

Online data supplement

Title: Data mining to understand health status preceding traumatic brain injury.

Authors: Tatyana Mollayeva, Mitchell Sutton, Vincy Chan, Angela Colantonio, Sayantee Jana, Michael Escobar

Table of contents

Supplementary Figure 1. A histogram of the number of visits to the hospital by the number of days between the visit and first TBI

Supplementary Figure 2. A boxplot of the number of visits to the hospital by the number of days between the visit and first TBI

Supplementary Figure 3. Scree plot of all factors

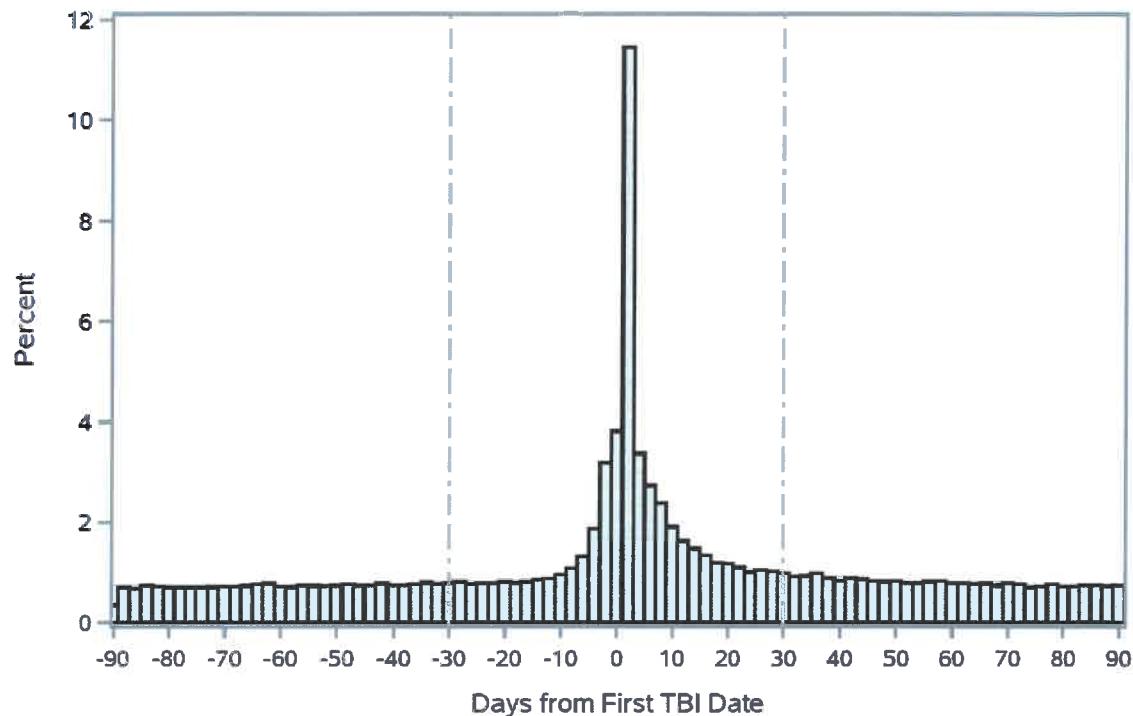
Supplementary Figure 4. Scree plot of the first 50 factors. Methods used to extract the optimal numbers of factors were Eigenvalues, the plateau of Eigenvalues (i.e. the ‘elbow’ in the scree plot), and the variance explained

Supplementary Table 1. Factor descriptions. Provides all ICD-10 codes included in each factor, including their descriptions, frequencies (in TBI and reference population), odds ratio (and 95% confidence interval) from multiple testing results, and factor loading score for each factor

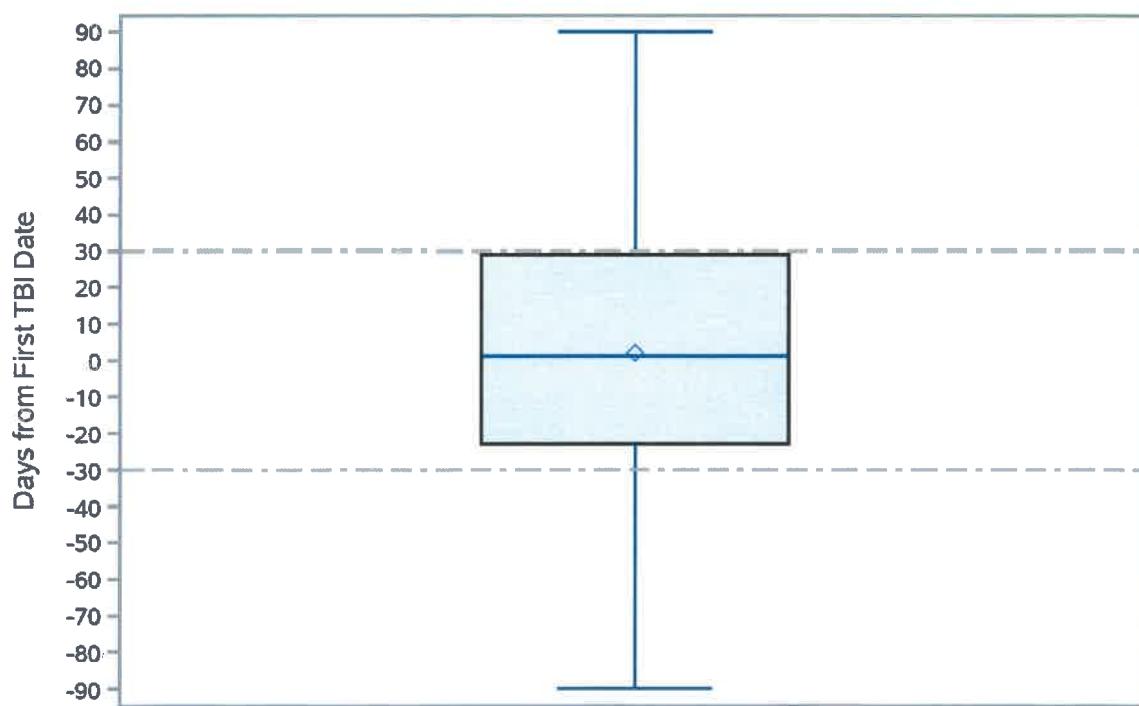
Supplementary Table 2. ICD-10 Codes not included in the Factors. Provides all ICD-10 codes not included in any factor (in alphabetical order), including their descriptions, frequencies (in TBI and reference population), and odds ratio (and 95% confidence interval) from multiple testing results

Supplementary Table 3. Scree table. Provides eigenvalues and their differences used in preparation of scree plots, as well as the proportion/cumulative proportion of total variance explained by each factor; used to make a decision on the number of factors to include in the final model

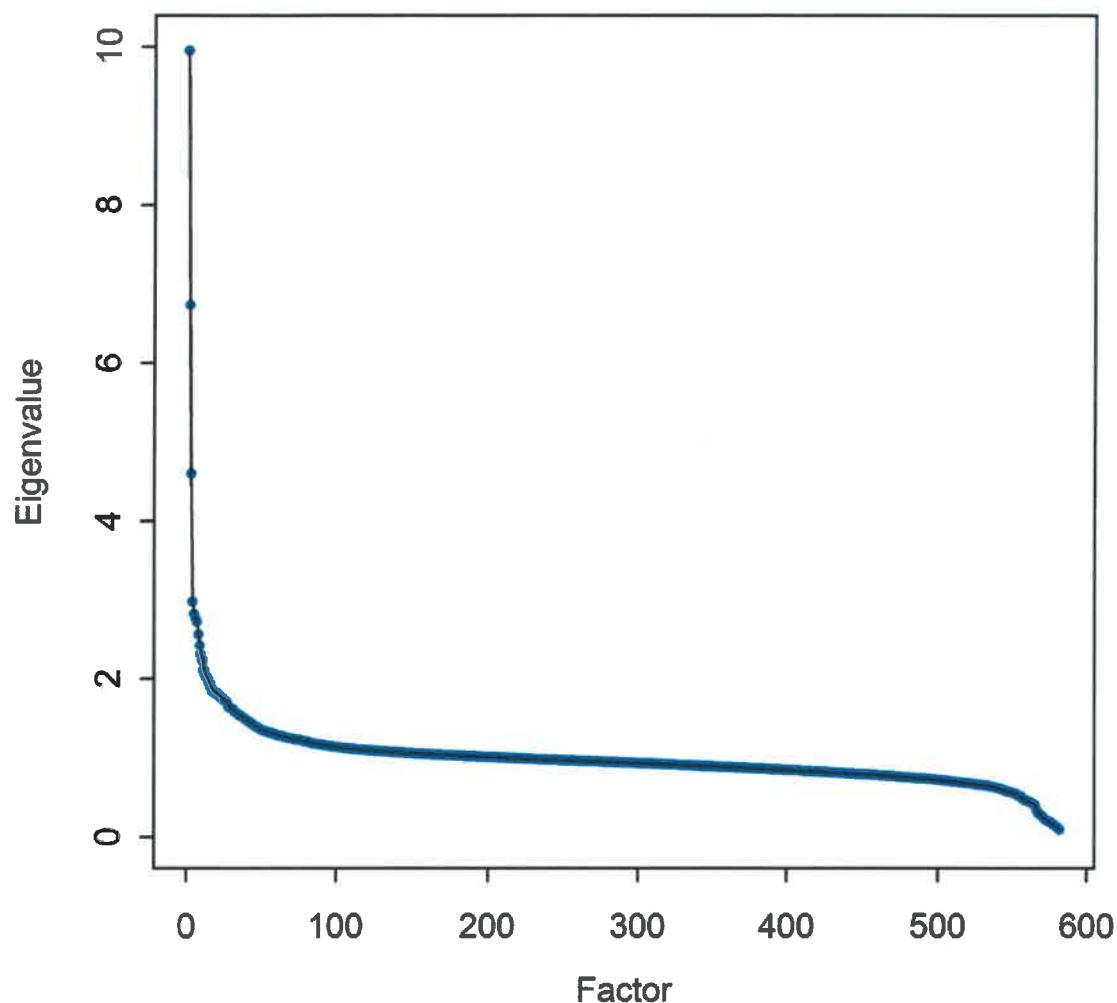
Supplementary Figure 1. A histogram of the number of visits to the hospital by the number of days between the visit and first TBI.



