



Pediatric Quality Indicator 18 (PDI 18) Urinary Tract Infection Admission Rate

July 2017

Area-Level Indicator

Type of Score: Rate

Prepared by:

Agency for Healthcare Research and Quality

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DESCRIPTION

Admissions with a principal diagnosis of urinary tract infection per 100,000 population, ages 3 months to 17 years. Excludes cases with kidney or urinary tract disorders, cases with a high- or intermediate-risk immunocompromised state (including hepatic failure and transplants), transfers from other institutions, and obstetric admissions.

[NOTE: The software provides the rate per population. However, common practice reports the measure as per 100,000 population. The user must multiply the rate obtained from the software by 100,000 to report admissions per 100,000 population.]

NUMERATOR

Discharges, for patients ages 3 months through 17 years, with a principal ICD-10-CM diagnosis code for urinary tract infection (*ACSUTID*^{*}).

NUMERATOR EXCLUSIONS

Exclude cases:

- with any-listed ICD-10-CM diagnosis codes for kidney/urinary tract disorder (***KIDNEY***^{*})
- with any-listed ICD-10-CM diagnosis codes for high-risk immunocompromised state (***Appendix F***)
- with any-listed ICD-10-PCS procedure codes for transplant (***TRANSPP***^{*}) (high-risk immunocompromised state procedures)
- with any-listed ICD-10-CM diagnosis codes for intermediate-risk immunocompromised state (including hepatic failure) (***Appendix G***), including cirrhosis (***HEPFA2D***^{*}) and hepatic failure (***HEPFA3D***^{*})
- transfer from a hospital (different facility) (***Appendix J***)
- transfer from a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF) (***Appendix J***)
- transfer from another health care facility (***Appendix J***)
- MDC 14 (pregnancy, childbirth, and puerperium)
- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

[***Appendix F: High-Risk Immunocompromised State Diagnosis and Procedure Codes***](#)

[***Appendix G – Intermediate-Risk Immunocompromised States***](#)

[***Appendix J – Admission Codes for Transfers***](#)

DENOMINATOR

Population ages 3 months through 17 years in metropolitan area[†] or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred.

[†]The term “metropolitan area” (MA) was adopted by the U.S. Census in 1990 and referred collectively to metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs), and primary metropolitan statistical areas (PMSAs). In addition, “area” could refer to either 1) FIPS county, 2) modified FIPS county, 3) 1999 OMB Metropolitan Statistical Area, or 4) 2003 OMB Metropolitan Statistical Area. Micropolitan Statistical Areas are not used in the QI software.

* See below for code list

Urinary tract infection diagnosis codes: (ACSUTID)

N10	Acute tubulo-interstitial nephritis	N2885	Pyeloureteritis cystica
N119	Chronic tubulo-interstitial nephritis, unspecified	N2886	Ureteritis cystica
N12	Tubulo-interstitial nephritis, not specified as acute or chronic	N3000	Acute cystitis without hematuria
N151	Renal and perinephric abscess	N3001	Acute cystitis with hematuria
N159	Renal tubulo-interstitial disease, unspecified	N3090	Cystitis, unspecified without hematuria
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	N3091	Cystitis, unspecified with hematuria
N2884	Pyelitis cystica	N390	Urinary tract infection, site not specified

Kidney or urinary tract disorder diagnosis codes: (KIDNEY)

N110	Nonobstructive reflux-associated chronic pyelonephritis	Q6231	Congenital ureterocele, orthotopic
N111	Chronic obstructive pyelonephritis	Q6232	Cecoureterocele
N118	Other chronic tubulo-interstitial nephritis	Q6239	Other obstructive defects of renal pelvis and ureter
N119	Chronic tubulo-interstitial nephritis, unspecified	Q624	Agensis of ureter
N130	Hydronephrosis with ureteropelvic junction obstruction	Q625	Duplication of ureter
N136	Pyonephrosis	Q6260	Malposition of ureter, unspecified
N1370	Vesicoureteral-reflux, unspecified	Q6261	Deviation of ureter
N1371	Vesicoureteral-reflux without reflux nephropathy	Q6262	Displacement of ureter
N13721	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unilateral	Q6263	Anomalous implantation of ureter
N13722	Vesicoureteral-reflux with reflux nephropathy without hydroureter, bilateral	Q6269	Other malposition of ureter
N13729	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unspecified	Q627	Congenital vesico-uretero-renal reflux
N13731	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unilateral	Q628	Other congenital malformations of ureter
N13732	Vesicoureteral-reflux with reflux nephropathy with hydroureter, bilateral	Q630	Accessory kidney
N13739	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unspecified	Q631	Lobulated, fused and horseshoe kidney
N139	Obstructive and reflux uropathy, unspecified	Q632	Ectopic kidney
Q600	Renal agenesis, unilateral	Q633	Hyperplastic and giant kidney
Q601	Renal agenesis, bilateral	Q638	Other specified congenital malformations of kidney
Q602	Renal agenesis, unspecified	Q639	Congenital malformation of kidney, unspecified
Q603	Renal hypoplasia, unilateral	Q6410	Exstrophy of urinary bladder, unspecified
Q604	Renal hypoplasia, bilateral	Q6411	Supravesical fissure of urinary bladder
Q605	Renal hypoplasia, unspecified	Q6412	Cloacal extrophy of urinary bladder

