

Supplementary Table 1. Diagnosis cohort definitions using ICD-10 codes

Diagnosis	ICD-10 Definition
Community Acquired Pneumonia ^{a,b}	<p>1. Age 2 months to 18 years AND</p> <p>2. Diagnosis of pneumonia defined by:</p> <p>a. Primary discharge diagnosis code of pneumonia (J12.x, J13, J14, J15.x, J16.x, J18.0, J18.1, J18.8, J18.9), empyema (J86.x) or pleurisy (R09.1, J90, J91.8) OR</p> <p>b. Pneumonia related symptom as primary ICD10 code with pneumonia diagnosis in any other position</p> <ul style="list-style-type: none"> - R50.81 or R50.9 (Fever) - R06.9 (Respiratory Abnormality Unspecified) - R06.02 (Shortness of breath) - R06.82 (Tachypnea) - R06.2 (Wheezing) - R05 (Cough) - R04.2, R04.9, or R04.89 (Hemoptysis) - R09.3 (Abnormal sputum) - R07.1, R07.8x, R07.9 (Chest pain) - R07.2 (Precordial pain) - R07.1, R07.81 (Painful respiration) <p><u>Exclusions</u></p> <ul style="list-style-type: none"> - J95.1, J95.2, J95.3, J95.821, J95.822, S00-T88 (Trauma) - J68-J70 (Aspiration pneumonia) - O00-O9A, P00-P96 (Diagnoses associated with pregnancy or delivery)
Neck infection ^c	<p>1. Age 2 months to 18 years AND</p> <p>2. Diagnosis of neck infection defined by primary or secondary discharge code of any one of the following:</p> <ul style="list-style-type: none"> - J36 (Peritonsillar abscess) - J03 (Acute tonsillitis) - J35 (Chronic tonsillitis) - J39 (Abscess peri/retro/para/postpharyngeal) - I88.9, I88.1 (Nonspecific lymphadenitis, unspecified) - L02.11, L02.12, L02.13 (Cutaneous abscess of the neck, furuncle and carbuncle of neck) - L03.221, L03.222 (Cellulitis and acute lymphangitis of the face and neck) - L04.0, L04.8, L04.9 (Acute lymphadenitis of the face, head and neck) - L04.9 (Acute lymphadenitis, unspecified) - R22.1 (Localized swelling, mass, lump of the neck) - R59.9 (Enlarged lymph nodes, unspecified) <p><u>Exclusions:</u></p> <ul style="list-style-type: none"> - M30.3 (Kawasaki) - K40.7 (Dental Abscess) - H70.001-003, .009, H70.011-013, .019, H70.091-093, .099 (Mastoiditis) - L03.213 (Periorbital/preseptal cellulitis) - H05.011-013 (Orbital cellulitis) - D89.82 (Autoimmune lymphoproliferative syndrome)
Periorbital/orbital infection ^d	<p>1. Age 2 months to 18 years AND</p> <p>2. Diagnosis of periorbital/orbital infection defined by primary or secondary discharge code of any one of the following:</p> <ul style="list-style-type: none"> - H05.01 (cellulitis of orbit) - H05.02 (osteomyelitis of orbit) - L03.213 (periorbital cellulitis)
Urinary Tract Infections ^{a,e}	<p>1. Age 2 months to 18 years AND</p> <p>2. Diagnosis of urinary tract infection defined by primary discharge code of any one of the following:</p>

	<ul style="list-style-type: none"> - N10 (acute pyelonephritis) - N15.1 (renal or perinephric abscess) - N13.6 (pyonephrosis) - N12 (Tubulo-interstitial nephritis, not specified as acute or chronic) - N11.9 (Chronic tubulo-interstitial nephritis, unspecified) - N16 (Renal tubulo-interstitial disorders in diseases classified elsewhere) - N39.0 (urinary tract infection, site not specified) - P39.3 (neonatal UTI)
Osteomyelitis ^f	<ol style="list-style-type: none"> 1. Age 2 months to 18 years AND 2. Diagnoses of osteomyelitis defined by primary or secondary discharge code of any one of the following: <ul style="list-style-type: none"> - A54.43 (gonococcal osteomyelitis) - M46.2x (osteomyelitis of vertebra) - M86.0x (acute osteomyelitis) - M86.1x (other acute osteomyelitis) - M86.2x (subacute osteomyelitis) - M86.4x (chronic osteomyelitis with draining sinus) - M86.5x (other chronic hematogenous osteomyelitis) - M86.6x (other chronic osteomyelitis) - M86.8x (other osteomyelitis) - M86.9 (osteomyelitis, unspecified) <p><u>Exclusions:</u></p> <ul style="list-style-type: none"> - M86.29, M86.49, M86.59, M86.69 (multifocal osteomyelitis)
Septic Arthritis ^g	<ol style="list-style-type: none"> 1. Age 2 months to 18 years AND 2. Diagnoses of septic arthritis defined by primary or secondary discharge code of any one of the following: <ul style="list-style-type: none"> - A54.52 (gonococcal arthritis) - M00.0x (staphylococcal arthritis and polyarthritis) - M00.1x (pneumococcal arthritis and polyarthritis) - M00.2x (other streptococcal arthritis and polyarthritis) - M00.8x (arthritis and polyarthritis due other bacteria) - M00.9x (pyogenic arthritis, unspecified)
Skin and Soft Tissue Infections ^{a,h}	<ol style="list-style-type: none"> 1. Age 2 month to 18year AND 2. Diagnosis in primary starting with: <ul style="list-style-type: none"> - K12.2 (Cellulitis and abscess of mouth) - L02.x (cutaneous abscess, furuncle and carbuncle) - L03.x (Cellulitis and acute lymphangitis) - L98.3 (eosinophilic cellulitis) - K61.x (abscess of anal and rectal region) - P39.0 (neonatal infective mastitis) - N61.x (inflammatory disorders of breast) <p><u>Exclusions</u></p> <ul style="list-style-type: none"> - PICC line (procedure code 02HV33Z, 02H633Z, or 06H033Z) - D80.x, D81.0, D81.1, D81.2, D81.4, D81.6, D81.7, D81.89, D81.9, D82.x, D83.x, D84.x, D89.3, D89.4x, D89.81x, D89.82, D89.89, D89.9, D71, D72.0 (Hereditary/Immunology) - Z21.x, B20.x (HIV) - C00-D49 (Malignant) - P39.1, H04.30x, H04.32x, H00.03x, H04.00x (Dacrocystitis) - D75.8, L04.x, Q18.0 (Lymphadenitis) - P38.x (Omphalitis) - H05.01x (Orbital) - L01.x (Impetigo)

^aTchou, 2019, ^bAdapted from Florin, 2013. ^cAdapted from Desai, 2019. ^dAdapted from Markham, 2018. ^eAdapted from Tieder, 2011. ^fAdapted from Keren, 2015. ^gAdapted from Singh, 2017. ^hAdapted from Foradori, 2018