Supplemental Table 1. ICD-9 diagnosis codes for Emergency General Surgery used to create study population – grouped by category.

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|   | **ICD-9 Primary Diagnosis Codes for "Emergency General Surgery"** |   |
|  | **ICD-9** | **4th Digit** | **5th Digit** | **DESCRIPTION** | **CATEGORY** |  |
|  | 423 | 3 |   | Cardiac Tamponade | Cardiothoracic |  |
|  | 456 | 0 |   | Esophageal Varices With Bleeding | Cardiothoracic |  |
|  | 510 | Any |   | Empyema with or without Mention Of Fistula | Cardiothoracic |  |
|  | 512 | 0,1 |   | Spontaneous Tension or Iatrogenic Pneumothorax | Cardiothoracic |  |
|  | 512 | 8 | Any | Spontaneous Pneumothorax | Cardiothoracic |  |
|  | 518 | 1,2,3 |   | Acute or Chronic Respiratory Failure Following Trauma and Surgery | Cardiothoracic |  |
|  | 530 | 4 |   | Perforation Of Esophagus | Cardiothoracic |  |
|  | 530 | 8 | 2 | Esophageal Hemorrhage | Cardiothoracic |  |
|  | 008 | 4 | 5 | Intestinal Infection Due To Clostridium Difficile | Colorectal |  |
|  | 153 | 0-4,6-9 |  | Malignant Neoplasm of Colon | Colorectal |  |
|  | 154 | 0,1 |  | Malignant Neoplasm Of Rectosigmoid Junction and Rectum | Colorectal |  |
|  | 209 | 1 | Any | Malignant carcinoid tumors of the appendix, large intestine, and rectum | Colorectal |  |
|  | 235 | 2,5 |  | Neoplasm Of Uncertain Behavior, Stomach, Intestines, Rectum or unspecified digestive organs | Colorectal |  |
|  | 455 | Any |  | Hemorrhoids (internal and external) | Colorectal |  |
|  | 555 | Any |  | Regional Enteritis | Colorectal |  |
|  | 562 | 1 | 1,2,3 | Diverticula Of Colon with diverticulitis and/or hemorrhage | Colorectal |  |
|  | 564 | 7 |  | Megacolon, Other Than Hirschsprung's | Colorectal |  |
|  | 564 | 9 |  | Unspecified Functional Disorder Of Intestine | Colorectal |  |
|  | 565 | 1 |  | Anal fistual | Colorectal |  |
|  | 566 |  |  | Anal and Rectal Abscess | Colorectal |  |
|  | 569 | 0,1,2,3 |  | Anorectal Polyps, Prolapse, Stenosis, or Hemorrhage | Colorectal |  |
|  | 569 | 4 | 1,2 | Ulcer or pain of Anus And Rectum | Colorectal |  |
|  | 569 | 5 |  | Abscess Of Intestine | Colorectal |  |
|  | 569 | 6 | Any | Colostomy And Enterostomy Complications | Colorectal |  |
|  | 569 | 1 |  | Rectal Prolapse | Colorectal |  |
|  | 578 | 1 |  | Blood In Stool | Colorectal |  |
|  | 596 | 1 |  | Intestinovesical Fistula | Colorectal |  |
|  | 619 | 1 |  | Digestive-Genital Tract Fistula, Female | Colorectal |  |
|  | V55 | 2,3,4 |   | Attention To Ileostomy, colostomy or other Artificial Opening of the Digestive Tract | Colorectal |  |
|  | 567 | 2 | 1,2,9 | Peritonitis or peritoneal abscess | General Abdominal |  |
|  | 567 | 3 | Any | Retroperitoneal infections | General Abdominal |  |
|  | 567 | 8 | 9 | Other Specified Peritonitis | General Abdominal |  |
|  | 567 | 9 |   | Unspecified Peritonitis | General Abdominal |  |
|  | 568 | 0 |   | Peritoneal Adhesions (Postoperative) (Postinfection) | General Abdominal |  |
|  | 568 | 8 | 1 | Hemoperitoneum (Nontraumatic) | General Abdominal |  |
|  | 789 | 0,3,4,6 | Any | Abdominal Pain, Mass, Rigidity or Tenderness | General Abdominal |  |
|  | 235 | 3 |  | Neoplasm of uncertain behavior of liver and biliary passages  | Hepato-panc-biliary |  |
|  | 570 |  |  | Acute and subacute Necrosis Of Liver | Hepato-panc-biliary |  |
|  | 572 | 0 |  | Abscess Of Liver | Hepato-panc-biliary |  |
|  | 574 | Any | Any | Calculus Of Gallbladder or Bile duct with Acute Cholecystitis other cholecystitis | Hepato-panc-biliary |  |
|  | 575 | Any | Any | Other Disorders of the Gallbladder | Hepato-panc-biliary |  |
|  | 576 | Any |  | Other Disorders of the Biliary Tract | Hepato-panc-biliary |  |
|  | 577 | 0,2 |   | Acute Pancreatitis, Cyst or Pseudocyst of the Pancreas | Hepato-panc-biliary |  |
|  | 550 | Any | Any | Inguinal Hernia | Hernias |  |
|  | 551 | Any | Any | Other Hernias of the Abdominal Cavity with Gangrene | Hernias |  |
|  | 552 | Any | Any | Other Hernias of the Abdominal Cavity with Obstruction without Gangrene | Hernias |  |