Q606	Potter's syndrome	Q6419	Other exstrophy of urinary bladder
Q6100	Congenital renal cyst, unspecified	Q642	Congenital posterior urethral valves
Q6101	Congenital single renal cyst	Q6431	Congenital bladder neck obstruction
Q6102	Congenital multiple renal cysts	Q6432	Congenital stricture of urethra
Q6111	Cystic dilatation of collecting ducts	Q6433	Congenital stricture of urinary meatus
Q6119	Other polycystic kidney, infantile type	Q6439	Other atresia and stenosis of urethra and bladder neck
Q612	Polycystic kidney, adult type	Q645	Congenital absence of bladder and urethra
Q613	Polycystic kidney, unspecified	Q646	Congenital diverticulum of bladder
Q614	Renal dysplasia	Q6470	Unspecified congenital malformation of bladder and urethra
Q615	Medullary cystic kidney	Q6471	Congenital prolapse of urethra
Q618	Other cystic kidney diseases	Q6472	Congenital prolapse of urinary meatus
Q619	Cystic kidney disease, unspecified	Q6473	Congenital urethrorectal fistula
Q620	Congenital hydronephrosis	Q6474	Double urethra
Q6210	Congenital occlusion of ureter, unspecified	Q6475	Double urinary meatus
Q6211	Congenital occlusion of ureteropelvic junction	Q6479	Other congenital malformations of bladder and urethra
Q6212	Congenital occlusion of ureterovesical orifice	Q648	Other specified congenital malformations of urinary system
Q622	Congenital megaureter	Q649	Congenital malformation of urinary system, unspecified

High-risk immunocompromised state procedure codes: (TRANSPP)

02YA0Z0	Transplantation of Heart, Allogeneic, Open Approach	30233X4	Transfusion of Allogeneic Unspecified Cord Blood Stem Cells into Peripheral Vein, Percutaneous Approach
02YA0Z2	Transplantation of Heart, Zooplasic, Open Approach	30233Y0	Transfusion of Autologous Hematopoietic Stem Cells into Peripheral Vein, Percutaneous Approach
0BYC0Z0	Transplantation of Right Upper Lung Lobe, Allogeneic, Open Approach	30233Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Peripheral Vein, Percutaneous Approach
0BYC0Z2	Transplantation of Right Upper Lung Lobe, Zooplasic, Open Approach	30233Y2	Transfusion of Allogeneic Related Hematopoietic Stem Cells into Peripheral Vein, Percutaneous Approach
0BYD0Z0	Transplantation of Right Middle Lung Lobe, Allogeneic, Open Approach	30233Y3	Transfusion of Allogeneic Unrelated Hematopoietic Stem Cells into Peripheral Vein, Percutaneous Approach
0BYD0Z2	Transplantation of Right Middle Lung Lobe, Zooplasic, Open Approach	30233Y4	Transfusion of Allogeneic Unspecified Hematopoietic Stem Cells into Peripheral Vein, Percutaneous Approach
0BYF0Z0	Transplantation of Right Lower Lung Lobe, Allogeneic, Open Approach	30240AZ	Transfusion of Embryonic Stem Cells into Central Vein, Open Approach
0BYF0Z2	Transplantation of Right Lower Lung Lobe, Zooplasic, Open Approach	30240G0	Transfusion of Autologous Bone Marrow into Central Vein, Open Approach
0BYG0Z0	Transplantation of Left Upper Lung Lobe, Allogeneic, Open Approach	30240G1	Transfusion of Nonautologous Bone Marrow into Central Vein, Open Approach
0BYG0Z2	Transplantation of Left Upper Lung Lobe, Zooplasic, Open Approach	30240G2	Transfusion of Allogeneic Related Bone Marrow into Central Vein, Open Approach
0BYH0Z0	Transplantation of Lung Lingula, Allogeneic, Open Approach	30240G3	Transfusion of Allogeneic Unrelated Bone Marrow into Central Vein, Open Approach
0BYH0Z2	Transplantation of Lung Lingula, Zooplasic, Open Approach	30240G4	Transfusion of Allogeneic Unspecified Bone Marrow into Central Vein, Open Approach

