

Supplementary Online Content

McCarthy EP, Ogarek JA, Loomer L, et al. Hospital transfer rates among US nursing home residents with advanced illness before and after initiatives to reduce hospitalizations. *JAMA Intern Med*. Published online December 30, 2019. doi:10.1001/jamainternmed.2019.6130

eTable 1. Detailed Listing of ICD-9/ICD-10-CM Diagnosis Codes for Potentially Avoidable Conditions and for Serious Bone Fractures. (Pages 2-21)

eTable 2. Total Number of Hospital Transfers Among Nursing Home Residents With Advanced Illness by Cohort Year (Page 22)

eFigure. Percent of All Transfers That Were Potentially Avoidable by Cohort Year (Page 23)

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Detailed Listing of ICD-9/ICD-10-CM Diagnosis Codes for Potentially Avoidable Conditions and for Serious Bone Fractures

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
Potentially Avoidable Condition: Sepsis			
0031	Salmonella septicemia	A021	Salmonella sepsis
0380	Streptococcal septicemia	A409	Streptococcal sepsis, unspecified
03810	Staphylococcal septicemia unspecified	A412	Sepsis due to unspecified staphylococcus
03811	Methicillin susceptible Staphylococcus Aureus septicemia	A4101	Sepsis due to methicillin susceptible staphylococcus aureus
03812	Methicillin resistant Staphylococcus Aureus septicemia	A4102	Sepsis due to methicillin resistant staphylococcus aureus
03819	Other staphylococcal septicemia	A411	Sepsis due to other specified staphylococcus
0382	Pneumococcal septicemia	A403	Sepsis due to streptococcus pneumoniae
0383	Septicemia due to anaerobes	A414	Sepsis due to anaerobes
03840	Septicemia due to gram-negative organism unspecified	A4150	Gram-negative sepsis, unspecified
03841	Septicemia due to Hemophilus Influenzae [H. Influenzae]	A413	Sepsis due to Hemophilus Influenzae
03842	Septicemia due to Escherichia Coli [E. Coli]	A4151	Sepsis due to Escherichia Coli [E. Coli]
03843	Septicemia due to Pseudomonas	A4152	Sepsis due to Pseudomonas
03844	Septicemia due to Serratia	A4153	Sepsis due to Serratia
03849	Other septicemia due to gram-negative organisms	A4159	Other gram-negative sepsis
0388	Other specified septicemias	A4189	Other specified sepsis
0389	Unspecified septicemia	A419	Sepsis, unspecified organism

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
78552	Septic shock	A427	Actinomycotic sepsis
		A5486	Gonococcal sepsis
		B377	Candidal sepsis
		R6520	Severe sepsis without septic shock
		R6521	Severe sepsis with septic shock
Potentially Avoidable Condition: Pneumonia			
481	Pneumococcal pneumonia	J13	Pneumonia due to Streptococcus Pneumoniae
4822	H. Influenzae pneumonia	J14	Pneumonia due to Hemophilus influenza
48230	Streptococcal pneumonia unspecified	J15211	Pneumonia due to Methicillin susceptible Staphylococcus aureus
48231	Pneumonia due to Streptococcus, group A	J15212	Pneumonia due to Methicillin resistant Staphylococcus aureus
48232	Pneumonia due to Streptococcus, group B	J153	Pneumonia due to streptococcus, group B
48239	Pneumonia due to other Streptococcus	J154	Pneumonia due to other streptococci
48240	Pneumonia due to other Streptococcus, unspecified	J157	Pneumonia due to Mycoplasma pneumoniae
48241	Methicillin susceptible pneumonia due to Staphylococcus aureus	J159	Unspecified bacterial pneumonia
48242	Methicillin resistant pneumonia due to Staphylococcus aureus	J160	Chlamydial pneumonia
48249	Other Staphylococcus pneumonia	J168	Pneumonia due to other specified infectious organisms
4829	Bacterial pneumonia, unspecified	J180	Bronchopneumonia, unspecified organism