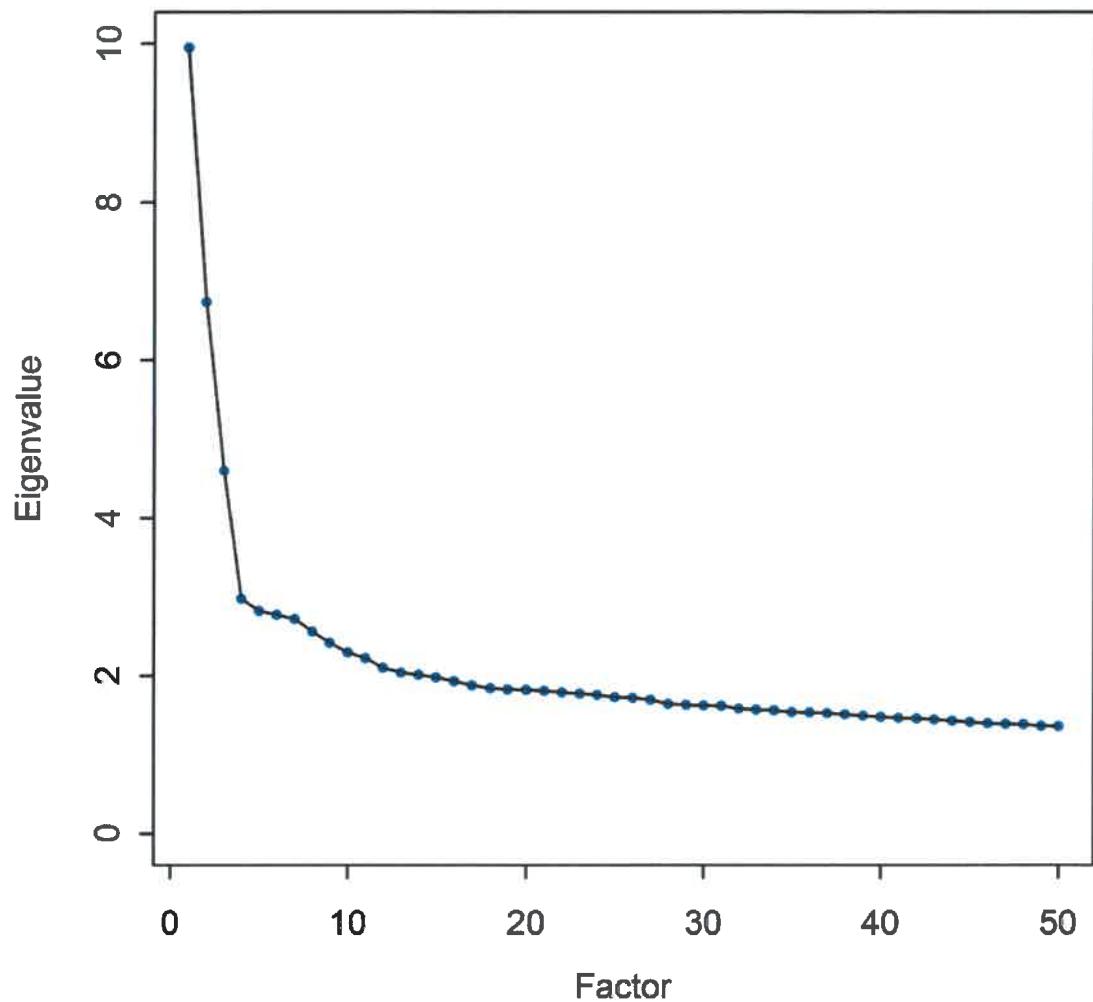
Supplementary Figure 2. A boxplot of the number of visits to the hospital by the number of days between the visit and first TBI.



Supplementary Figure 3. Scree plot of all factors.



Supplementary Figure 4. Scree plot of the first 50 factors. Methods used to extract the optimal number of factors were Eigenvalues, the plateau of Eigenvalues (i.e. the ‘elbow’ in the scree plot), and the variance explained.



Supplementary Table 1 - Factor Descriptions. Provides all ICD-10 codes included in each factor, including their descriptions, frequencies (in TBI and reference population), odds ratio (and 95% confidence interval) from multiple testing results, and factor loading score for each factor.

Factor Number	Factors	Frequency		Confidence Interval	p-value	Factor Loading
		TBI	Reference Population	Odds Ratio		
1	Cardiology: Cardiovascular Disorders and Other	9,818	5,434	2.2	(2.1 , 2.3)	<0.0001
	I25 Chronic ischemic heart disease	1,214	896	1.4	(1.3 , 1.5)	0.72
	I21 ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction	505	394	1.3	(1.1 , 1.5)	0.71
	R94 Abnormal results of function studies	630	369	1.7	(1.5 , 2)	0.66
	Z95 Presence of cardiac and vascular implants and grafts	709	357	2.0	(1.8 , 2.3)	0.54
	I20 Angina pectoris	664	441	1.5	(1.4 , 1.7)	0.51
	E78 Disorders of lipoprotein metabolism and other lipidemias	566	416	1.4	(1.2 , 1.6)	0.47
	I24 Other acute ischemic heart diseases	383	189	2.0	(1.7 , 2.4)	0.45
	I10 Essential (primary) hypertension	2,972	1,915	1.7	(1.6 , 1.8)	0.43
	I50 Heart failure	1,024	473	2.3	(2 , 2.5)	0.36
	I48 Atrial fibrillation and flutter	1,393	682	2.2	(2 , 2.5)	0.31
	I35 Nonrheumatic aortic valve disorders	152	74	2.1	(1.6 , 2.7)	0.24
	R07 Pain in throat and chest	5,419	2,502	2.3	(2.2 , 2.4)	0.23
	E11 Type 2 diabetes mellitus	2,507	1,337	2.0	(1.9 , 2.2)	0.23
2	Psychiatry: Mental Disorders and Functional Inquiry	4,941	1,828	2.9	(2.7 , 3.1)	<0.0001
	R45 Symptoms and signs involving emotional state	1,264	353	3.6	(3.2 , 4.1)	0.50
	F32 Major depressive disorder, single episode	1,626	554	3.0	(2.7 , 3.3)	0.48
	F43 Reaction to severe stress, and adjustment disorders	1,168	309	3.9	(3.4 , 4.4)	0.48
	F60 Specific personality disorders	270	80	3.4	(2.6 , 4.4)	0.45
	Z63 Other problems related to primary support group, including family circumstances	295	105	2.8	(2.2 , 3.5)	0.44
	F91 Conduct disorders	131	85	1.5	(1.2 , 2)	0.35
	Z91 Personal risk factors, not elsewhere classified	374	108	3.5	(2.8 , 4.3)	0.33
	X78 Intentional self-harm by sharp object	167	39	4.3	(3 , 6.1)	0.32
	F31 Bipolar disorder	271	90	3.0	(2.4 , 3.8)	0.32
	F41 Other anxiety disorders	1,986	739	2.8	(2.6 , 3)	0.31
	F33 Major depressive disorder, recurrent	88	42	2.1	(1.5 , 3)	0.30
	F34 Persistent mood [affective] disorders	63	37	1.7	(1.1 , 2.6)	0.30
	F90 Attention-deficit hyperactivity disorders	103	49	2.1	(1.5 , 3)	0.30
	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	294	72	4.1	(3.2 , 5.3)	0.28
	F61 Mixed and other personality disorders	41	7	5.9	(2.6 , 13.1)	0.27
	X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances	29	8	3.6	(1.7 , 7.9)	0.26
	F39 Unspecified mood [affective] disorder	81	21	3.9	(2.4 , 6.2)	0.26
	Z59 Problems related to housing and economic circumstances	158	26	6.1	(4 , 9.2)	0.25
	F69 Unspecified disorder of adult personality and behaviour	NR	<6	10.8	(4.3 , 27)	0.24
	X60 Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	190	48	4.0	(2.9 , 5.4)	0.24
	F19 Other psychoactive substance related disorders	526	110	4.9	(4 , 6)	0.23
	Z60 Problems related to social environment	163	57	2.9	(2.1 , 3.9)	0.23
	T43 Poisoning by, adverse effect of and underdosing of psychotropic drugs, not elsewhere classified	269	61	4.4	(3.3 , 5.8)	0.23
	F12 Cannabis related disorders	157	56	2.8	(2.1 , 3.9)	0.23
	Z56 Problems related to employment and unemployment	70	12	5.8	(3.2 , 10.8)	0.21
	Z65 Problems related to other psychosocial circumstances	69	23	3.0	(1.9 , 4.8)	0.20
	T65 Toxic effect of other and unspecified substances	55	22	2.5	(1.5 , 4.1)	0.20
3	Geriatry: Disorders of Elderly and Medical Issues	14,071	6,446	2.8	(2.7 , 2.9)	<0.0001
	Z75 Problems related to medical facilities and other health care	824	363	2.4	(2.1 , 2.7)	0.43
	R29 Other symptoms and signs involving the nervous and musculoskeletal systems	459	71	7.0	(5.4 , 9)	0.41
	S72 Fracture of femur	429	167	2.6	(2.2 , 3.2)	0.41
	F03 Unspecified dementia	422	112	4.0	(3.2 , 4.9)	0.36
	R64 Cachexia	212	57	3.8	(2.8 , 5.1)	0.33
	G20 Parkinson disease	124	31	4.0	(2.7 , 5.9)	0.32
	F05 Delirium, not induced by alcohol and other psychoactive substances	455	102	4.6	(3.7 , 5.8)	0.32

