3%)	509 (1.2%)	1550 (1.3%)
Native American/Alaskan Native	343 (0.4%)	208 (0.5%)	551 (0.5%)
Native Hawaii/Pacific Islander	68 (0.1%)	37 (0.1%)	105 (0.1%)
Other	1357 (1.7%)	684 (1.7%)	2041 (1.7%)
Unknown	1201 (1.5%)	604 (1.5%)	1805 (1.5%)
White	75250 (94.1%)	38358 (94.1%)	113608 (94.1%)
Ethnicity, n (%)			
Hispanic/Latino	1046 (1.3%)	520 (1.3%)	1566 (1.3%)
Not Hispanic/Latino	75571 (94.5%)	38578 (94.6%)	114149 (94.5%)
Unknown	3383 (4.2%)	1666 (4.1%)	5049 (4.2%)