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
4830	Pneumonia due to mycoplasma pneumoniae	J181	Lobar pneumonia, unspecified organism
4831	Pneumonia due to chlamydia pneumonia	J188	Other pneumonia, unspecified organism
4838	Pneumonia due to other specified organism	J189	Pneumonia, unspecified organism
485	Bronchopneumonia, organism unspecified		
486	Pneumonia, organism unspecified		
Potentially Avoidable Condition: Dehydration			
2765	Hypovolemia	E860	Dehydration
27650	Volume depletion	E861	Hypovolemia
27651	Dehydration	E869	Volume depletion, unspecified
27652	Hypovolemia		
<i>For conditions below, Dehydration can be the secondary code</i>			
Hyperosmolality and/or hypernatremia diagnosis			
2760	Hyperosmolality	E870	Hyperosmolality and hypernatremia
Gastroenteritis diagnosis codes			
00861	Enteritis due to rotavirus	A080	Rotaviral enteritis
00862	Enteritis due to adenovirus	A0811	Acute gastroenteropathy due to Norwalk agent
00863	Enteritis due to Norwalk virus	A0819	Acute gastroenteropathy due to other small round viruses
00864	Enteritis due to other small round viruses	A082	Adenoviral enteritis
00865	Enteritis due to calicivirus	A0831	Calicivirus enteritis
00866	Enteritis due to astrovirus	A0832	Astrovirus enteritis

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
00867	Enteritis due to enterovirus, not elsewhere classified	A0839	Other viral enteritis
00869	Enteritis due to other viral enteritis	A084	Viral intestinal infection, unspecified
0088	Intestinal infection due to other organism, not elsewhere classified	A088	Other specified intestinal infections
0090	Infectious enteritis, not elsewhere classified	A09	Infectious gastroenteritis and colitis, unspecified
0091	Colitis, enteritis, and gastroenteritis of presumed infectious origin	K523	Indeterminate colitis
0092	Infectious diarrhea, not elsewhere classified	K5289	Other specified noninfective gastroenteritis and colitis
0093	Diarrhea of presumed infectious origin		
5589	Other and unspecified noninfectious gastroenteritis and colitis	K529	Noninfective gastroenteritis and colitis, unspecified
<i>Acute kidney failure diagnosis codes</i>			
5845	Acute kidney failure with tubular necrosis	N170	Acute kidney failure with tubular necrosis
5846	Acute kidney failure with acute cortical necrosis	N171	Acute kidney failure with acute cortical necrosis
5847	Acute kidney failure with medullary necrosis	N172	Acute kidney failure with medullary necrosis
5848	Acute kidney failure with other specified pathological lesion in kidney	N178	Other acute kidney failure
5849	Acute kidney failure, unspecified	N179	Acute kidney failure, unspecified
586	Renal failure, unspecified	N19	Unspecified kidney failure

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
9975	Surgical urinary complications, not elsewhere classified	N990	Postprocedural (acute) (chronic) kidney failure
Potentially Avoidable Condition: <i>Urinary Tract Infection</i>			
59010	Acute pyelonephritis without lesion of renal medullary necrosis	N10	Acute tubulo-interstitial nephritis
59011	Acute pyelonephritis with lesion of renal medullary necrosis	N119	Chronic tubulo-interstitial nephritis, unspecified
5902	Renal and perinephric abscess	N12	Tubulo-interstitial nephritis, not specified as acute or chronic
5903	Pyeloureteritis cystica	N151	Renal and perinephric abscess
59080	Pyeloureteritis, not elsewhere specified	N159	Renal tubulo-interstitial disease, unspecified
59081	Pyelitis or pyelonephritis in diseases classified elsewhere	N16	Renal tubulo-interstitial disorders in diseases classified elsewhere
5909	Infection of kidney, unspecified	N2884	Pyelitis cystica
5950	Acute cystitis	N2885	Pyeloureteritis cystica
5959	Cystitis, unspecified	N2886	Ureteritis cystica
5990	Urinary tract infection, site not specified	N3000	Acute cystitis without hematuria
		N3001	Acute cystitis with hematuria
		N3090	Cystitis, unspecified without hematuria
		N3091	Cystitis, unspecified with hematuria
		N390	Urinary tract infection, site not specified
Potentially Avoidable Condition: <i>Heart Failure</i>			
39891	Rheumatic heart failure	I0981	Rheumatic heart failure
40201	Malignant hypertensive heart disease with heart failure	I110	Hypertensive heart disease with heart failure