	R41 Other symptoms and signs involving cognitive functions and awareness	823	236	3.6	(3.1 , 4.2)	0.30
	W19 Unspecified fall	3,376	848	4.2	(3.9 , 4.5)	0.29
	W05 Fall from non-moving wheelchair, nonmotorized scooter and motorized mobility scooter	180	30	6.0	(4.1 , 8.8)	0.28
	W01 Fall on same level from slipping, tripping and stumbling	4,015	1,139	3.8	(3.6 , 4.1)	0.27
	R26 Abnormalities of gait and mobility	228	60	3.8	(2.9 , 5)	0.26
	W18 Other slipping, tripping and stumbling and falls	2,258	500	4.7	(4.3 , 5.2)	0.26
	F02 Dementia in other diseases classified elsewhere	NR	<6	8.0	(2.4 , 26.6)	0.26
	M81 Osteoporosis without current pathological fracture	131	79	1.7	(1.3 , 2.2)	0.25
	Z50 Care involving use of rehabilitation procedures	240	105	2.3	(1.8 , 2.9)	0.24
	I10 Essential (primary) hypertension	2,972	1,915	1.7	(1.6 , 1.8)	0.23
	N39 Other disorders of urinary system	3,480	1,965	1.9	(1.8 , 2)	0.23
	Z74 Problems related to care provider dependency	109	30	3.6	(2.4 , 5.4)	0.22
	W06 Fall from bed	390	60	6.6	(5 , 8.7)	0.22
	E87 Other disorders of fluid, electrolyte and acid-base balance	996	421	2.5	(2.2 , 2.8)	0.21
	Z73 Problems related to life management difficulty	293	74	4.0	(3.1 , 5.2)	0.21
	R53 Malaise and fatigue	1,406	627	2.3	(2.1 , 2.6)	0.21
4	Trauma: Orthopedic Injuries and Other	22,429	8,275	4.1	(4 , 4.2)	<0.0001
	S62 Fracture at wrist and hand level	2,541	827	3.3	(3 , 3.6)	0.47
	S69 Other and unspecified injuries of wrist, hand and finger(s)	1,906	771	2.5	(2.3 , 2.8)	0.46
	W22 Striking against or struck by other objects	5,442	1,200	5.1	(4.8 , 5.5)	0.41
	S60 Superficial injury of wrist, hand and fingers	2,818	826	3.6	(3.3 , 3.9)	0.41
	S63 Dislocation and sprain of joints and ligaments at wrist and hand level	1,805	563	3.4	(3 , 3.7)	0.40
	S52 Fracture of forearm	1,801	807	2.3	(2.1 , 2.5)	0.39
	W21 Striking against or struck by sports equipment	2,084	379	6.0	(5.3 , 6.7)	0.38
	Z47 Orthopedic aftercare	845	337	2.6	(2.3 , 2.9)	0.36
	W51 Accidental striking against or bumped into by another person	2,684	553	5.5	(5 , 6.1)	0.35
	W02 Fall involving ice-skates, skis, roller-skates or skateboards	1,561	499	3.2	(2.9 , 3.6)	0.35
	W23 Caught, crushed, jammed or pinched in or between objects	1,351	460	3.0	(2.7 , 3.3)	0.32
	S50 Superficial injury of elbow and forearm	1,283	308	4.3	(3.8 , 4.9)	0.27
	W19 Unspecified fall	3,376	848	4.2	(3.9 , 4.5)	0.26
	S59 Other and unspecified injuries of elbow and forearm	571	221	2.6	(2.2 , 3)	0.25
	V18 Pedal cycle rider injured in noncollision transport accident	1,045	316	3.4	(3 , 3.8)	0.25
	X59 Exposure to unspecified factor	4,311	1,366	3.4	(3.1 , 3.6)	0.22
	W18 Other slipping, tripping and stumbling and falls	2,258	500	4.7	(4.3 , 5.2)	0.22
	W01 Fall on same level from slipping, tripping and stumbling	4,015	1,139	3.8	(3.6 , 4.1)	0.22
	S90 Superficial injury of ankle, foot and toes	2,093	681	3.2	(2.9 , 3.5)	0.22
	X50 Overexertion and strenuous or repetitive movements	4,765	1,870	2.7	(2.6 , 2.9)	0.21
	W50 Accidental hit, strike, kick, twist, bite or scratch by another person	926	158	6.0	(5.1 , 7.1)	0.21
5	Nephrology: Disorders of Renal Function and Therapy	1,160	535	2.3	(2.1 , 2.5)	<0.0001
	N18 Chronic kidney disease (CKD)	470	187	2.6	(2.2 , 3.1)	0.70
	Z49 Encounter for care involving renal dialysis	75	29	2.6	(1.7 , 4)	0.68
	Z99 Dependence on enabling machines and devices, not elsewhere classified	99	33	3.0	(2 , 4.4)	0.65
	I12 Hypertensive chronic kidney disease	151	80	1.9	(1.5 , 2.5)	0.60
	N08 Glomerular disorders in diseases classified elsewhere	297	84	3.6	(2.8 , 4.6)	0.56
	N19 Unspecified kidney failure	176	94	1.9	(1.5 , 2.4)	0.36
	T82 Complications of cardiac and vascular prosthetic devices, implants and grafts	198	110	1.8	(1.4 , 2.3)	0.33
	N17 Acute kidney failure	637	234	2.8	(2.4 , 3.3)	0.31
6	Dermatology/Osteopathy/Orthopedics: Skin/Superficial Lesions, Vascular/Lymphatic Pathology, and Back Pain	15,166	8,237	2.2	(2.1 , 2.3)	<0.0001
	L03 Cellulitis and acute lymphangitis	2,334	999	2.4	(2.2 , 2.6)	0.45
	Z51 Encounter for other aftercare	1,217	608	2.0	(1.8 , 2.2)	0.41
	M79 Other and unspecified soft tissue disorders, not elsewhere classified	2,935	1,386	2.2	(2.1 , 2.3)	0.32
	L02 Cutaneous abscess, furuncle and carbuncle	607	242	2.5	(2.2 , 2.9)	0.27
	M25 Other joint disorder, not elsewhere classified	1,896	895	2.1	(2 , 2.3)	0.27
	M54 Dorsalgia	3,550	1,486	2.5	(2.4 , 2.7)	0.26
	R22 Localized swelling, mass and lump of skin and subcutaneous tissue	777	417	1.9	(1.7 , 2.1)	0.25
	L08 Other local infections of skin and subcutaneous tissue	504	193	2.6	(2.2 , 3.1)	0.25
	Z09 Follow-up examination after treatment for conditions other than malignant neoplasms	1,653	1,187	1.4	(1.3 , 1.5)	0.25

	I80 Phlebitis and thrombophlebitis R07 Pain in throat and chest Z48 Encounter for other postprocedural aftercare Z76 Persons encountering health services in other circumstances L97 Non-pressure chronic ulcer of lower limb, not elsewhere classified	488 5,419 1,325 1,082 127	241 2,502 607 416 66	2.1 2.3 2.2 2.7 1.9	(1.8 , 2.4) (2.2 , 2.4) (2 , 2.5) (2.4 , 3)	0.24 0.22 0.22 0.21
7	Environmental Exposures: Burns T31 Burns classified according to extent of body surface involved T23 Burn and corrosion of wrist and hand X10 Contact with hot drinks, food, fats and cooking oils T22 Burn and corrosion of shoulder and upper limb, except wrist and hand X12 Contact with other hot fluids T21 Burn and corrosion of trunk T24 Burn and corrosion of lower limb, except ankle and foot X15 Contact with hot household appliances T20 Burn and corrosion of head, face, and neck T25 Burn and corrosion of ankle and foot X09 Exposure to unspecified smoke, fire and flames X19 Contact with other heat and hot substances X11 Contact with hot tap-water X08 Exposure to other specified smoke, fire and flames	661	262	2.6	(2.2 , 2.9)	<0.0001
	T31 Burns classified according to extent of body surface involved T23 Burn and corrosion of wrist and hand X10 Contact with hot drinks, food, fats and cooking oils T22 Burn and corrosion of shoulder and upper limb, except wrist and hand X12 Contact with other hot fluids T21 Burn and corrosion of trunk T24 Burn and corrosion of lower limb, except ankle and foot X15 Contact with hot household appliances T20 Burn and corrosion of head, face, and neck T25 Burn and corrosion of ankle and foot X09 Exposure to unspecified smoke, fire and flames X19 Contact with other heat and hot substances X11 Contact with hot tap-water X08 Exposure to other specified smoke, fire and flames	404 249 129 108 78 69 85 63 68 60 59 52 26 60	148 107 53 42 42 21 34 16 24 22 18 21 14 11	2.8 2.3 2.5 2.6 1.9 3.4 2.5 3.9 2.8 2.7 3.3 2.5 1.9 5.5	(2.3 , 3.3) (1.9 , 2.9) (1.8 , 3.4) (1.8 , 3.7) (1.3 , 2.7) (2.1 , 5.6) (1.7 , 3.7) (2.3 , 6.8) (1.8 , 4.5) (1.7 , 4.4) (1.9 , 5.6) (1.5 , 4.1) (1 , 3.6) (2.9 , 10.4)	0.87 0.62 0.51 0.45 0.42 0.39 0.38 0.37 0.34 0.32 0.25 0.23 0.23 0.20
8	Otolaryngology: Respiratory Infections of Upper Airway, Ear and Nose H66 Suppurative and unspecified otitis media J06 Acute upper respiratory infections of multiple and unspecified sites J02 Acute pharyngitis R50 Fever of other and unknown origin H92 Otalgia and effusion of ear B34 Viral infection of unspecified site R21 Rash and other nonspecific skin eruption R05 Cough J05 Acute obstructive laryngitis [croup] and epiglottitis J03 Acute tonsillitis H60 Otitis externa H10 Conjunctivitis J20 Acute bronchitis	13,054	7,749	2.0	(2 , 2.1)	<0.0001
	H66 Suppurative and unspecified otitis media J06 Acute upper respiratory infections of multiple and unspecified sites J02 Acute pharyngitis R50 Fever of other and unknown origin H92 Otalgia and effusion of ear B34 Viral infection of unspecified site R21 Rash and other nonspecific skin eruption R05 Cough J05 Acute obstructive laryngitis [croup] and epiglottitis J03 Acute tonsillitis H60 Otitis externa H10 Conjunctivitis J20 Acute bronchitis	2,396 4,544 3,633 1,763 871 2,207 1,307 1,694 503 781 889 1,057 796	1,474 2,480 1,959 1,282 642 1,024 810 1,169 283 464 451 608 408	1.8 2.0 2.0 1.4 1.4 2.3 1.6 1.5 1.8 1.7 2.0 1.8 2.0	(1.6 , 1.9) (1.9 , 2.1) (1.9 , 2.1) (1.3 , 1.5) (1.2 , 1.5) (2.1 , 2.4) (1.5 , 1.8) (1.4 , 1.6) (1.6 , 2.2) (1.5 , 1.9) (1.8 , 2.2) (1.6 , 2) (1.8 , 2.2)	0.54 0.48 0.41 0.39 0.38 0.33 0.31 0.31 0.30 0.29 0.26 0.25 0.23
9	Gastroenterology: Liver Disorders and Other K74 Fibrosis and cirrhosis of liver K72 Hepatic failure, not elsewhere classified R18 Ascites I85 Esophageal varices K76 Other diseases of liver K70 Alcoholic liver disease B18 Chronic viral hepatitis D61 Other aplastic anemias and other bone marrow failure syndromes	417	132	3.2	(2.6 , 3.9)	<0.0001
	K74 Fibrosis and cirrhosis of liver K72 Hepatic failure, not elsewhere classified R18 Ascites I85 Esophageal varices K76 Other diseases of liver K70 Alcoholic liver disease B18 Chronic viral hepatitis D61 Other aplastic anemias and other bone marrow failure syndromes	107 64 105 59 129 143 86 55	23 12 20 20 43 23 26 20	4.7 5.7 5.3 3.1 3.0 6.5 3.5 2.8	(3 , 7.3) (3 , 10.9) (3.3 , 8.5) (1.8 , 5.1) (2.1 , 4.2) (4.1 , 10.1) (2.2 , 5.5) (1.6 , 4.6)	0.72 0.61 0.60 0.60 0.59 0.55 0.39 0.21
10	Emergency Medicine: Pulmonary, Abdominal and Other A41 Other sepsis J17 Pneumonia in diseases classified elsewhere J96 Respiratory failure, not elsewhere classified R57 Shock, not elsewhere classified N17 Acute kidney failure B95 Streptococcus, Staphylococcus, and Enterococcus as the cause of diseases classified elsewhere B96 Other bacterial agents as the cause of diseases classified elsewhere E87 Other disorders of fluid, electrolyte and acid-base balance L89 Pressure ulcer F05 Delirium, not induced by alcohol and other psychoactive substances U82 Resistance to betalactam antibiotics J15 Bacterial pneumonia, not elsewhere classified Z75 Problems related to medical facilities and other health care J90 Pleural effusion, not elsewhere classified	3,237	1,766	2.0	(1.9 , 2.1)	<0.0001
	A41 Other sepsis J17 Pneumonia in diseases classified elsewhere J96 Respiratory failure, not elsewhere classified R57 Shock, not elsewhere classified N17 Acute kidney failure B95 Streptococcus, Staphylococcus, and Enterococcus as the cause of diseases classified elsewhere B96 Other bacterial agents as the cause of diseases classified elsewhere E87 Other disorders of fluid, electrolyte and acid-base balance L89 Pressure ulcer F05 Delirium, not induced by alcohol and other psychoactive substances U82 Resistance to betalactam antibiotics J15 Bacterial pneumonia, not elsewhere classified Z75 Problems related to medical facilities and other health care J90 Pleural effusion, not elsewhere classified	299 49 121 68 637 449 898 996 61 455 79 64 824 237	124 27 70 41 234 267 624 421 28 102 29 26 363 115	2.5 1.8 1.7 1.7 2.8 1.7 1.5 2.5 2.2 4.6 2.7 2.5 2.4 2.1	(2 , 3.1) (1.1 , 2.9) (1.3 , 2.3) (1.1 , 2.4) (2.4 , 3.3) (1.5 , 2) (1.3 , 1.6) (2.2 , 2.8) (1.4 , 3.4) (3.7 , 5.8) (1.8 , 4.2) (1.6 , 3.9) (2.1 , 2.7) (1.7 , 2.6)	0.52 0.46 0.42 0.40 0.32 0.30 0.27 0.27 0.26 0.25 0.25 0.23 0.23 0.22

