**Supplementary Material**

Supplementary Table 1. International Classification of Diseases, Ninth Edition (ICD-9) procedure codes for respiratory complications included in the analysis.

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| --- | --- | --- | --- |
| **Complication** | **ICD-9 Procedure Codes** | **ICD-9 Procedure Description** | **Key References Supporting Inclusion in Analysis** |
| All Respiratory Complications | 491, 491.2, 491.8493, 493.2496506, 506.4518, 518.0, 518.8 | BronchitisAsthmaChronic airway obstructionRespiratory conditions due to chemical fumes and vaporsOther diseases of the lung | [[1](#_ENREF_1), [2](#_ENREF_2)] |
| Pneumonia | 480, 480.0, 480.1, 481, 482, 482.0, 482.1, 482.3, 482.30, 482.31, 482.39, 482,4, 482.40, 482.8, 482.82, 482.89, 482.9, 483, 483.0, 483.1, 483.8, 484, 484.8 | Pneumonia | [[3](#_ENREF_3), [4](#_ENREF_4)] |
| Empyema | 510, 510.0, 510.9 | Empyema | [[4](#_ENREF_4), [5](#_ENREF_5)] |

ICD-9 = International Classification of Diseases, Ninth Edition.

Supplementary Table 2. International Classification of Diseases, Ninth Edition (ICD-9) procedure codes for infection complications included in the analysis.