|  | 553 | Any | Any | Other Hernias of the Abdominal Cavity without Obstruction or Gangrene | Hernias |  |
|  | 560 | Any | Any | Intestinal Obstruction without mention of Hernia | Intestinal Obstruction |  |
|  | 519 | 0 | Any | Tracheostomy Complications | Other |  |
|  | 596 | 6 |   | Rupture Of Bladder, Nontraumatic | Other |  |
|  | V55 | 0 |   | Attention To Tracheostomy | Other |  |
|  | V90 | 1,2,3,8,9 | Any | Retained foreign bodies | Other |  |
|  | 785 | 5 | 0,2,9 | Shock unspecified, septic, Hypovolemic, NOS | Resuscitation |  |
|  | 675 | Any | Any | Infections of the Breast and Nipples associated with Childbirth | Soft Tissue |  |
|  | 680 | Any | Any | Carbuncles And Furuncles | Soft Tissue |  |
|  | 681 | Any | Any | Cellulitis and abscess of Fingers and Toes | Soft Tissue |  |
|  | 682 | Any |   | Other Cellulitis and Abscess | Soft Tissue |  |
|  | 685 | Any |   | Pilonidal Cyst | Soft Tissue |  |
|  | 686 | 8,9 |   | Other Local Infections Of Skin And Subcutaneous Tissue | Soft Tissue |  |
|  | 705 | 8 | 3 | Hidradenitis | Soft Tissue |  |
|  | 707 | Any | Any | Chronic Ulcers of Skin, including Pressure Ulcers | Soft Tissue |  |
|  | 709 | 4 |   | Foreign Body Granuloma Of Skin And Subcutaneous Tissue | Soft Tissue |  |
|  | 728 | 8 | 6 | Necrotizing Fasciitis | Soft Tissue |  |
|  | 728 | 8 | 8 | Rhabdomyolysis | Soft Tissue |  |
|  | 729 | 3 | 0 | Panniculitis, Unspecified Site | Soft Tissue |  |
|  | 729 | 4 |   | Unspecified Fasciitis | Soft Tissue |  |
|  | 729 | 6 |   | Residual Foreign Body In Soft Tissue | Soft Tissue |  |
|  | 729 | 7 | Any | Nontraumatic Compartment Syndrome | Soft Tissue |  |
|  | 729 | 9 | 1,2 | Seroma or Hematoma Of Soft Tissue | Soft Tissue |  |
|  | 785 | 4 |   | Gangrene | Soft Tissue |  |
|  | V58 | 3 | Any | Attention to Dressings or Sutures | Soft Tissue |  |
|  | V58 | 4 | 1,3,9 | Encounter For Planned Post-Operative Wound Closure | Soft Tissue |  |
|  | 152 | Any |  | Malignant Neoplasm Of Ileum | Upper GI Tract |  |
|  | 153 | 5 |  | Malignant Neoplasm Of Appendix Vermiformis | Upper GI Tract |  |
|  | 209 | 0 | Any | Malignant Carcinoid Tumor Of The Small Intestine | Upper GI Tract |  |
|  | 531 | Any | Any | Gastric Ulcer, Acute or Chronic | Upper GI Tract |  |
|  | 532 | Any | Any | Duodenal Ulcer, Acute or Chronic | Upper GI Tract |  |
|  | 533 | Any | Any | Peptic Ulcer, Acute or Chronic | Upper GI Tract |  |
|  | 534 | Any | Any | Gastro jejunal Ulcer, Acute or Chronic | Upper GI Tract |  |
|  | 535 | Any | 1 | Gastritis or duodenitis, With Hemorrhage | Upper GI Tract |  |
|  | 536 | 4 | 0,1,2,9 | Gastrostomy Complications | Upper GI Tract |  |
|  | 537 | 0,3,4 |  | Other Obstruction Of Duodenum | Upper GI Tract |  |
|  | 537 | 8 | 3,4 | Angiodysplasia or Dieulafoy lesion of Stomach, with Hemorrhage | Upper GI Tract |  |
|  | 540 | Any |  | Acute Appendicitis | Upper GI Tract |  |
|  | 541 | Any |  | Appendicitis, Unqualified | Upper GI Tract |  |
|  | 542 | Any |  | Other Appendicitis | Upper GI Tract |  |
|  | 543 | Any |  | Other And Unspecified Diseases Of Appendix | Upper GI Tract |  |
|  | 560 | Any | Any | Intestinal obstruction without mention of hernia | Upper GI Tract |  |
|  | 562 | 0 | 1,2,3 | Diverticula Of Small Intestine with diverticulitis and/or hemorrhage | Upper GI Tract |  |
|  | 568 | 8 | Any | Intestinal Fistula, Ulceration, Perforation, or Dieulafoy lesion | Upper GI Tract |  |
|  | 578 | 0 |  | Hematemesis | Upper GI Tract |  |
|  | 578 | 9 |  | Hemorrhage Of Gastrointestinal Tract, Unspecified | Upper GI Tract |  |
|  | 617 | 5 |  | Endometriosis Of Intestine | Upper GI Tract |  |
|  | 751 | 0 |  | Meckel's Diverticulum | Upper GI Tract |  |
|  | V55 | 1 |   | Attention To Gastrostomy | Upper GI Tract |  |
|  | 441 | 3 |   | Abdominal Aneurysm, Ruptured | Vascular |  |
|  | 444 | 2 | 1,2 | Arterial Embolism And Thrombosis Of Lower Extremity and Upper Extremity | Vascular |  |
|  | 451 | Any | Any | Phlebitis And Thrombophlebitis | Vascular |  |
|   | 557 | 0,9 |   | Acute or Unspecified Vascular Insufficiency Of Intestine | Vascular |   |