	J69 Pneumonitis due to solids and liquids A49 Bacterial infection of unspecified site	100 96	32 39	3.1 2.5	(2.1 , 4.7) (1.7 , 3.6)	0.20 0.20
11	Gastroenterology: Metabolic Disorders and Adbominal Symptoms	13,138	8,072	1.9	(1.8 , 2)	<0.0001
	K29 Gastritis and duodenitis D63 Anemia in chronic diseases classified elsewhere D64 Other anemias K92 Other diseases of digestive system Z85 Personal history of malignant neoplasm E87 Other disorders of fluid, electrolyte and acid-base balance D50 Iron deficiency anemia D46 Myelodysplastic syndromes E86 Volume depletion R11 Nausea and vomiting E83 Disorders of mineral metabolism K21 Gastro-esophageal reflux disease I10 Essential (primary) hypertension D61 Other aplastic anemias and other bone marrow failure syndromes R10 Abdominal and pelvic pain K56 Paralytic ileus and intestinal obstruction without hernia N17 Acute kidney failure D69 Purpura and other hemorrhagic conditions C79 Secondary malignant neoplasm of other and unspecified sites	1,264 123 889 847 812 996 255 NR 898 2,135 168 926 2,972 55 6,999 353 637 181 88	892 44 510 415 721 421 181 <6 401 1,132 72 640 1,915 20 3,715 251 234 72 25	1.4 2.8 1.8 2.1 1.1 2.5 1.4 8.8 2.3 1.9 2.3 1.5 1.7 2.8 2.1 1.4 2.8 2.8 2.5 3.5	(1.3 , 1.6) (2 , 3.9) (1.6 , 2) (1.8 , 2.3) (1 , 1.3) (2.2 , 2.8) (1.2 , 1.7) (3.1 , 24.6) (2 , 2.6) (1.8 , 2.1) (1.8 , 3.1) (1.3 , 1.6) (1.6 , 1.8) (1.6 , 4.6) (2 , 2.1) (1.2 , 1.7) (2.4 , 3.3) (1.9 , 3.3) (2.3 , 5.5)	0.38 0.34 0.33 0.31 0.27 0.26 0.26 0.25 0.25 0.25 0.23 0.23 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21
12	Neurology: Stroke and Emergencies Involving the Brain	3,923	2,332	1.9	(1.8 , 2)	<0.0001
	G81 Hemiplegia and hemiparesis I63 Cerebral infarction R47 Speech disturbances, not elsewhere classified I64 Stroke, not specified as haemorrhage or infarction I69 Sequelae of cerebrovascular disease Z75 Problems related to medical facilities and other health care I61 Nontraumatic intracerebral hemorrhage G45 Transient cerebral ischemic attacks and related syndromes I67 Other cerebrovascular diseases I10 Essential (primary) hypertension I62 Other and unspecified nontraumatic intracranial hemorrhage	109 302 157 435 122 824 73 514 75 2,972 109	49 113 61 170 40 363 23 224 26 1,915 23	2.2 2.8 2.6 2.6 3.1 2.4 3.2 2.4 3.0 1.7 4.7	(1.6 , 3.1) (2.2 , 3.4) (1.9 , 3.5) (2.2 , 3.1) (2.2 , 4.5) (2.1 , 2.7) (2 , 5.1) (2 , 2.8) (1.9 , 4.7) (1.6 , 1.8) (3 , 7.4)	0.60 0.60 0.53 0.52 0.48 0.27 0.27 0.27 0.24 0.24 0.21
13	Pharmacology Emergencies: Adverse Drug Effects of Medications Crossing Blood-Brain Barrier	508	112	4.6	(3.7 , 5.6)	<0.0001
	T42 Poisoning by, adverse effect of and underdosing of antiepileptic, sedative-hypnotic and antiparkinsonism drugs X61 Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified T43 Poisoning by, adverse effect of and underdosing of psychotropic drugs, not elsewhere classified X41 Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified Y11 Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent	295 294 269 146 106	52 72 61 32 11	5.7 4.1 4.4 4.6 9.6	(4.2 , 7.6) (3.2 , 5.3) (3.3 , 5.8) (3.1 , 6.7) (5.2 , 17.9)	0.72 0.69 0.68 0.51 0.46
14	Toxicology: Emergencies and Adversities Due to Substance Abuse	4,503	1,198	4.1	(3.9 , 4.4)	<0.0001
	F19 Other psychoactive substance related disorders F11 Opioid related disorders F14 Cocaine related disorders F10 Alcohol related disorders Z76 Persons encountering health services in other circumstances Y04 Assault by bodily force Z72 Problems related to lifestyle Z59 Problems related to housing and economic circumstances F13 Sedative, hypnotic, or anxiolytic related disorders Y09 Assault by unspecified means	526 244 245 1,849 1,082 1,564 544 158 81 130	110 46 43 374 416 140 186 26 13 7	4.9 5.3 5.7 5.2 2.7 12.0 3.0 6.1 6.2 18.6	(4 , 6) (3.9 , 7.3) (4.1 , 7.9) (4.6 , 5.8) (2.4 , 3) (10.1 , 14.4) (2.5 , 3.5) (4 , 9.2) (3.5 , 11.2) (8.7 , 39.7)	0.46 0.42 0.38 0.34 0.30 0.30 0.30 0.27 0.25 0.20
15	Endocrinology: Diabetes and Diabetic Consequences	3,336	1,938	1.9	(1.8 , 2)	<0.0001
	E14 Unspecified diabetes mellitus E11 Type 2 diabetes mellitus	1,720 2,507	920 1,337	1.9 2.0	(1.8 , 2.1) (1.9 , 2.2)	0.63 0.59

	E10 Type 1 diabetes mellitus	429	213	2.0	(1.7 , 2.4)	0.55
	R73 Elevated blood glucose level	414	254	1.6	(1.4 , 1.9)	0.54
	H36 Retinal disorders in diseases classified elsewhere	67	36	1.9	(1.2 , 2.8)	0.34
	N08 Glomerular disorders in diseases classified elsewhere	297	84	3.6	(2.8 , 4.6)	0.33
	I79 Disorders of arteries, arterioles and capillaries in diseases classified elsewhere	59	23	2.6	(1.6 , 4.2)	0.33
	L97 Non-pressure chronic ulcer of lower limb, not elsewhere classified	127	66	1.9	(1.4 , 2.6)	0.31
	G63 Polyneuropathy in diseases classified elsewhere	72	21	3.4	(2.1 , 5.6)	0.30
	M85 Osteomyelitis	93	44	2.1	(1.5 , 3)	0.26
16	Gastroenterology and Obstetrics: Conditions and Symptoms of Abdomen and Pelvis	12,554	7,130	2.0	(2 , 2.1)	<0.0001
	R10 Abdominal and pelvic pain	6,999	3,715	2.1	(2 , 2.1)	0.48
	N83 Noninflammatory disorders of ovary, fallopian tube and broad ligament	453	192	2.4	(2 , 2.8)	0.40
	Z33 Pregnant state	321	225	1.5	(1.2 , 1.7)	0.36
	N93 Other abnormal uterine and vaginal bleeding	403	274	1.5	(1.3 , 1.8)	0.32
	Z32 Encounter for pregnancy test and childbirth and childcare instruction	150	87	1.7	(1.3 , 2.3)	0.30
	N94 Pain and other conditions associated with female genital organs and menstrual cycle	244	141	1.7	(1.4 , 2.1)	0.30
	N73 Other female pelvic inflammatory diseases	122	70	1.7	(1.3 , 2.3)	0.30
	N39 Other disorders of urinary system	3,480	1,965	1.9	(1.8 , 2)	0.27
	K37 Unspecified appendicitis	370	117	3.2	(2.6 , 3.9)	0.26
	Z71 Persons encountering health services for other counseling and medical advice, not elsewhere classified	1,813	757	2.5	(2.3 , 2.7)	0.25
	G43 Migraine	1,028	315	3.3	(2.9 , 3.8)	0.23
	K35 Acute appendicitis	315	258	1.2	(1 , 1.4)	0.22
	N12 Tubulo-interstitial nephritis, not specified as acute or chronic	424	179	2.4	(2 , 2.8)	0.22
	R11 Nausea and vomiting	2,135	1,132	1.9	(1.8 , 2.1)	0.21
17	Cardiology: Chronic Cardiovascular Pathology and Other	2,615	1,339	2.2	(2 , 2.4)	<0.0001
	Y44 Agents primarily affecting blood constituents	159	66	2.4	(1.8 , 3.2)	0.63
	D68 Other coagulation defects	194	70	2.8	(2.1 , 3.6)	0.55
	R78 Findings of drugs and other substances, not normally found in blood	166	54	3.2	(2.3 , 4.4)	0.53
	Z92 Personal history of medical treatment	447	185	2.5	(2.1 , 2.9)	0.47
	I48 Atrial fibrillation and flutter	1,393	682	2.2	(2 , 2.5)	0.42
	I50 Heart failure	1,024	473	2.3	(2 , 2.5)	0.33
	I80 Phlebitis and thrombophlebitis	488	241	2.1	(1.8 , 2.4)	0.21
18	Trauma: Superficial Injuries and Other	8,638	3,067	3.2	(3.1 , 3.3)	<0.0001
	V43 Car occupant injured in collision with car, pick-up truck or van	899	231	4.0	(3.5 , 4.6)	0.37
	S20 Superficial injury of thorax	1,209	296	4.2	(3.7 , 4.8)	0.28
	S30 Superficial injury of abdomen, lower back, pelvis and external genitals	868	221	4.0	(3.4 , 4.6)	0.28
	S19 Other specified and unspecified injuries of neck	329	81	4.1	(3.2 , 5.3)	0.26
	S10 Superficial injury of neck	368	97	3.8	(3.1 , 4.8)	0.26
	S39 Other and unspecified injuries of abdomen, lower back, pelvis and external genitals	799	227	3.6	(3.1 , 4.2)	0.26
	T00 Superficial injuries involving multiple body regions	551	155	3.6	(3 , 4.3)	0.26
	M54 Dorsalgia	3,550	1,486	2.5	(2.4 , 2.7)	0.25
	S40 Superficial injury of shoulder and upper arm	1,034	250	4.2	(3.7 , 4.8)	0.25
	V89 Motor- or nonmotor-vehicle accident, type of vehicle unspecified	135	32	4.2	(2.9 , 6.2)	0.23
	T14 Injury of unspecified body region	428	161	2.7	(2.2 , 3.2)	0.22
	S49 Other and unspecified injuries of shoulder and upper arm	773	237	3.3	(2.8 , 3.8)	0.22
	T09 Other injuries of spine and trunk, level unspecified	411	106	3.9	(3.2 , 4.9)	0.20
19	Infectious Diseases and Respiriology: Acute and Chronic Disorders of Airway and Lung	13,938	7,653	2.1	(2.1 , 2.2)	<0.0001
	R06 Abnormalities of breathing	1,933	1,076	1.8	(1.7 , 2)	0.45
	J45 Asthma	1,811	1,029	1.8	(1.7 , 1.9)	0.42
	J18 Pneumonia, unspecified organism	2,553	1,203	2.2	(2.1 , 2.4)	0.42
	R05 Cough	1,694	1,169	1.5	(1.4 , 1.6)	0.37
	J44 Other chronic obstructive pulmonary disease	849	467	1.9	(1.7 , 2.1)	0.35
	J98 Other respiratory disorders	693	331	2.1	(1.9 , 2.4)	0.31
	J06 Acute upper respiratory infections of multiple and unspecified sites	4,544	2,480	2.0	(1.9 , 2.1)	0.29