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| --- | --- | --- |
| **Infection Priority Category/****Type of Infection** | **ICD-9 Procedure Code** | **ICD-9 Procedure Description** |
| **High Priority Infections** |  |  |
|  Post-operative infections | 998.51 | Infected postoperative seroma |
|  | 998.59 | Other postoperative infection |
| **Moderate/Low Priority Infections** |  |  |
|  Post-operative infections | 996.60 | Infection due to unspecified device/graft |
|  | 996.61 | Infection due to cardiac device/graft |
|  | 996.62 | Infection due to other vascular device/graft |
|  | 996.63 | Infection due to nervous system device/graft |
|  | 996.64 | Infection due to indwelling urine catheter |
|  | 996.65 | Infection due to other genitourinary device |
|  | 996.66 | Infection due to internal joint prosthesis |
|  | 996.67 | Infection due to internal orthopedic device NEC |
|  | 996.68 | Infection due to peritoneal dialysis catheter |
|  | 996.69 | Infection due to internal prosthetic device NEC |
|  Infections due to medical care | 999.31 | Other/unspecified infection due to central venous catheter |
|  | 999.32 | Bloodstream infection due to venous catheter |
|  | 999.33 | Local infection due to central venous catheter |
|  | 999.34 | Acute infect following transfusion/infusion |
|  | 999.39 | Infection following other infusion/injection |
|  Septicemia | 038.0 | Septicemia, streptococcal |
|  | 038.10 | Septicemia, staphylococcal NOS |
|  | 038.11 | Septicemia, MSSA staph aureus |
|  | 038.12 | Septicemia, MRSA resistant staph aureus |
|  | 038.19 | Septicemia, staphylococcal NEC |
|  | 038.2 | Septicemia, pneumococcal |
|  | 038.3 | Septicemia, anaerobic |
|  | 038.40 | Septicemia, gram-negative organism NOS |
|  | 038.41 | Septicemia, hemophilus influenzae |
|  | 038.42 | Septicemia, E. coli |
|  | 038.43 | Septicemia, Pseudomonas |
|  | 038.44 | Septicemia, serratia |
|  | 038.49 | Septicemia, gram-negative organism NEC |
|  | 038.8 | Septicemia NEC |
|  | 038.9 | Septicemia NOS |
|  | 785.52 | Symptom, shock, septic |
|  | 995.91 | AdvEf SIRS due to sepsis |
|  | 995.92 | AdvEf SIRS due to severe sepsis |
|  | 998.02 | Shock, postoperative, septic |
|  Other bacterial infections | 040.0 | Gas gangrene |
|  | 040.81 | Pyomyositis, tropical |
|  | 040.82 | Syndrome, toxic shock |
|  | 040.89 | Disease, bacterial NEC |
|  | 041.00 | Infection, streptococcus NOS |
|  | 041.01 | Infection, streptococcus Group A |
|  | 041.02 | Infection, streptococcus Group B |
|  | 041.03 | Infection, streptococcus Group C |
|  | 041.04 | Infection, streptococcus Group D [Enterococcus] |
|  | 041.05 | Infection, streptococcus Group G |
|  | 041.09 | Infection, streptococcus NEC |
|  | 041.10 | Infection, staphylococcus NOS |
|  | 041.11 | Infection, MSSA staph aureus |
|  | 041.12 | Infection, MRSA staph aureus |
|  | 041.19 | Infection, staphylococcus NEC |
|  | 041.2 | Infection, pneumococcus |
|  | 041.3 | Klebsiella pneumoniae |
|  | 041.4 | Infection, E. coli NOS |
|  | 041.41 | Shiga toxin-producing E. coli |
|  | 041.42 | Other shiga toxin-producing E. coli |
|  | 041.43 | Shiga toxin-producing E. coli unspecified |
|  | 041.49 | Other unspecifiec shiga toxin E. coli |
|  | 041.5 | Infection, hemophilus influ |
|  | 041.6 | Infection, proteus |
|  | 041.7 | Infection, Pseudomonas |
|  | 041.81 | Infection, bacterial due to Mycoplasma |
|  | 041.82 | Infection, bacterial due to Bacteroides fragile |
|  | 041.83 | Infection, bacterial due to C. perfringens |
|  | 041.84 | Infection, bacterial due to other anaerobes |
|  | 041.85 | Infection, bacterial due to other gram-negative organism |
|  | 041.86 | Infection, bacterial due to Helicobacter pylori |
|  | 041.89 | Infection, bacterial NEC |
|  | 041.9 | Infection, bacterial NOS |
|  | 790.7 | Bacteremia |
|  Skin | 682.0 | Cellulitis/abscess, face |
|  | 682.1 | Cellulitis/abscess, neck |
|  | 682.2 | Cellulitis/abscess, trunk |
|  | 682.3 | Cellulitis/abscess, arm |
|  | 682.4 | Cellulitis/abscess, hand |
|  | 682.5 | Cellulitis/abscess, buttock |
|  | 682.6 | Cellulitis/abscess, leg |
|  | 682.7 | Cellulitis/abscess, foot |
|  | 682.8 | Cellulitis/abscess, site NEC |
|  | 682.9 | Cellulitis/abscess NOS |
|  | 686.00 | Pyoderma NOS |
|  | 686.01 | Pyoderma gangrenosum |
|  | 686.09 | Pyoderma NEC |
|  | 686.1 | Pyogenic granuloma |
|  | 686.8 | Infection, local skin/subcutaneous tissue NEC |
|  | 686.9 | Infection, local skin/subcutaneous tissue NOS |
|  CPT codes | 87040 | Blood culture for bacteria |
|  | 87045 | Feces culture aerobic bacteria |
|  | 87046 | Stool culture aerobic bacteria ea |
|  | 87060 | Nose/throat culture, bacteria |
|  | 87070 | Culture other specimen aerobic |
|  | 87071 | Culture aerobic quant other |
|  | 87072 | Culture of specimen by kit |
|  | 87073 | Culture bacteria anaerobic |
|  | 87075 | Culture bacteria except blood |
|  | 87076 | Culture anaerobe identify each |
|  | 87077 | Culture aerobic identify |
|  | 87081 | Culture screen only |
|  | 87082 | Culture of specimen by kit |
