Supplemental Table 2: Rates of Each Reason for Rehospitalization at 1, 2, 5, and 10 years post-TBI (Level 2 Diagnoses)

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| --- | --- | --- | --- | --- |
| **Level 2 Diagnosis** | **Year 1**  **Rate per 1000 persons with TBI** | **Year 2**  **Rate per 1000 persons with TBI** | **Year 5**  **Rate per 1000 persons with TBI** | **Year 10**  **Rate per 1000 persons with TBI** |
| **1 Infectious and parasitic diseases; operations for infection** | | | | |
| 1.1 Bacterial infection | 13.3 | 15.1 | 9.8 | 3.4 |
| 1.2 Mycoses | 0 | 0 | 0 | 0 |
| 1.3 Viral infection | 4.2 | 3.5 | 2.9 | 2.2 |
| 1.4 Other infections; including parasitic | 1.7 | 0 | 3.9 | 1.1 |
| 1.5 Immunizations and screening for infectious disease | 0.8 | 0 | 0 | 0 |
| **2 Neoplasms; operations for neoplasm/tumor/cancer** | | | | |
| 2.1 Colorectal cancer | 0.8 | 0 | 1.0 | 0 |
| 2.2 Other gastrointestinal cancer | 0 | 0 | 0 | 0 |
| 2.3 Cancer of the bronchus; cancer of the lung; lobectomy or pneumonectomy or other excision of lung tissue due to tumor | 0 | 0.9 | 0 | 0 |
| 2.4 Cancer of skin | 0 | 0 | 0 | 0 |
| 2.5 Cancer of breast; mastectomy | 0 | 0.9 | 0 | 1.1 |
| 2.6 Cancer of uterus and cervix | 0 | 0 | 0 | 0 |
| 2.7 Cancer of ovary and other female genital organs | 0 | 0 | 0 | 0 |
| 2.8 Cancer of male genital organs | 0 | 0.9 | 0 | 0 |
| 2.9 Cancer of urinary organs | 0 | 0 | 0 | 2.2 |
| 2.10 Cancer of lymphatic and hematopoietic tissue | 0 | 0 | 0 | 1.1 |
| 2.11 Cancer; other primary; bone marrow transplant; bone marrow biopsy | 2.5 | 0.9 | 1.0 | 0 |
| 2.12 Secondary malignancies; lymphatic excisions | 0 | 0 | 0 | 0 |
| 2.13 Malignant neoplasm without specification of site | 0 | 0 | 0 | 0 |
| 2.14 Neoplasms of unspecified nature or uncertain behavior | 0 | 0.9 | 0 | 0 |
| 2.15 Maintenance chemotherapy; radiotherapy | 0 | 0 | 0 | 0 |
| 2.16 Benign neoplasms | 0.8 | 0 | 0 | 2.2 |
| **3 Endocrine; nutritional; and metabolic diseases and immunity disorders; operations on the endocrine system** | | | | |
| 3.1 Thyroid disorders; thyroidectomy | 0 | 0 | 0 | 1.1 |
| 3.2 Diabetes mellitus without complication | 0 | 1.8 | 1.0 | 2.2 |
| 3.3 Diabetes mellitus with complications | 1.7 | 1.8 | 2.9 | 3.4 |
| 3.4 Other endocrine disorders; other endocrine procedures | 0 | 0 | 0 | 0 |
| 3.5 Nutritional deficiencies; enteral and parenteral nutrition | 0.8 | 0 | 0 | 1.1 |
| 3.6 Disorders of lipid metabolism | 0 | 0 | 0 | 0 |
| 3.7 Gout and other crystal arthropathies | 0 | 0 | 0 | 0 |
| 3.8 Fluid and electrolyte disorders | 3.3 | 0.9 | 1.0 | 0 |
| 3.9 Cystic fibrosis | 0 | 0 | 0 | 0 |
| 3.10 Immunity disorders | 0 | 0 | 1.0 | 0 |
| 3.11 Other nutritional; endocrine; and metabolic disorders (includes obesity) | 0 | 0 | 0 | 0 |
| **4 Diseases of the blood and blood-forming organs** | | | | |
| 4.1 Anemia; blood transfusion | 0 | 0.9 | 0 | 2.2 |