	J40 Bronchitis, not specified as acute or chronic J20 Acute bronchitis R07 Pain in throat and chest	1,227 796 5,419	592 408 2,502	2.1 2.0 2.3	(1.9 , 2.3) (1.8 , 2.2) (2.2 , 2.4)	0.28 0.23 0.20
20	Toxicology: Alcohol-Related Emergencies	186	36	5.2	(3.6 , 7.4)	<0.0001
	T51 Toxic effect of alcohol	135	27	5.0	(3.3 , 7.6)	0.90
	X45 Accidental poisoning by and exposure to alcohol	56	13	4.3	(2.4 , 7.9)	0.66
	Y15 Poisoning by and exposure to alcohol, undetermined intent	NR	<6	10.3	(3.2 , 33.8)	0.56
	X65 Intentional self-poisoning by and exposure to alcohol	52	11	4.7	(2.5 , 9.1)	0.54
	Y90 Evidence of alcohol involvement determined by blood alcohol level	54	6	9.0	(3.9 , 20.9)	0.20
21	Psychiatry: Schizophrenia and Delusional Disorders	1,004	334	3.1	(2.7 , 3.5)	<0.0001
	F20 Schizophrenia	172	74	2.3	(1.8 , 3.1)	0.65
	F29 Unspecified nonorganic psychosis	209	88	2.4	(1.9 , 3)	0.58
	F25 Schizoaffective disorders	51	19	2.7	(1.6 , 4.5)	0.56
	F22 Persistent delusional disorders	109	37	3.0	(2.1 , 4.4)	0.50
	R44 Other symptoms and signs involving general sensations and perceptions	152	53	2.9	(2.1 , 3.9)	0.38
	R46 Symptoms and signs involving appearance and behavior	271	67	4.0	(3.1 , 5.3)	0.33
	F31 Bipolar disorder	271	90	3.0	(2.4 , 3.8)	0.27
	F99 Mental disorder, not otherwise specified	56	12	4.7	(2.5 , 8.7)	0.25
	Z59 Problems related to housing and economic circumstances	158	26	6.1	(4 , 9.2)	0.21
22	Pharmacology Emergencies: Poisoning due to Narcotics	468	82	5.7	(4.5 , 7.2)	<0.0001
	T40 Poisoning by, adverse effect of and underdosing of narcotics and psychodysleptics [hallucinogens]	249	35	7.1	(5 , 10.1)	0.85
	X42 Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	121	20	6.1	(3.8 , 9.7)	0.63
	Y12 Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent	71	9	7.9	(3.9 , 15.8)	0.54
	X62 Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	95	13	7.3	(4.1 , 13)	0.52
	F11 Opioid related disorders	244	46	5.3	(3.9 , 7.3)	0.23
23	Trauma: Injuries from Contact With Sharp Instruments and Machinery	7,528	3,301	2.5	(2.4 , 2.7)	<0.0001
	S61 Open wound of wrist, hand and fingers	3,463	1,658	2.2	(2.1 , 2.3)	0.77
	W26 Contact with knife, sword or dagger	972	441	2.2	(2 , 2.5)	0.47
	W45 Foreign body or object entering through skin	1,272	565	2.3	(2.1 , 2.6)	0.45
	W25 Contact with sharp glass	885	309	2.9	(2.5 , 3.3)	0.39
	S91 Open wound of ankle, foot and toes	900	381	2.4	(2.1 , 2.7)	0.34
	W29 Contact with other powered hand tools and household machinery	283	138	2.1	(1.7 , 2.5)	0.28
	W49 Exposure to other inanimate mechanical forces	692	250	2.8	(2.4 , 3.2)	0.28
	W27 Contact with nonpowered hand tool	379	174	2.2	(1.8 , 2.6)	0.26
	S51 Open wound of elbow and forearm	669	183	3.7	(3.1 , 4.3)	0.23
	Z48 Encounter for other postprocedural aftercare	1,325	607	2.2	(2 , 2.5)	0.22
	W31 Contact with other and unspecified machinery	257	139	1.9	(1.5 , 2.3)	0.22
	W23 Caught, crushed, jammed or pinched in or between objects	1,351	460	3.0	(2.7 , 3.3)	0.21
24	Pharmacology Emergencies and Toxicology: Poisoning due to Hormones, Cardiovascular Drugs and Other	420	159	2.7	(2.2 , 3.2)	<0.0001
	X44 Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	181	74	2.4	(1.9 , 3.2)	0.60
	T50 Poisoning by, adverse effect of and underdosing of diuretics and other and unspecified drugs, medicaments and biological substances	187	51	3.7	(2.7 , 5)	0.59
	X64 Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	132	42	3.1	(2.2 , 4.4)	0.55
	Y14 Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent	59	21	2.8	(1.7 , 4.6)	0.44
	T45 Poisoning by, adverse effect of and underdosing of primarily systemic and hematological agents, not elsewhere classified	83	32	2.6	(1.7 , 3.9)	0.42
	T38 Poisoning by, adverse effect of and underdosing of hormones and their synthetic substitutes and antagonists, not elsewhere classified	26	10	2.6	(1.3 , 5.4)	0.40
	T46 Poisoning by, adverse effect of and underdosing of agents primarily affecting the cardiovascular system	35	18	1.9	(1.1 , 3.4)	0.36
	T49 Poisoning by, adverse effect of and underdosing of topical agents primarily affecting skin and mucous membrane and by ophthalmological, otorhinolaryngological and dental drugs	19	6	3.2	(1.3 , 7.9)	0.29

25	Pharmacology Emergencies: Poisoning by Pain Killers and Anti-Inflammatory Drugs	295	77	3.8	(3 , 4.9)	<0.0001	-
	T39 Poisoning by, adverse effect of and underdosing of nonopioid analgesics, antipyretics and antirheumatics	274	73	3.8	(2.9 , 4.9)		0.90
	X60 Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	190	48	4.0	(2.9 , 5.4)		0.70
	X40 Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	76	23	3.3	(2.1 , 5.3)		0.55
	Y10 Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics, undetermined intent	36	11	3.3	(1.7 , 6.4)		0.39
26	Neurology: Epilepsy, Seizures, Brain Lesions and Other	1,121	365	3.1	(2.8 , 3.5)	<0.0001	-
	G40 Epilepsy and recurrent seizures	390	103	3.8	(3 , 4.7)		0.64
	R56 Convulsions, not elsewhere classified	824	264	3.2	(2.7 , 3.6)		0.60
	G41 Status epilepticus	NR	<6	6.2	(2.4 , 15.9)		0.46
	Y46 Antiepileptics and antiparkinsonism drugs	62	8	7.8	(3.7 , 16.2)		0.38
	F44 Dissociative and conversion disorders	74	19	3.9	(2.4 , 6.4)		0.33
	D43 Neoplasm of uncertain behavior of brain and central nervous system	30	9	3.3	(1.6 , 7)		0.28
	G93 Other disorders of brain	102	28	3.6	(2.4 , 5.5)		0.26
	C71 Malignant neoplasm of brain	37	17	2.2	(1.2 , 3.9)		0.25
27	Trauma: Overexertion and Injuries to the Lower Limb	12,053	4,790	3.0	(2.9 , 3.1)	<0.0001	-
	X50 Overexertion and strenuous or repetitive movements	4,765	1,870	2.7	(2.6 , 2.9)		0.53
	S93 Dislocation and sprain of joints and ligaments at ankle, foot and toe level	2,931	1,123	2.8	(2.6 , 3)		0.46
	S99 Other and unspecified injuries of ankle and foot	1,357	672	2.0	(1.9 , 2.2)		0.33
	X59 Exposure to unspecified factor	4,311	1,366	3.4	(3.1 , 3.6)		0.32
	S83 Dislocation and sprain of joints and ligaments of knee	1,204	458	2.7	(2.4 , 3)		0.26
	S90 Superficial injury of ankle, foot and toes	2,093	681	3.2	(2.9 , 3.5)		0.25
	S82 Fracture of lower leg, including ankle	1,167	482	2.5	(2.2 , 2.7)		0.24
	T78 Adverse effects, not elsewhere classified	936	395	2.4	(2.1 , 2.7)		0.24
	X58 Exposure to other specified factors	1,127	338	3.4	(3 , 3.8)		0.23
28	Nephrology: Genitourinary Disorders, Prosthetic and Other	5,379	3,436	1.7	(1.6 , 1.7)	<0.0001	-
	T83 Complications of genitourinary prosthetic devices, implants and grafts	108	71	1.5	(1.1 , 2.1)		0.56
	R33 Retention of urine	469	318	1.5	(1.3 , 1.7)		0.51
	Z46 Encounter for fitting and adjustment of other devices	238	196	1.2	(1 , 1.5)		0.49
	R31 Hematuria	615	520	1.2	(1.1 , 1.3)		0.41
	Y84 Other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure	600	296	2.1	(1.8 , 2.4)		0.39
	N20 Calculus of kidney and ureter	307	259	1.2	(1 , 1.4)		0.34
	N39 Other disorders of urinary system	3,480	1,965	1.9	(1.8 , 2)		0.34
	N23 Unspecified renal colic	487	311	1.6	(1.4 , 1.8)		0.28
	N30 Cystitis	337	274	1.2	(1 , 1.4)		0.25
	B96 Other bacterial agents as the cause of diseases classified elsewhere	898	624	1.5	(1.3 , 1.6)		0.22
29	Neurology: Alzheimer's Diseases and Dementia	530	148	3.8	(3.2 , 4.6)	<0.0001	-
	G30 Alzheimer's disease	162	52	3.2	(2.3 , 4.4)		0.92
	F00 Dementia in Alzheimer disease	112	39	2.9	(2 , 4.2)		0.92
	F03 Unspecified dementia	422	112	4.0	(3.2 , 4.9)		0.27
30	Emergency Medicine: Foreign Body in Eye, Airway and Other	1,682	624	2.8	(2.5 , 3.1)	<0.0001	-
	W44 Foreign body entering into or through eye or natural orifice	1,564	560	2.9	(2.6 , 3.2)		0.91
	T15 Foreign body on external eye	627	300	2.2	(1.9 , 2.5)		0.63
	T18 Foreign body in alimentary tract	239	93	2.6	(2 , 3.3)		0.45
	T17 Foreign body in respiratory tract	187	111	1.7	(1.3 , 2.1)		0.42
	T16 Foreign body in ear	144	58	2.5	(1.8 , 3.4)		0.30
	H18 Other disorders of cornea	82	42	2.0	(1.4 , 2.9)		0.22
31	Emergency Medicine: Complications of Medical Procedures	2,600	1,533	1.8	(1.6 , 1.9)	<0.0001	-
	Y83 Surgical operation and other surgical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure	2,149	1,276	1.7	(1.6 , 1.9)		0.70
	T81 Complications of procedures, not elsewhere classified	1,315	763	1.8	(1.6 , 1.9)		0.68
	Y84 Other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure	600	296	2.1	(1.8 , 2.4)		0.34
	T82 Complications of cardiac and vascular prosthetic devices, implants and grafts	198	110	1.8	(1.4 , 2.3)		0.32