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
40211	Benign hypertensive heart disease with heart failure	I130	Hypertensive heart and CKD with HF and stage 1 through stage 4 CKD, or unspecified CKD
40291	Unspecified hypertensive heart disease with heart failure	I132	Hypertensive heart and CKD with HF and with stage 5 CKD, or ESRD
40401	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	I501	Left ventricular failure, unspecified
40403	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	I5020	Unspecified systolic (congestive) heart failure
40411	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	I5021	Acute systolic (congestive) heart failure
40413	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	I5022	Chronic systolic (congestive) heart failure
40491	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	I5023	Acute on chronic systolic (congestive) heart failure
40493	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	I5030	Unspecified diastolic (congestive) heart failure

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
4280	Congestive heart failure	I5031	Acute diastolic (congestive) heart failure
4281	Left heart failure	I5032	Chronic diastolic (congestive) heart failure
42820	Systolic heart failure, unspecified	I5033	Acute on chronic diastolic (congestive) heart failure
42821	Acute systolic heart failure	I5040	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
42822	Chronic systolic heart failure	I5041	Acute combined systolic (congestive) & diastolic (congestive) heart failure
42823	Acute on chronic systolic heart failure	I5042	Chronic combined systolic (congestive) & diastolic (congestive) heart failure
42830	Diastolic heart failure, unspecified	I5043	Acute on chronic combined systolic (congestive) & diastolic (congestive) heart failure
42831	Acute diastolic heart failure	I509	Heart failure, unspecified
42832	Chronic diastolic heart failure	I501	Left ventricular failure
42833	Acute on chronic diastolic heart failure	I50810	Right heart failure, unspecified
42840	Combined systolic and diastolic heart failure, unspecified	I50811	Acute right heart failure
42841	Acute combined systolic and diastolic heart failure	I50812	Chronic right heart failure
42842	Chronic combined systolic and diastolic heart failure	I50813	Acute on chronic right heart failure
42843	Acute on chronic combined systolic and diastolic heart failure	I50814	Right heart failure due to left heart failure
4289	Heart failure, unspecified	I5082	Biventricular heart failure

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
		I5083	High output heart failure
		I5084	End stage heart failure
		I5089	Other heart failure
Potentially Avoidable Condition: <i>Chronic Obstructive Pulmonary Disease (COPD)</i> (including emphysema and asthma; excluding acute bronchitis)			
<i>COPD (excluding acute bronchitis) diagnosis codes</i>			
4910	Simple chronic bronchitis	J410	Simple chronic bronchitis
4911	Mucopurulent chronic bronchitis	J411	Mucopurulent chronic bronchitis
49120	Obstructive chronic bronchitis without exacerbation	J418	Mixed simple and mucopurulent chronic bronchitis
49121	Obstructive chronic bronchitis with (acute) exacerbation	J42	Unspecified chronic bronchitis
49122	Obstructive chronic bronchitis with acute bronchitis	J430	Unilateral pulmonary emphysema [MacLeod's syndrome]
4918	Other chronic bronchitis	J431	Panlobular emphysema
4919	Unspecified chronic bronchitis	J432	Centrilobular emphysema
4920	Emphysematous bleb	J438	Other emphysema
4928	Other emphysema	J439	Emphysema, unspecified
494	Bronchiectasis	J440	Chronic obstructive pulmonary disease with acute lower respiratory infection
4940	Bronchiectasis without acute exacerbation	J441	Chronic obstructive pulmonary disease with (acute) exacerbation
4941	Bronchiectasis with acute exacerbation	J449	Chronic obstructive pulmonary disease, unspecified
496	Chronic airway obstruction, not elsewhere classified	J470	Bronchiectasis with acute lower respiratory infection
		J471	Bronchiectasis with (acute) exacerbation