| 4.2 Coagulation and hemorrhagic disorders; control of the epistaxis (nose bleed) | 0 | 0.9 | 1.0 | 2.2 |
| 4.3 Diseases of white blood cells | 0 | 0 | 0 | 0 |
| 4.4 Other hematologic conditions | 0 | 0 | 0 | 0 |
| **5 Mental Illness** | | | | |
| 5.1 Adjustment disorders | 0.8 | 0.9 | 0 | 0 |
| 5.2 Anxiety disorders | 0.8 | 1.8 | 2.0 | 4.5 |
| 5.3 Attention deficit, conduct, and disruptive behavior disorders | 0 | 0 | 0 | 0 |
| 5.4 Delirium, dementia, and amnestic and other cognitive disorders | 0 | 1.8 | 2.0 | 1.1 |
| 5.5 Developmental disorders | 0 | 0 | 0 | 0 |
| 5.6 Disorders usually diagnosed in infancy, childhood, or adolescence | 0 | 0 | 0 | 0 |
| 5.7 Impulse control disorders not elsewhere classified | 0.8 | 0 | 0 | 0 |
| 5.8 Mood disorders; electroconvulsive therapy | 5.0 | 2.7 | 6.9 | 1.1 |
| 5.9 Personality disorders | 0 | 0 | 0 | 0 |
| 5.10 Schizophrenia and other psychotic disorders | 1.7 | 1.8 | 2.0 | 0 |
| 5.11 Alcohol-related disorders; Alcohol and drug rehabilitation and detoxification | 1.7 | 1.8 | 1.0 | 0 |
| 5.12 Substance-related disorders; Alcohol and drug rehabilitation and detoxification | 4.2 | 0.9 | 4.9 | 2.2 |
| 5.13 Suicide and intentional self-inflicted injury | 5.8 | 2.7 | 2.9 | 3.4 |
| 5.14 Screening and history of mental health and substance abuse codes | 0.8 | 0 | 2.0 | 0 |
| 5.15 Miscellaneous mental disorders | 0.8 | 1.8 | 2.0 | 2.2 |
| **6 Diseases of the nervous system and sense organs** | | | | |
| 6.1 Central nervous system infection | 0 | 0 | 1.0 | 0 |
| 6.2 Hereditary and degenerative nervous system conditions | 0 | 0 | 0 | 0 |
| 6.3 Paralysis | 0.8 | 0 | 1.0 | 0 |
| 6.4 Epilepsy; convulsions | 32.4 | 25.7 | 23.6 | 17.9 |
| 6.5 Headache; including migraine | 0 | 1.8 | 1.0 | 0 |
| 6.6 Coma; stupor; and brain damage | 3.3 | 3.5 | 2.9 | 1.1 |
| 6.7 Eye disorders; operations on the eye | 0 | 0.9 | 1.0 | 0 |
| 6.8 Ear conditions; operations on the ear | 0.8 | 1.8 | 0 | 0 |
| 6.9 Other nervous system disorders; other nervous system procedures | 5.8 | 0.9 | 3.9 | 3.4 |
| **7 Diseases of the circulatory system; operations on the cardiovascular system** | | | | |
| 7.1 Hypertension | 4.2 | 0 | 2.0 | 2.2 |
| 7.2 Diseases of the heart; heart procedures | 14.1 | 15.9 | 15.7 | 7.8 |
| 7.3 Cerebrovascular disease/stroke; endarterectomy; vessel of head and neck | 7.5 | 6.2 | 5.9 | 4.5 |
| 7.4 Diseases of arteries; arterioles; and capillaries; lower extremity vascular procedures | 5.0 | 3.5 | 4.9 | 2.2 |
| 7.5 Diseases of veins and lymphatics; procedures on spleen | 2.5 | 0 | 2.9 | 1.1 |
| **8 Diseases of the respiratory system** | | | | |
| 8.1 Respiratory infections | 5.8 | 6.2 | 8.8 | 5.6 |
| 8.2 Chronic obstructive pulmonary disease and bronchiectasis | 0.8 | 0 | 1.0 | 1.1 |
| 8.3 Asthma | 0 | 0.9 | 2.0 | 0 |
| 8.4 Aspiration pneumonitis; food/vomitus | 2.5 | 0.9 | 2.0 | 0 |