32	Environmental Exposures: Exposure to Heat and Light	66	26	2.5	(1.6 , 4)	<0.0001	-
	X30 Exposure to excessive natural heat	54	18	3.0	(1.8 , 5.1)		0.95
	T67 Effects of heat and light	62	25	2.5	(1.6 , 3.9)		0.95
33	Environmental Exposures: Exposure to Cold/Hypothermia	82	21	3.9	(2.4 , 6.3)	<0.0001	-
	X31 Exposure to excessive natural cold	76	19	4.0	(2.4 , 6.6)		0.93
	T35 Frostbite involving multiple body regions and unspecified frostbite	39	11	3.5	(1.8 , 6.9)		0.77
	T68 Hypothermia	NR	<6	4.0	(1.5 , 10.7)		0.53
34	Environmental Exposures: Bee, Wasp and Hornet Stings	349	174	2.0	(1.7 , 2.4)	<0.0001	-
	T63 Toxic effect of contact with venomous animals and plants	267	139	1.9	(1.6 , 2.4)		0.94
	X23 Contact with hornets, wasps and bees	314	156	2.0	(1.7 , 2.4)		0.94
35	Infectious Diseases: Viral Conjunctivitis	84	41	2.0	(1.4 , 3)	0.0002	-
	B30 Viral conjunctivitis	80	39	2.1	(1.4 , 3)		0.94
	H13 Disorders of conjunctiva in diseases classified elsewhere	54	24	2.3	(1.4 , 3.6)		0.94
36	Trauma: Assault and Intentional Injury	1,266	334	3.9	(3.4 , 4.4)	<0.0001	-
	X99 Assault by sharp object	144	17	8.5	(5.1 , 14)		0.57
	S21 Open wound of thorax	71	17	4.2	(2.5 , 7.1)		0.43
	S11 Open wound of neck	30	10	3.0	(1.5 , 6.1)		0.33
	S41 Open wound of shoulder and upper arm	111	35	3.2	(2.2 , 4.6)		0.31
	T01 Open wounds involving multiple body regions	37	9	4.1	(2 , 8.5)		0.29
	S27 Injury of other and unspecified intrathoracic organs	NR	<6	17.6	(7.1 , 43.3)		0.27
	X78 Intentional self-harm by sharp object	167	39	4.3	(3 , 6.1)		0.27
	S31 Open wound of abdomen, lower back, pelvis and external genitals	172	53	3.2	(2.4 , 4.4)		0.26
	S51 Open wound of elbow and forearm	669	183	3.7	(3.1 , 4.3)		0.23
37	Pharmacology Emergencies: Adverse Reactions to Antibiotics and Other Substances	3,851	1,870	2.2	(2 , 2.3)	<0.0001	-
	Y40 Systemic antibiotics	316	154	2.1	(1.7 , 2.5)		0.55
	L27 Dermatitis due to substances taken internally	141	68	2.1	(1.6 , 2.8)		0.49
	T88 Other complications of surgical and medical care, not elsewhere classified	311	154	2.0	(1.7 , 2.5)		0.42
	T78 Adverse effects, not elsewhere classified	936	395	2.4	(2.1 , 2.7)		0.40
	Y57 Other and unspecified drugs and medicaments	171	66	2.6	(2 , 3.5)		0.31
	R21 Rash and other nonspecific skin eruption	1,307	810	1.6	(1.5 , 1.8)		0.28
	L50 Urticaria	615	345	1.8	(1.6 , 2.1)		0.27
	X58 Exposure to other specified factors	1,127	338	3.4	(3 , 3.8)		0.24
38	Trauma: Adult & Child Abuse and Sexual Assault	176	34	5.4	(3.7 , 7.9)	<0.0001	-
	T74 Adult and child abuse, neglect and other maltreatment, confirmed	62	18	3.6	(2.1 , 6.1)		0.79
	Y05 Sexual assault by bodily force	62	18	3.4	(2 , 5.8)		0.63
	Y07 Perpetrator of assault, maltreatment and neglect	118	13	9.8	(5.4 , 17.7)		0.57
39	Environmental Exposures: Burn and Chemical Poisoning	436	127	3.5	(2.8 , 4.2)	<0.0001	-
	T26 Burn and corrosion confined to eye and adnexa	100	31	3.2	(2.2 , 4.8)		0.77
	W89 Exposure to man-made visible and ultraviolet light	33	16	2.1	(1.1 , 3.7)		0.66
	X49 Accidental poisoning by and exposure to other and unspecified chemicals and noxious substances	279	83	3.4	(2.7 , 4.3)		0.44
	X08 Exposure to other specified smoke, fire and flames	60	11	5.5	(2.9 , 10.4)		0.26
	T54 Toxic effect of corrosive substances	NR	<6	6.0	(2.1 , 17.3)		0.21
	T65 Toxic effect of other and unspecified substances	55	22	2.5	(1.5 , 4.1)		0.21
40	Gynecology: Infections and Other	571	273	2.1	(1.8 , 2.4)	<0.0001	-
	N77 Vulvovaginal ulceration and inflammation in diseases classified elsewhere	134	56	2.4	(1.8 , 3.3)		0.80
	B37 Candidiasis	368	181	2.0	(1.7 , 2.4)		0.66
	A60 Anogenital herpesviral [herpes simplex] infections	55	15	3.7	(2.1 , 6.5)		0.48
	N76 Other inflammation of vagina and vulva	178	86	2.1	(1.6 , 2.7)		0.28
41	Pharmacology Emergencies: Poisoning due to Drugs Acting on Autonomic Nervous System	33	13	2.5	(1.3 , 4.8)	0.0044	-
	X63 Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system	NR	<6	2.7	(0.7 , 10.1)		0.83
	T44 Poisoning by, adverse effect of and underdosing of drugs primarily affecting the autonomic nervous system	33	13	2.5	(1.3 , 4.8)		0.82
42	Environmental Exposures: Toxic Effect of Gases, Fumes and Vapours	159	46	3.5	(2.5 , 4.8)	<0.0001	-
	T59 Toxic effect of other gases, fumes and vapors	93	28	3.3	(2.2 , 5.1)		0.86
	X47 Accidental poisoning by and exposure to other gases and vapours	67	20	3.4	(2 , 5.5)		0.82
	X09 Exposure to unspecified smoke, fire and flames	59	18	3.3	(1.9 , 5.6)		0.24
43	Environmental Exposures: Exposure to electrical Current	64	19	3.4	(2 , 5.6)	<0.0001	-

W87 Exposure to unspecified electric current	32	9	3.6	{1.7 , 7.4}	0.87
T75 Other and unspecified effects of other external causes	60	17	3.5	(2.1 , 6)	0.87

NR - Not reported due to small cell size

TBI - Traumatic Brain Injury

Supplementary Table 2 - ICD-10 Codes not included in the Factors. Provides all ICD-10 codes not included in any factor (in alphabetical order), including their descriptions, frequencies (in TBI and reference population), and odds ratio (and 95% confidence interval) from multiple testing results.

ICD-10 Codes	Description	Frequency		Odds Ratio	Confidence Interval
		TBI	Reference Population		
I. Certain infectious and parasitic diseases (A00-B99)					
A04	Other bacterial intestinal infections	150	57	2.6	(1.9 , 3.6)
A08	Viral and other specified intestinal infections	600	314	2.0	(1.7 , 2.3)
A09	Other gastroenteritis and colitis of infectious and unspecified origin	2,028	633	3.3	(3 , 3.6)
A37	Whooping cough	17	10	1.7	(0.8 , 3.7)
A38	Scarlet fever	60	26	2.3	(1.5 , 3.7)
A46	Erysipelas	19	8	2.4	(1 , 5.4)
A49	Bacterial infection of unspecified site	96	39	2.5	(1.7 , 3.6)
A64	Unspecified sexually transmitted disease	45	6	7.5	(3.2 , 17.6)
A74	Other diseases caused by chlamydiae	NR	<6	3.5	(1.2 , 10.6)
B00	Herpesviral [herpes simplex] infections	154	79	2.0	(1.5 , 2.6)
B01	Varicella [chickenpox]	119	89	1.3	(1 , 1.8)
B02	Zoster [herpes zoster]	315	181	1.7	(1.5 , 2.1)
B07	Viral warts	147	88	1.7	(1.3 , 2.2)
B08	Other viral infections characterized by skin and mucous membrane lesions, not elsewhere classified	131	51	2.6	(1.9 , 3.5)
B09	Unspecified viral infection characterized by skin and mucous membrane lesions	161	71	2.3	(1.7 , 3)
B27	Infectious mononucleosis	265	112	2.4	(1.9 , 3)
B35	Dermatophytosis	170	65	2.6	(2 , 3.5)
B80	Enterobiasis	35	12	2.9	(1.5 , 5.6)
B86	Scabies	57	22	2.6	(1.6 , 4.2)
B97	Viral agents as the cause of diseases classified elsewhere	199	84	2.4	(1.8 , 3.1)
II. Neoplasms (C00-D48)					
C90	Multiple myeloma and malignant plasma cell neoplasms	31	12	2.6	(1.3 , 5)
IV. Endocrine, nutritional and metabolic diseases (E00-E90)					
E03	Other hypothyroidism	234	130	1.8	(1.5 , 2.3)
E16	Other disorders of pancreatic internal secretion	95	39	2.4	(1.7 , 3.5)
E22	Hyperfunction of pituitary gland	25	15	1.7	(0.9 , 3.2)
E46	Unspecified protein-energy malnutrition	41	16	2.6	(1.4 , 4.6)
V. Mental and behavioural disorders (F00-F99)					
F01	Vascular dementia	49	17	2.9	(1.7 , 5)
F06	Other mental disorders due to known physiological condition	75	18	4.2	(2.5 , 7)
F07	Personality and behavioral disorders due to known physiological condition	NR	<6	56.7	(18.1 , 177.5)
F15	Other stimulant related disorders	40	18	2.2	(1.3 , 3.9)
F45	Somatoform disorders	71	22	3.2	(2 , 5.2)
F48	Other nonpsychotic mental disorders	26	13	2.0	(1 , 3.9)
F51	Sleep disorders not due to a substance or known physiological condition	30	7	4.3	(1.9 , 9.8)
VI. Diseases of the nervous system (G00-G99)					
G03	Meningitis due to other and unspecified causes	28	9	3.1	(1.5 , 6.6)