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
		J479	Bronchiectasis, uncomplicated
<i>Asthma diagnosis codes</i>			
49300	Extrinsic asthma, unspecified	J4521	Mild intermittent asthma with (acute) exacerbation
49301	Extrinsic asthma with status asthmaticus	J4522	Mild intermittent asthma with status asthmaticus
49302	Extrinsic asthma with (acute) exacerbation	J4531	Mild persistent asthma with (acute) exacerbation
49310	Intrinsic asthma, unspecified	J4532	Mild persistent asthma with status asthmaticus
49311	Intrinsic asthma with status asthmaticus	J4541	Moderate persistent asthma with (acute) exacerbation
49312	Intrinsic asthma with (acute) exacerbation	J4542	Moderate persistent asthma with status asthmaticus
49320	Chronic obstructive asthma, unspecified	J4551	Severe persistent asthma with (acute) exacerbation
49321	Chronic obstructive asthma with status asthmaticus	J4552	Severe persistent asthma with status asthmaticus
49322	Chronic obstructive asthma with (acute) exacerbation	J45901	Unspecified asthma with (acute) exacerbation
49381	Exercise induced bronchospasm	J45902	Unspecified asthma with status asthmaticus
49382	Cough variant asthma	J45990	Exercise induced bronchospasm
49390	Asthma, unspecified type, unspecified	J45991	Cough variant asthma
49391	Asthma, unspecified type, with status asthmaticus	J45998	Other asthma
49392	Asthma, unspecified type, with (acute) exacerbation		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
Serious Bone Fractures: Pelvis, Hip, Long Bones of Arms (Humerus, Ulna, Radius) and Legs (Femur, Tibia, Fibula), Wrists and Ankles (x – denotes the entire 7 digit code series included, i.e., S720xxx)			
82000	Closed fracture of intracapsular section of neck of femur, unspecified	S720x	Fracture of head and neck of femur
82001	Closed fracture of epiphysis (separation) (upper) of neck of femur	S721x	Petrochanteric fracture
82002	Closed fracture of midcervical section of neck of femur	S722x	Subtrochanteric fracture
82003	Closed fracture of base of neck of femur	S723x	Fracture of shaft of femur
82009	Other closed transcervical fracture of neck of femur	S724x	Fracture of lower end of femur
82010	Open fracture of intracapsular section of neck of femur, unspecified	S728x	Other fracture of femur
82011	Open fracture of epiphysis (separation) (upper) of neck of femur	S729x	Unspecified fracture of femur
82012	Open fracture of midcervical section of neck of femur		
82013	Open fracture of base of neck of femur	S422x	Fracture of upper end of humerus
82019	Other open transcervical fracture of neck of femur	S423x	Fracture of shaft of humerus
82020	Closed fracture of trochanteric section of neck of femur	S424x	Fracture of lower end of humerus
82021	Closed fracture of intertrochanteric section of neck of femur	S429x	Fracture of shoulder girdle, part unspecified part unspecified,