|  | 87083 | Culture of specimen by kit |
|  | 87084 | Culture of specimen by kit |
|  | 87085 | Culture of specimen by kit |
|  | 87086 | Urine culture/colony count |
|  | 87087 | Urine bacteria culture |
|  | 87088 | Urine bacteria culture |
|  Urinary tract infections | 112.2 | Candidiasis, urogenital sites NEC |
|  | 590.10 | Pyelonephritis, acute NOS |
|  | 590.11 | Pyelonephritis acute with medullary necrosis |
|  | 590.3 | Pyeloureteritis cystica |
|  | 590.80 | Pyelonephritis NOS |
|  | 590.81 | Pyelonephritis in diseases CE |
|  | 590.9 | Infection, kidney NOS |
|  | 595.0 | Cystitis, acute |
|  | 595.3 | Trigonitis |
|  | 599.0 | Infection, urinary tract NOS |
|  | 996.64 | Infection due to indwelling urine catheter |
|  Pneumonia | 039.1 | Actinomycosis, pulmonary |
|  | 112.4 | Candidiasis, lung |
|  | 117.9 | Mycosis NEC/NOS |
|  | 136.3 | Pneumocystosis |
|  | 466.19 | Bronchiolitis acute due to other infectious organism |
|  | 480.0 | Pneumonia, adenovirus |
|  | 480.1 | Pneumonia due to respiratory syncytial virus |
|  | 480.2 | Pneumonia due to parainfluenza virus |
|  | 480.3 | Pneumonia due to SARS-associated coronavirus |
|  | 480.8 | Pneumonia due to virus NEC |
|  | 480.9 | Pneumonia due to virus NOS |
|  | 481 | Pneumonia due to pneumococcal virus |
|  | 482.0 | Pneumonia due to Klebsiella pneumoniae |
|  | 482.1 | Pneumonia due to Pseudomonas |
|  | 482.2 | Pneumonia due to Hemophilus influenzae |
|  | 482.30 | Pneumonia due to Streptococcus NOS |
|  | 482.31 | Pneumonia due to Streptococcus Group A |
|  | 482.32 | Pneumonia due to Streptococcus Group B |
|  | 482.39 | Pneumonia due to Streptococcus NEC |
|  | 482.40 | Pneumonia due to Staphylococcus NOS |
|  | 482.41 | Methicillin susceptible pneumonia due to Staphylococcus aureus |
|  | 482.42 | Methicillin resistant pneumonia due to Staphylococcus aureus |
|  | 482.49 | Pneumonia due to Staphylococcus NEC |
|  | 482.81 | Pneumonia due to anaerobes |
|  | 482.82 | Pneumonia due to Escherichia coli |
|  | 482.83 | Pneumonia due to gram-negative NEC |
|  | 482.84 | Pneumonia due to Legionnaires' disease |
|  | 482.89 | Pneumonia, bacterial NEC |
|  | 482.9 | Pneumonia, bacterial NOS |
|  | 483.0 | Pneumonia due to Mycoplasma pneumoniae |
|  | 483.1 | Pneumonia due to Chlamydia |
|  | 483.8 | Pneumonia due to organism NEC |
|  | 484.1 | Pneumonia in cytomegalic inclusion disease |
|  | 484.3 | Pneumonia in whooping cough |
|  | 484.5 | Pneumonia in anthrax |
|  | 484.6 | Pneumonia in aspergillosis |
|  | 484.7 | Pneumonia in systemic mycoses |
|  | 484.8 | Pneumonia in other infectious disease CE |
|  | 485 | Bronchopneumonia, organism NOS |
|  | 486 | Pneumonia, organism NOS |
|  | 487.0 | Influenza w/pneumonia |
|  | 507.0 | Pneumonitis due to food/vomit inhalation |
|  | 507.1 | Pneumonitis due to oil/essence inhalation |
|  | 507.8 | Pneumonitis due to solid/liquid NEC |
|  | 513.0 | Abscess, lung |
|  | 516.8 | Pneumonopathy, alveolar NEC |
|  | 997.31 | Ventilator associated pneumonia |
|  | 997.32 | Postprocedural aspiration pneumonia |
|  | 997.39 | Other respiratory complications |
|  Gynaecological | 614.0 | Salpingitis/oophoritis, acute |
|  | 614.2 | Salpingitis/oophoritis NOS |
|  | 614.3 | Parametritis, acute |
|  | 614.4 | Parametritis, acute |
|  | 614.5 | Peritonitis, acute pelvic, female |
|  | 614.6 | Adhesions, pelvic, peritoneal, female, postoperative |
|  | 614.8 | Disease, female pelvic inflammation NEC |
|  | 614.9 | Disease, female pelvic inflammation NOS |
|  | 615.0 | Inflammation, acute uterine |
|  | 615.9 | Disease, inflammatory, uterus NOS |
|  | 670.00 | Infection, major puerperal, unspecified |
|  | 670.02 | Infection, major puerperal, delivered + PP |
|  | 670.04 | Infection, major puerperal, PP |
|  | 672.00 | Pyrexia during puerperium, unspecified |
|  | 672.02 | Pyrexia during puerperium, delivered with PP |
|  | 672.04 | Pyrexia during puerperium, PP |
|  Septic embolism | 673.30 | Embolism, OB pyemic/septic, unspecified |
|  | 673.31 | Embolism, OB pyemic/septic, delivered |
|  | 673.32 | Embolism, OB pyemic/septic, delivered + PP |
|  | 673.33 | Embolism, OB pyemic/septic, antepart |
|  | 673.34 | Embolism, OB pyemic/septic, PP |
|  Fever | 780.60 | Symptom, fever, unspecified |
|  | 780.61 | Symptom, fever presenting with conditions classified elsewhere |
|  | 780.62 | Symptom, post-procedural fever |
|  | 780.63 | Symptom, post-vaccination fever |
|  | 780.64 | Symptom, chills (without fever) |
|  | 780.65 | Hypothermia not associated with low environment temperature |
|  | 780.66 | Febrile transfusion reaction |

CE = Classified elsewhere; CPT = Current Procedural Terminology; ICD-9 = International Classification of Diseases, Ninth Edition; MSSA = Methicillin-sensitive *Staphylococcus aureus*; MRSA = Methicillin-resistant *Staphylococcus aureus*; NEC = Not elsewhere classifiable; NOS = Not otherwise specified; OB = Obstetrical; PP = Postpartum; SIRS = Systemic inflammatory response syndrome.

Supplementary References

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