G06	Intracranial and intraspinal abscess and granuloma	11	6	1.8	(0.7 , 5)
G25	Other extrapyramidal and movement disorders	56	22	2.5	(1.6 , 4.2)
G31	Other degenerative diseases of nervous system, not elsewhere classified	33	6	5.5	(2.3 , 13.1)
G35	Multiple sclerosis	44	18	2.4	(1.4 , 4.2)
G44	Other headache syndromes	272	78	3.5	(2.7 , 4.5)
G47	Sleep disorders	319	186	1.7	(1.4 , 2.1)
G50	Disorders of trigeminal nerve	57	20	2.9	(1.7 , 4.7)
G62	Other and unspecified polyneuropathies	80	23	3.5	(2.2 , 5.5)
G91	Hydrocephalus	58	19	3.1	(1.8 , 5.1)
VII. Diseases of the eye and adnexa (H00-H59)					
H00	Hordeolum and chalazion	201	126	1.6	(1.3 , 2)
H05	Disorders of orbit	70	37	1.9	(1.3 , 2.8)
H11	Other disorders of conjunctiva	206	115	1.8	(1.4 , 2.3)
H16	Keratitis	156	70	2.2	(1.7 , 3)
H20	Iridocyclitis	46	22	2.1	(1.3 , 3.5)
H53	Visual disturbances	307	170	1.8	(1.5 , 2.2)
H57	Other disorders of eye and adnexa	689	451	1.5	(1.4 , 1.7)
VIII. Diseases of the ear and mastoid process (H60-H95)					
H61	Other disorders of external ear	315	206	1.5	(1.3 , 1.8)
H72	Perforation of tympanic membrane	123	64	2.0	(1.4 , 2.7)
H81	Disorders of vestibular function	326	210	1.6	(1.3 , 1.9)
H83	Other diseases of inner ear	154	83	1.9	(1.4 , 2.4)
IX. Diseases of the circulatory system (I00-I99)					
I26	Pulmonary embolism	249	108	2.3	(1.9 , 2.9)
I27	Other pulmonary heart diseases	69	29	2.4	(1.5 , 3.7)
I31	Other diseases of pericardium	71	48	1.5	(1 , 2.1)
I47	Paroxysmal tachycardia	259	147	1.8	(1.4 , 2.2)
I49	Other cardiac arrhythmias	280	178	1.6	(1.3 , 1.9)
I60	Nontraumatic subarachnoid hemorrhage	52	9	5.8	(2.8 , 11.7)
I87	Other disorders of veins	43	20	2.2	(1.3 , 3.7)
I88	Nonspecific lymphadenitis	218	77	2.8	(2.2 , 3.7)
I95	Hypotension	447	205	2.2	(1.9 , 2.6)
X. Diseases of the respiratory system (J00-J99)					
J01	Acute sinusitis	509	252	2.0	(1.7 , 2.4)
J04	Acute laryngitis and tracheitis	117	62	1.9	(1.4 , 2.6)
J11	Influenza due to unidentified influenza virus	731	236	3.1	(2.7 , 3.6)
J21	Acute bronchiolitis	182	128	1.4	(1.1 , 1.8)
J22	Unspecified acute lower respiratory infection	323	132	2.5	(2 , 3.1)
J30	Vasomotor and allergic rhinitis	96	59	1.6	(1.2 , 2.3)
J32	Chronic sinusitis	574	288	2.0	(1.7 , 2.3)
J36	Peritonsillar abscess	115	60	1.9	(1.4 , 2.6)
J39	Other diseases of upper respiratory tract	45	42	1.1	(0.7 , 1.6)
J81	Pulmonary edema	79	53	1.5	(1.1 , 2.1)
J93	Pneumothorax and air leak	75	28	2.7	(1.7 , 4.1)
XI. Diseases of the digestive system (K00-K93)					
K04	Diseases of pulp and periapical tissues	617	258	2.4	(2.1 , 2.8)
K06	Other disorders of gingiva and edentulous alveolar ridge	21	15	1.4	(0.7 , 2.7)
K08	Other disorders of teeth and supporting structures	530	233	2.3	(2 , 2.7)
K10	Other diseases of jaws	101	52	1.9	(1.4 , 2.7)
K11	Diseases of salivary glands	84	49	1.7	(1.2 , 2.4)
K12	Stomatitis and related lesions	181	102	1.8	(1.4 , 2.3)
K13	Other diseases of lip and oral mucosa	118	64	1.8	(1.4 , 2.5)

K27	Peptic ulcer, site unspecified	140	60	2.3	(1.7 , 3.2)
K46	Unspecified abdominal hernia	68	24	2.8	(1.8 , 4.5)
K59	Other functional intestinal disorders	1,725	800	2.2	(2 , 2.4)
K64	Hemorrhoids and perianal venous thrombosis	175	62	2.9	(2.1 , 3.8)
K85	Acute pancreatitis	245	122	2.0	(1.6 , 2.5)
K86	Other diseases of pancreas	69	25	2.8	(1.7 , 4.4)
XII. Diseases of the skin and subcutaneous tissue (L00-L99)					
L01	Impetigo	314	134	2.4	(1.9 , 2.9)
L04	Acute lymphadenitis	71	29	2.4	(1.6 , 3.8)
L23	Allergic contact dermatitis	316	189	1.7	(1.4 , 2)
L25	Unspecified contact dermatitis	351	123	2.9	(2.3 , 3.5)
L29	Pruritus	116	70	1.7	(1.2 , 2.3)
L30	Other and unspecified dermatitis	365	211	1.7	(1.5 , 2.1)
L42	Pityriasis rosea	31	18	1.7	(1 , 3.1)
L55	Sunburn	72	38	1.9	(1.3 , 2.8)
L60	Nail disorders	233	157	1.5	(1.2 , 1.8)
L72	Follicular cysts of skin and subcutaneous tissue	256	192	1.3	(1.1 , 1.6)
L73	Other follicular disorders	149	68	2.2	(1.7 , 2.9)
L98	Other disorders of skin and subcutaneous tissue, not elsewhere classified	259	116	2.2	(1.8 , 2.8)
XIII. Diseases of the musculoskeletal system and connective tissue (M00-M99)					
M00	Pyogenic arthritis	48	35	1.4	(0.9 , 2.1)
M06	Other rheumatoid arthritis	72	46	1.6	(1.1 , 2.3)
M10	Gout	312	186	1.7	(1.4 , 2)
M13	Other arthritis	250	143	1.7	(1.4 , 2.1)
M19	Other and unspecified osteoarthritis	231	144	1.6	(1.3 , 2)
M43	Other deforming dorsopathies	216	107	2.0	(1.6 , 2.5)
M51	Thoracic, thoracolumbar, and lumbosacral intervertebral disc disorders	260	157	1.7	(1.4 , 2)
M53	Other and unspecified dorsopathies, not elsewhere classified	40	20	2.0	(1.2 , 3.4)
M60	Myositis	38	20	1.9	(1.1 , 3.3)
M62	Other disorders of muscle	775	268	2.9	(2.5 , 3.4)
M65	Synovitis and tenosynovitis	271	183	1.5	(1.2 , 1.8)
M70	Soft tissue disorders related to use, overuse and pressure	331	126	2.7	(2.2 , 3.3)
M71	Other bursopathies	123	61	2.0	(1.5 , 2.7)
M72	Fibroblastic disorders	161	78	2.1	(1.6 , 2.7)
M75	Shoulder lesions	395	251	1.6	(1.3 , 1.9)
M76	Enthesopathies, lower limb, excluding foot	95	30	3.2	(2.1 , 4.8)
M77	Other enthesopathies	301	96	3.2	(2.5 , 4)
M80	Osteoporosis with current pathological fracture	34	7	4.9	(2.2 , 11)
M84	Disorder of continuity of bone	72	50	1.4	(1 , 2.1)
M92	Other juvenile osteochondrosis	49	17	2.9	(1.7 , 5)
M94	Other disorders of cartilage	293	99	3.0	(2.4 , 3.7)
XIV. Diseases of the genitourinary system (N00-N99)					
N45	Orchitis and epididymitis	189	85	2.3	(1.7 , 2.9)
N48	Other disorders of penis	192	103	1.9	(1.5 , 2.4)
N50	Other and unspecified disorders of male genital organs	226	133	1.7	(1.4 , 2.1)
N61	Inflammatory disorders of breast	72	35	2.1	(1.4 , 3.2)
N64	Other disorders of breast	72	36	2.0	(1.3 , 3)
N71	Inflammatory disease of uterus, except cervix	14	7	2.0	(0.8 , 5)

XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)				
R00 Abnormalities of heart beat	994	567	1.8	(1.6 , 2)
R03 Abnormal blood-pressure reading, without diagnosis	43	33	1.3	(0.8 , 2.1)
R04 Hemorrhage from respiratory passages	710	304	2.4	(2.1 , 2.7)
R09 Other symptoms and signs involving the circulatory and respiratory system	191	73	2.6	(2 , 3.4)
R13 Aphagia and dysphagia	322	203	1.6	(1.3 , 1.9)
R20 Disturbances of skin sensation	606	299	2.0	(1.8 , 2.4)
R23 Other skin changes	151	84	1.8	(1.4 , 2.3)
R25 Abnormal involuntary movements	434	165	2.7	(2.2 , 3.2)
R27 Other lack of coordination	78	16	4.9	(2.8 , 8.3)
R30 Pain associated with micturition	313	219	1.4	(1.2 , 1.7)
R32 Unspecified urinary incontinence	77	74	1.0	(0.8 , 1.4)
R40 Somnolence, stupor and coma	130	40	3.3	(2.3 , 4.6)
R42 Dizziness and giddiness	1,615	802	2.1	(1.9 , 2.3)
R51 Headache	2,336	902	2.7	(2.5 , 2.9)
R52 Pain, not elsewhere classified	709	173	4.2	(3.5 , 4.9)
R55 Syncope and collapse	1,728	682	2.6	(2.4 , 2.8)
R59 Enlarged lymph nodes	242	113	2.2	(1.7 , 2.7)
R60 Edema, not elsewhere classified	376	153	2.5	(2 , 3)
R63 Symptoms and signs concerning food and fluid intake	239	149	1.6	(1.3 , 2)
R68 Other general symptoms and signs	321	157	2.1	(1.7 , 2.5)
R74 Abnormal serum enzyme levels	87	35	2.5	(1.7 , 3.7)
R79 Other abnormal findings of blood chemistry	101	63	1.6	(1.2 , 2.2)
XIX. Injury, poisoning and certain other consequences of external causes (S00-T98)				
S16 Injury of muscle, fascia and tendon at neck level	77	17	4.5	(2.7 , 7.7)
S29 Other and unspecified injuries of thorax	457	109	4.2	(3.4 , 5.2)
S36 Injury of intra-abdominal organs	72	19	3.8	(2.3 , 6.3)
S37 Injury of urinary and pelvic organs	46	18	2.6	(1.5 , 4.4)
S42 Fracture of shoulder and upper arm	918	365	2.6	(2.3 , 2.9)
S43 Dislocation and sprain of joints and ligaments of shoulder girdle	1,033	313	3.3	(2.9 , 3.8)
S46 Injury of muscle, fascia and tendon at shoulder and upper arm level	329	93	3.6	(2.8 , 4.5)
S53 Dislocation and sprain of joints and ligaments of elbow	271	109	2.5	(2 , 3.1)
S54 Injury of nerves at forearm level	22	7	3.1	(1.3 , 7.4)
S56 Injury of muscle, fascia and tendon at forearm level	92	25	3.7	(2.4 , 5.7)
S66 Injury of muscle, fascia and tendon at wrist and hand level	156	51	3.1	(2.2 , 4.2)
S67 Crushing injury of wrist, hand and fingers	216	73	3.0	(2.3 , 3.9)
S70 Superficial injury of hip and thigh	552	147	3.8	(3.1 , 4.5)
S71 Open wound of hip and thigh	178	69	2.6	(2 , 3.4)
S73 Dislocation and sprain of joint and ligaments of hip	75	41	1.8	(1.3 , 2.7)
S76 Injury of muscle, fascia and tendon at hip and thigh level	116	44	2.6	(1.9 , 3.7)
S79 Other and unspecified injuries of hip and thigh	245	75	3.3	(2.5 , 4.2)
S80 Superficial injury of knee and lower leg	1,792	521	3.5	(3.2 , 3.9)
S81 Open wound of knee and lower leg	824	302	2.8	(2.4 , 3.1)
S86 Injury of muscle, fascia and tendon at lower leg level	139	49	2.8	(2 , 3.9)
S96 Injury of muscle and tendon at ankle and foot level	52	14	3.7	(2.1 , 6.7)
S97 Crushing injury of ankle and foot	29	13	2.2	(1.2 , 4.3)
T03 Dislocations, sprains and strains involving multiple body regions	49	21	2.3	(1.4 , 3.9)