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
82022	Closed fracture of subtrochanteric section of neck of femur		
82030	Open fracture of trochanteric section of neck of femur, unspecified	S520x	Fracture of upper end of ulna
82031	Open fracture of intertrochanteric section of neck of femur	S521x	Fracture of upper end of radius
82032	Open fracture of subtrochanteric section of neck of femur	S522x	Fracture of shaft of ulna
8208	Closed fracture of unspecified part of neck of femur	S523x	Fracture of shaft of radius
8209	Open fracture of unspecified part of neck of femur	S525x	Fracture of lower end of radius
8210	Shaft or unspecified part, closed	S526x	Fracture of lower end of ulna
82100	Unspecified part of femur, closed	S529x	Unspecified fracture of forearm
82101	Shaft, closed		
8211	Shaft or unspecified part, open	S620x	Fracture of navicular [scaphoid] bone of wrist
82110	Unspecified part of femur, open	S621x	Fracture of other and unspecified carpal bone(s), triquetrum, lunate, capitate, hamate, pisiform trapezoid
82111	Shaft, open		
8212	Lower end, closed	S820x	Fracture of patella
82120	Lower end, unspecified part, closed	S821x	Fracture of upper end of tibia
82121	Condyle, femoral, closed	S822x	Fracture of shaft of tibia
82122	Epiphysis, lower (separation), closed	S823x	Fracture of lower end of tibia