| 8.5 Pleurisy; pneumothorax; pulmonary collapse; incision of pleura; thoracentesis; chest drainage | 0.8 | 0 | 0 | 2.2 |
| 8.6 Respiratory failure; insufficiency; arrest (adult) | 0 | 0 | 0 | 0 |
| 8.7 Lung disease due to external agents | 0 | 0 | 0 | 0 |
| 8.8 Other lower respiratory disease | 0 | 0 | 0 | 1.1 |
| 8.9 Other upper respiratory disease | 0 | 0.9 | 2.0 | 0 |
| **9 Diseases of the digestive system; operations on the digestive system** | | | | |
| 9.1 Intestinal infection | 2.5 | 2.7 | 1.0 | 0 |
| 9.2 Disorders of teeth and jaw | 0.8 | 0 | 0 | 0 |
| 9.3 Diseases of mouth; excluding dental | 0 | 0.9 | 0 | 0 |
| 9.4 Upper gastrointestinal disorders; upper gastrointestinal procedures | 2.5 | 1.8 | 2.9 | 2.2 |
| 9.5 Abdominal hernia; operations on hernias | 1.7 | 1.8 | 1.0 | 2.2 |
| 9.6 Lower gastrointestinal disorders; lower gastrointestinal procedures | 3.3 | 0.9 | 3.9 | 7.8 |
| 9.7 Biliary tract disease; cholecystectomy and common duct exploration; incision of bile duct | 0 | 0 | 0 | 0 |
| 9.8 Liver disease; biopsy of liver | 2.5 | 1.8 | 0 | 0 |
| 9.9 Pancreatic disorders (not diabetes); endoscopic retrograde cannulation of pancreas (ERCP) | 0.8 | 1.8 | 2.0 | 0 |
| 9.10 Gastrointestinal hemorrhage | 0.8 | 1.8 | 2.9 | 0 |
| 9.11 Noninfectious gastroenteritis | 0 | 0 | 0 | 0 |
| 9.12 Other gastrointestinal disorders | 3.3 | 3.5 | 2.0 | 3.4 |
| **10 Diseases of the genitourinary system; operations on the genitourinary system** | | | | |
| 10.1 Diseases of the urinary system; operations on the urinary system | 9.1 | 15.1 | 11.8 | 7.8 |
| 10.2 Diseases of the male genital organs; operations on the male genital organs | 2.5 | 0 | 0 | 1.1 |
| 10.3 Diseases of the female genital organs; operations on the female genital organs | 0 | 0.9 | 0 | 1.1 |
| **11 Complications of pregnancy; childbirth; and the puerperium; obstetrical procedures** | | | | |
| 11.1 Contraceptive and procreative management | 0 | 0 | 1.0 | 0 |
| 11.2 Abortion-related disorders | 0 | 0 | 0 | 0 |
| 11.3 Complications mainly related to pregnancy; removal of ectopic pregnancy | 0 | 0 | 0 | 2.2 |
| 11.4 Indications for care in pregnancy; labor; and delivery; procedures to assist delivery | 0 | 0 | 1.0 | 1.1 |
| 11.5 Complications during labor | 0 | 0 | 0 | 0 |
| 11.6 Other complications of birth; puerperium affecting management of mother | 0 | 0 | 0 | 0 |
| 11.7 Normal pregnancy and/or delivery; procedures related to normal delivery of pregnancy | 0 | 1.8 | 3.9 | 1.1 |
| **12 Diseases of the skin and subcutaneous tissue** | | | | |
| 12.1 Skin and subcutaneous tissue infections | 3.3 | 0 | 2.0 | 2.2 |
| 12.2 Other inflammatory condition of skin | 0 | 0 | 0 | 1.1 |
| 12.3 Chronic ulcer of skin | 0.8 | 0.9 | 0 | 1.1 |
| 12.4 Other skin disorders | 0 | 0 | 1.0 | 0 |
| **13 Diseases of the musculoskeletal system and the connective tissue** | | | | |