T06	Other injuries involving multiple body regions, not elsewhere classified	82	19	4.3	(2.6 , 7.1)
T07	Unspecified multiple injuries	57	17	3.4	(2 , 5.8)
T09	Other injuries of spine and trunk, level unspecified	411	106	3.9	(3.2 , 4.9)
T11	Other injuries of upper limb, level unspecified	334	127	2.6	(2.1 , 3.2)
T13	Other injuries of lower limb, level unspecified	303	113	2.7	(2.2 , 3.3)
T19	Foreign body in genitourinary tract	39	21	1.9	(1.1 , 3.2)
T52	Toxic effect of organic solvents	33	12	2.8	(1.4 , 5.3)
T79	Certain early complications of trauma, not elsewhere classified	101	25	4.0	(2.6 , 6.3)
T80	Complications following infusion, transfusion and therapeutic injection	55	30	1.8	(1.2 , 2.9)
XX. External causes of morbidity and mortality (V01-Y98)					
V03	Pedestrian injured in collision with car, pick-up truck or van	216	57	3.8	(2.8 , 5.1)
V09	Pedestrian injured in other and unspecified transport accidents	24	8	3.0	(1.3 , 6.7)
V13	Pedal cycle rider injured in collision with car, pick-up truck or van	117	30	3.9	(2.6 , 5.8)
V17	Pedal cycle rider injured in collision with fixed or stationary object	35	6	5.8	(2.5 , 13.9)
V19	Pedal cycle rider injured in other and unspecified transport accidents	145	52	2.8	(2.1 , 3.9)
V23	Motorcycle rider injured in collision with car, pick-up truck or van	21	7	3.0	(1.3 , 7.1)
V28	Motorcycle rider injured in noncollision transport accident	174	48	3.7	(2.7 , 5.1)
V29	Motorcycle rider injured in other and unspecified transport accidents	58	18	3.2	(1.9 , 5.5)
V44	Car occupant injured in collision with heavy transport vehicle or bus	28	12	2.3	(1.2 , 4.6)
V47	Car occupant injured in collision with fixed or stationary object	146	33	4.4	(3 , 6.5)
V48	Car occupant injured in noncollision transport accident	256	66	3.9	(3 , 5.1)
V49	Car occupant injured in other and unspecified transport accidents	175	50	3.5	(2.6 , 4.8)
V53	Occupant of pick-up truck or van injured in collision with car, pick-up truck or van	43	6	7.2	(3.1 , 16.8)
V58	Occupant of pick-up truck or van injured in noncollision transport accident	58	16	3.6	(2.1 , 6.3)
V73	Bus occupant injured in collision with car, pick-up truck or van	NR	<6	5.0	(1.1 , 22.8)
V78	Bus occupant injured in noncollision transport accident	53	16	3.3	(1.9 , 5.8)
V80	Animal-rider or occupant of animal-drawn vehicle injured in transport accident	181	32	5.7	(3.9 , 8.2)
V86	Occupant of special all-terrain or other off-road motor vehicle, injured in transport accident	418	124	3.4	(2.8 , 4.2)
V94	Other and unspecified water transport accidents	38	6	6.3	(2.7 , 15)
W00	Fall due to ice and snow	1,013	276	3.7	(3.3 , 4.3)
W03	Other fall on same level due to collision with another person	135	24	5.8	(3.7 , 9.1)
W04	Fall while being carried or supported by other persons	42	11	3.8	(2 , 7.4)
W07	Fall from chair	267	60	4.5	(3.4 , 5.9)
W08	Fall from other furniture	197	40	5.0	(3.6 , 7.1)
W09	Fall on and from playground equipment	525	164	3.2	(2.7 , 3.9)

W10	Fall on and from stairs and steps	1,917	521	3.8	(3.4 , 4.1)
W11	Fall on and from ladder	243	78	3.1	(2.4 , 4)
W13	Fall from, out of or through building or structure	113	29	3.9	(2.6 , 5.9)
W14	Fall from tree	67	26	2.6	(1.6 , 4.1)
W16	Fall, jump or diving into water	66	13	5.4	(2.9 , 10)
W17	Other fall from one level to another	758	210	3.7	(3.1 , 4.3)
W20	Struck by thrown, projected or falling object	1,009	252	4.2	(3.6 , 4.8)
W46	Contact with hypodermic needle	69	28	2.5	(1.6 , 3.8)
W50	Accidental hit, strike, kick, twist, bite or scratch by another person	926	158	6.0	(5.1 , 7.1)
W54	Contact with dog	503	138	3.7	(3 , 4.5)
W55	Contact with other mammals	397	109	3.7	(3 , 4.5)
W57	Bitten or stung by nonvenomous insect and other nonvenomous arthropods	506	169	3.0	(2.5 , 3.6)
W64	Exposure to other animate mechanical forces	22	7	3.1	(1.3 , 7.4)
W79	Inhalation and ingestion of food causing obstruction of respiratory tract	12	15	0.8	(0.4 , 1.7)
X13	Contact with steam and other hot vapors	14	7	2.0	(0.8 , 5)
X83	Intentional self-harm by other specified means	NR	<6	2.2	(0.8 , 6.3)
X84	Intentional self-harm by unspecified means	NR	<6	3.8	(1.4 , 10.2)
Y00	Assault by blunt object	132	6	22.0	(9.7 , 49.9)
Y08	Assault by other specified means	91	15	6.1	(3.5 , 10.5)
Y28	Contact with sharp object, undetermined intent	81	22	3.7	(2.3 , 5.9)
Y29	Contact with blunt object, undetermined intent	16	6	2.7	(1 , 6.8)
Y34	Unspecified event, undetermined intent	32	9	3.6	(1.7 , 7.4)
Y35	Legal intervention	51	7	7.3	(3.3 , 16.1)
Y42	Hormones and their synthetic substitutes and antagonists, not elsewhere classified	59	35	1.7	(1.1 , 2.6)
Y45	Analgesics, antipyretics and anti-inflammatory drugs	230	94	2.5	(1.9 , 3.1)
Y47	Sedatives, hypnotics and antianxiety drugs	NR	<6	9.0	(2.7 , 29.7)
Y49	Psychotropic drugs, not elsewhere classified	101	33	3.1	(2.1 , 4.5)
Y51	Drugs primarily affecting the autonomic nervous system	54	37	1.5	(1 , 2.2)
Y52	Agents primarily affecting the cardiovascular system	98	62	1.6	(1.2 , 2.2)
Y54	Agents primarily affecting water-balance and mineral and uric acid metabolism	70	21	3.6	(2.2 , 6)
Y85	Sequelae of transport accidents	25	9	2.8	(1.3 , 6)
Y86	Sequelae of other accidents	58	19	3.1	(1.8 , 5.1)
Y89	Sequelae of other external causes	23	8	2.9	(1.3 , 6.4)
Y91	Evidence of alcohol involvement determined by level of intoxication	NR	<6	60.0	(14.8 , 242.7)
XXI. Factors influencing health status and contact with health services (Z00-Z99)					
Z00	Encounter for general examination without complaint, suspected or reported diagnosis	161	56	2.9	(2.1 , 4)
Z01	Encounter for other special examination without complaint, suspected or reported diagnosis	896	446	2.1	(1.8 , 2.3)
Z02	Encounter for administrative examination	361	106	3.5	(2.8 , 4.3)
Z03	Encounter for medical observation for suspected diseases and conditions ruled out	585	464	1.3	(1.1 , 1.4)
Z04	Encounter for examination and observation for other reasons	987	342	2.9	(2.6 , 3.3)
Z11	Encounter for screening for infectious and parasitic diseases	153	52	2.9	(2.1 , 4)

Z20	Contact with and (suspected) exposure to communicable diseases	100	37	2.7	(1.9 , 3.9)
Z23	Need for immunization against single bacterial diseases	152	73	2.1	(1.6 , 2.8)
Z27	Need for immunization against combinations of infectious diseases	78	28	2.9	(1.8 , 4.4)
Z45	Encounter for adjustment and management of implanted device	176	132	1.3	(1.1 , 1.7)
Z54	Convalescence	227	159	1.4	(1.2 , 1.8)
Z64	Problems related to certain psychosocial circumstances	NR	<6	6.5	(2.3 , 18.6)
Z86	Personal history of certain other diseases	727	491	1.5	(1.3 , 1.7)
Z96	Presence of other functional implants	183	121	1.5	(1.2 , 1.9)
Z97	Presence of other devices	34	9	3.8	(1.8 , 7.9)

NR - Not Reported due to small cell size

TBI - Traumatic Brain Injury

Supplementary Table 3 - Scree Table. Provides eigenvalues and their differences used in preparation of scree plots, as well as the proportion/cumulative proportion of total variance explained by each factor; used to make a decision on the number of factors to include in the final model.

Factor Number	Eigenvalue	Eigenvalue Difference	Proportion of Variance	Cumulative Proportion of Variance
1	9.951	3.218	0.017	0.017
2	6.733	2.135	0.012	0.029
3	4.598	1.622	0.008	0.037
4	2.976	0.155	0.005	0.042
5	2.822	0.048	0.005	0.047
6	2.774	0.053	0.005	0.051
7	2.721	0.160	0.005	0.056
8	2.561	0.143	0.004	0.060
9	2.418	0.123	0.004	0.065
10	2.295	0.072	0.004	0.069
11	2.223	0.119	0.004	0.072
12	2.104	0.062	0.004	0.076
13	2.041	0.028	0.004	0.079
14	2.014	0.035	0.004	0.083
15	1.979	0.048	0.003	0.086
16	1.931	0.052	0.003	0.090
17	1.879	0.036	0.003	0.093
18	1.843	0.017	0.003	0.096
19	1.826	0.002	0.003	0.099
20	1.823	0.014	0.003	0.102
21	1.809	0.019	0.003	0.105
22	1.790	0.017	0.003	0.108
23	1.773	0.016	0.003	0.112
24	1.757	0.027	0.003	0.115
25	1.730	0.011	0.003	0.118
26	1.719	0.021	0.003	0.120
27	1.698	0.054	0.003	0.123
28	1.644	0.012	0.003	0.126
29	1.632	0.008	0.003	0.129
30	1.624	0.006	0.003	0.132
31	1.618	0.037	0.003	0.135
32	1.581	0.013	0.003	0.137
33	1.569	0.007	0.003	0.140
34	1.562	0.023	0.003	0.143
35	1.539	0.005	0.003	0.145
36	1.534	0.009	0.003	0.148
37	1.525	0.015	0.003	0.151
38	1.510	0.016	0.003	0.153
39	1.494	0.018	0.003	0.156

40	1.476	0.011	0.003	0.158
41	1.464	0.008	0.003	0.161
42	1.456	0.011	0.003	0.163
43	1.445	0.018	0.003	0.166
44	1.427	0.015	0.003	0.168
45	1.412	0.017	0.002	0.171
46	1.395	0.007	0.002	0.173
47	1.388	0.006	0.002	0.175
48	1.382	0.020	0.002	0.178
49	1.363	0.004	0.002	0.180
50	1.359	0.014	0.002	0.183