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
82123	Supracondylar fracture of femur, closed	S824x	Fracture of shaft of fibula
82129	Other, multiple fractures lower end, closed	S825x	Fracture of medial malleolus (ankle)
8213	Lower end, open	S826x	Fracture of lateral malleolus
82130	Lower end, unspecified part, open	S828x	Other fractures of lower leg
82131	Condyle, femoral, open	S829x	Unspecified fracture of lower leg
82132	Epiphysis, lower (separation), open		
82133	Supracondylar fracture of femur, open	S323x	Fracture of ilium
82139	Other, multiple fractures lower end, open	S324x	Fracture of acetabulum
		S325x	Fracture of pubis
8220	Fracture of patella, closed	S326x	Fracture of ischium
8221	Fracture of patella, open	S328x	Fracture of other parts of pelvis, multiple fractures of pelvis
		S329x	Fracture of unspecified parts of lumbosacral spine and pelvis, NOS
8230	Fracture of tibia and fibula, upper end, closed		
82300	Upper end, tibia alone, closed		
82301	Upper end, fibula alone, closed		
82302	Upper end, tibia and fibula, closed		
8231	Fracture of tibia and fibula, upper end, open		
82310	Upper end, tibia alone, open		
82311	Upper end, fibula alone, open		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
82312	Upper end, tibia and fibula, open		
8232	Shaft, closed		
82320	Shaft, tibia alone, closed		
82321	Shaft, fibula alone, closed		
82322	Shaft, tibia and fibula, closed		
8233	Shaft, open		
82330	Shaft, tibia alone, open		
82331	Shaft, fibula alone, open		
82332	Shaft, tibia and fibula, open		
8234	Torus fracture		
82340	Torus fracture, tibia alone		
82341	Torus fracture, fibula alone		
82342	Torus fracture, tibia and fibula		
8238	Lower leg fracture, NOS, closed		
82380	Lower leg fracture, tibia alone, NOS, closed		
82381	Lower leg fracture, fibula alone, NOS, closed		
82382	Lower leg fracture, tibia and fibula, NOS, closed		
8239	Lower leg fracture, NOS, open		
82390	Lower leg fracture, tibia alone, NOS, open		
82391	Lower leg fracture, fibula alone, NOS, open		
82392	Lower leg fracture, tibia and fibula, NOS, open		
8240	Medial malleolus, closed (Ankle)		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
8241	Medial malleolus, open		
8242	Lateral malleolus, closed		
8243	Lateral malleolus, open		
8244	Bimalleolar, closed (Dypuytren's fracture, Pott's Fracture)		
8245	Bimalleolar, open		
8246	Trimalleolar, closed		
8247	Trimalleolar, open		
8248	Ankle, NOS, closed		
8249	Ankle, NOS, open		
8120	Fracture of humerus, upper end, closed		
81200	Fracture of humerus, upper end, closed		
81201	Fracture Neck of humerus NOS, closed		
81202	Fracture anatomical neck, closed		
81203	Fracture greater tuberosity, closed		
81209	Fracture Other Head, closed		
8121	Fracture of humerus, upper end, open		
81210	Fracture of humerus, upper end, open		
81211	Fracture Neck of humerus NOS, open		
81212	Fracture anatomical neck, open		
81213	Fracture greater tuberosity, open		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81219	Fracture Other Head, open		
8122	Fracture Shaft or unspecified part, closed		
81220	Fracture of humerus, NOS, closed		
81221	Fracture Shaft of humerus, closed		
8123	Fracture Shaft or unspecified part, open		
81230	Fracture of humerus, NOS, open		
81231	Fracture Shaft of humerus, open		
8124	Fracture of humerus, distal end, closed		
81240	Fracture of humerus, lower end, unspecified, closed		
81241	Supracondylar fracture of humerus closed		
81242	Fracture humerus, Lateral condyle, closed		
81243	Fracture humerus, Medial condyle, closed		
81244	Fracture humerus, Condyle, unspecified, closed		
81249	Other multiple fractures lower end & trochlea, closed		
8125	Fracture of humerus, distal end, open		
81250	Fracture of humerus, lower end, unspecified, open		
81251	Supracondylar fracture of humerus open		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81252	Fracture humerus, Lateral condyle, open		
81253	Fracture humerus, Medial condyle, open		
81254	Fracture humerus, Condyle, unspecified, open		
81259	Other multiple fractures lower end & trochlea, open		
8130	Fracture of radius and ulna, Upper End, closed		
81300	Fracture Upper end of forearm unspecified, closed		
81301	Olecranon process of ulna, closed		
81302	Coronoid process of ulna, closed		
81303	Monteggia's fracture, closed		
81304	Monteggia's fracture, Multiple fractures of ulna, upper end, closed		
81305	Fracture head of radius, closed		
81306	Fracture Neck of radius, closed		
81307	Other and unspecified fractures of proximal end of radius (alone), Multiple fractures of radius, upper end, closed		
81308	Radius with ulna, upper end [any part], closed		
8130	Fracture of radius and ulna, Upper End, closed		
81310	Fracture Upper end of forearm unspecified, open		
81311	Olecranon process of ulna, open		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81312	Coronoid process of ulna, open		
81313	Monteggia's fracture, open		
81314	Monteggia's fracture, Multiple fractures of ulna, upper end, open		
81315	Fracture head of radius, open		
81316	Fracture Neck of radius, open		
81317	Other and unspecified fractures of proximal end of radius (alone), Multiple fractures of radius, upper end, open		
81318	Radius with ulna, upper end [any part], open		
8132	Fracture of Shaft, closed		
81320	Fracture of Shaft Unspecified, closed		
81321	Fracture of Radius (alone), closed		
81322	Fracture of Ulna (alone), closed		
81323	Fracture of Radius with Ulna, closed		
8133	Fracture of Shaft, open		
81330	Fracture of Shaft Unspecified, open		
81331	Fracture of Radius (alone), open		
81332	Fracture of Ulna (alone), open		
81333	Fracture of Radius with Ulna, open		
8134	Fracture of Lower end, closed		
81340	Fracture of Lower end of forearm, unspecified, closed		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81341	Colles' fracture / Smiths fracture, closed		
81342	Other fractures of distal end of radius (alone), closed		
81343	Fracture Distal end of ulna (alone), closed		
81344	Fracture Radius with ulna, lower end, closed		
81345	Fracture Torus fracture of radius (alone), closed		
81346	Fracture Torus fracture of ulna, closed		
81347	Fracture Torus fracture of radius and ulna, closed		
8135	Fracture of Lower end, open		
81350	Fracture of Lower end of forearm, unspecified, open		
81351	Colles' fracture, open		
81352	Other fractures of distal end of radius (alone), open		
81353	Fracture Distal end of ulna (alone), open		
81354	Fracture Radius with ulna, lower end, open		
8138	Fracture Unspecified part, closed		
81380	Fracture of forearm, unspecified, closed		
81381	Fracture of radius (alone) NOS, closed		
81382	Fracture of ulna (alone) NOS, closed		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81383	Fracture radius with ulna NOS, closed		
8139	Fracture Unspecified part, open		
81390	Fracture of forearm, unspecified, open		
81391	Fracture of radius (alone) NOS, open		
81392	Fracture of ulna (alone) NOS, open		
81393	Fracture radius with ulna NOS, open		
81406	Fracture of trapezium bone [smaller multangular], closed		
81407	Fracture of capitate bone [os magnum], closed		
81408	Fracture of hamate [unciform] bone, closed		
81409	Fracture of other carpal bone, closed		
81410	Fracture of carpal bone wrist NOS, open		
81411	Fracture of navicular (scaphoid) of wrist, open		
81412	Fracture of lunate [semilunar] bone of wrist, open		
81413	Fracture of triquetral [cuneiform] bone of wrist, open		
81414	Fracture of pisiform, open		
81415	Fracture of trapezium bone [larger multangular], open		
81416	Fracture of trapezium bone [smaller multangular], open		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
81417	Fracture of capitate bone [os magnum], open		
81418	Fracture of hamate [unciform] bone, open		
81419	Fracture of other carpal bone, open		
8080	Fracture of Pelvis, Acetabulum, closed		
8081	Fracture of Pelvis, Acetabulum, open		
8082	Fracture of Pelvis, Pubis, closed		
8083	Fracture of Pelvis, Pubis, open		
8084	Fracture of Other specified part, closed		
80841	Fracture of ilium, closed		
80842	Fracture of Ischium, closed		
80843	Multiple closed pelvic fractures with disruption of pelvic circle		
80844	Multiple closed pelvic fractures without disruption of pelvic circle		
80849	Other innonminate bone, pelvic rim, closed		
8085	Fracture of Other specified part, open		
80851	Fracture of ilium, open		
80852	Fracture of Ischium, open		
80853	Multiple open pelvic fractures with disruption of pelvic circle		
80854	Multiple open pelvic fractures without disruption of pelvic circle		