| 13.1 Infective arthritis and osteomyelitis (except that caused by TB or STD) | 0 | 0.9 | 0 | 0 |
| 13.2 Non-traumatic joint disorders; arthroplasty; other procedures on joints | 9.1 | 5.3 | 3.9 | 4.5 |
| 13.3 Spondylosis; intervertebral disc disorders; other back problems; laminectomy or spinal fusion | 0.8 | 1.8 | 1.0 | 0 |
| 13.4 Osteoporosis | 0 | 0.9 | 0 | 0 |
| 13.5 Pathological fracture | 0.8 | 0 | 0 | 2.2 |
| 13.6 Acquired deformities; heterotopic ossification resection (acquired deformities) | 2.5 | 0 | 2.9 | 2.2 |
| 13.7 Systemic lupus erythematosus and connective tissue disorders | 0 | 0 | 0 | 0 |
| 13.8 Other connective tissue disease | 0 | 0.9 | 0 | 1.1 |
| 13.9 Other bone disease and musculoskeletal deformities | 1.7 | 0.9 | 0 | 2.2 |
| **14 Congenital anomalies** | | | | |
| 14.1 Cardiac and circulatory congenital anomalies | 0 | 0 | 0 | 0 |
| 14.2 Digestive congenital anomalies | 0 | 0 | 0 | 1.1 |
| 14.3 Genitourinary congenital anomalies | 0 | 0 | 0 | 0 |
| 14.4 Nervous system congenital anomalies | 0.8 | 0 | 0 | 0 |
| 14.5 Other congenital anomalies | 0 | 0 | 0 | 0 |
| **15 Certain conditions originating in the perinatal period** | | | | |
| 15.1 Liveborn | 0 | 0 | 0 | 0 |
| 15.2 Short gestation; low birth weight; and fetal growth retardation | 0 | 0 | 0 | 0 |
| 15.3 Intrauterine hypoxia and birth asphyxia | 0 | 0 | 0 | 0 |
| 15.4 Respiratory distress syndrome | 0 | 0 | 0 | 0 |
| 15.5 Hemolytic jaundice and perinatal jaundice | 0 | 0 | 0 | 0 |
| 15.6 Birth trauma | 0 | 0 | 0 | 0 |
| 15.7 Other perinatal conditions | 0 | 0 | 0 | 0 |
| **16 Injury and poisoning** | | | | |
| 16.1 Joint disorders and dislocations; trauma-related | 3.3 | 2.7 | 5.9 | 6.7 |
| 16.2 Fractures; treatment of fracture or dislocation | 10.8 | 22.1 | 16.7 | 19.0 |
| 16.3 Spinal cord injury | 1.7 | 0.9 | 1.0 | 1.1 |
| 16.4 Intracranial injury; craniotomy or craniectomy | 15.0 | 11.5 | 2.9 | 5.6 |
| 16.5 Crushing injury or internal injury; amputation due to new crushing trauma | 0.8 | 1.8 | 0 | 0 |
| 16.6 Open wounds | 0 | 2.7 | 2.0 | 1.1 |
| 16.7 Sprains and strains | 0 | 0.9 | 0 | 0 |
| 16.8 Superficial injury; contusion | 3.3 | 4.4 | 0 | 0 |
| 16.9 Burns | 0 | 0.9 | 1.0 | 0 |
| 16.10 Complications; hardware (plate, screw, shunt, etc.) removal | 7.5 | 4.4 | 0 | 1.1 |
| 16.11 Poisoning | 0.8 | 0.9 | 3.9 | 0 |
| 16.12 Other injuries and conditions due to external causes | 10.8 | 9.7 | 6.9 | 12.3 |
| **17 Symptoms; signs; and ill-defined conditions and factors influencing health status** | | | | |
| 17.1 Symptoms; signs; and ill-defined conditions and factors influencing health status | 10.0 | 7.1 | 5.9 | 2.2 |
| 17.2 Factors influencing health care (rehabilitation care, medical examination, other aftercare) | 9.1 | 6.2 | 5.9 | 2.2 |
| **18 Residual codes; unclassified; all E codes** | 2.5 | 3.5 | 0 | 0 |