ICD-9-CM Diagnosis Code		ICD-10-CM Diagnosis Code	
80859	Other innonminate bone, pelvic rim, open		
8088	Unspecified closed fracture of pelvis		
8089	Unspecified open fracture of pelvis		

eTable 2. Total Number of Hospital Transfers Among Nursing Home Residents With Advanced Illness by Cohort Year

Hospital Transfer Outcome	Cohort Year					
	2011	2012	2013	2014	2015	2016
Advanced Dementia						
All-cause, n	22,961	48,011	47,561	47,930	47,661	47,068
Potentially avoidable, n	7,591	15,436	14,865	14,992	14,997	15,188
Percent of all transfers that were potentially avoidable	33.0%	32.1%	31.2%	31.2%	31.4%	32.3%
Advanced Chronic Heart Failure						
All-cause, n	25,516	40,105	39,314	37,209	38,566	42,892
Potentially avoidable, n	10,659	15,915	14,787	14,450	15,166	17,761
Percent of all transfers that were potentially avoidable	41.8%	39.7%	37.6%	38.8%	39.3%	41.4%
Advanced Chronic Obstructive Pulmonary Disease						
All-cause transfers	25083	40558	39426	37120	38508	42607
Potentially Avoidable	10513	15980	14805	14333	14840	17061
Percent of all transfers that were potentially avoidable	41.9%	39.4%	37.6%	38.6%	38.5%	40.0%

eFigure. Percent of All Transfers That Were Potentially Avoidable by Cohort Year