0BYJ0Z0	Transplantation of Left Lower Lung Lobe, Allogeneic, Open Approach	30240X0	Transfusion of Autologous Cord Blood Stem Cells into Central Vein, Open Approach
0BYJ0Z2	Transplantation of Left Lower Lung Lobe, Zooplasic, Open Approach	30240X1	Transfusion of Nonautologous Cord Blood Stem Cells into Central Vein, Open Approach
0BYK0Z0	Transplantation of Right Lung, Allogeneic, Open Approach	30240X2	Transfusion of Allogeneic Related Cord Blood Stem Cells into Central Vein, Open Approach
0BYK0Z2	Transplantation of Right Lung, Zooplasic, Open Approach	30240X3	Transfusion of Allogeneic Unrelated Cord Blood Stem Cells into Central Vein, Open Approach
0BYL0Z0	Transplantation of Left Lung, Allogeneic, Open Approach	30240X4	Transfusion of Allogeneic Unspecified Cord Blood Stem Cells into Central Vein, Open Approach
0BYL0Z2	Transplantation of Left Lung, Zooplasic, Open Approach	30240Y0	Transfusion of Autologous Hematopoietic Stem Cells into Central Vein, Open Approach
0BYM0Z0	Transplantation of Bilateral Lungs, Allogeneic, Open Approach	30240Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Central Vein, Open Approach
0BYM0Z2	Transplantation of Bilateral Lungs, Zooplasic, Open Approach	30240Y2	Transfusion of Allogeneic Related Hematopoietic Stem Cells into Central Vein, Open Approach
0DY50Z0	Transplantation of Esophagus, Allogeneic, Open Approach	30240Y3	Transfusion of Allogeneic Unrelated Hematopoietic Stem Cells into Central Vein, Open Approach
0DY50Z2	Transplantation of Esophagus, Zooplasic, Open Approach	30240Y4	Transfusion of Allogeneic Unspecified Hematopoietic Stem Cells into Central Vein, Open Approach
0DY60Z0	Transplantation of Stomach, Allogeneic, Open Approach	30243AZ	Transfusion of Embryonic Stem Cells into Central Vein, Percutaneous Approach
0DY60Z2	Transplantation of Stomach, Zooplasic, Open Approach	30243G0	Transfusion of Autologous Bone Marrow into Central Vein, Percutaneous Approach
0DY80Z0	Transplantation of Small Intestine, Allogeneic, Open Approach	30243G1	Transfusion of Nonautologous Bone Marrow into Central Vein, Percutaneous Approach
0DY80Z2	Transplantation of Small Intestine, Zooplasic, Open Approach	30243G2	Transfusion of Allogeneic Related Bone Marrow into Central Vein, Percutaneous Approach

0DYE0Z0	Transplantation of Large Intestine, Allogeneic, Open Approach	30243G3	Transfusion of Allogeneic Unrelated Bone Marrow into Central Vein, Percutaneous Approach
0DYE0Z2	Transplantation of Large Intestine, Zooplasic, Open Approach	30243G4	Transfusion of Allogeneic Unspecified Bone Marrow into Central Vein, Percutaneous Approach
0FSG0ZZ	Reposition Pancreas, Open Approach	30243X0	Transfusion of Autologous Cord Blood Stem Cells into Central Vein, Percutaneous Approach
0FSG4ZZ	Reposition Pancreas, Percutaneous Endoscopic Approach	30243X1	Transfusion of Nonautologous Cord Blood Stem Cells into Central Vein, Percutaneous Approach
0FY00Z0	Transplantation of Liver, Allogeneic, Open Approach	30243X2	Transfusion of Allogeneic Related Cord Blood Stem Cells into Central Vein, Percutaneous Approach
0FY00Z2	Transplantation of Liver, Zooplasic, Open Approach	30243X3	Transfusion of Allogeneic Unrelated Cord Blood Stem Cells into Central Vein, Percutaneous Approach
0FYG0Z0	Transplantation of Pancreas, Allogeneic, Open Approach	30243X4	Transfusion of Allogeneic Unspecified Cord Blood Stem Cells into Central Vein, Percutaneous Approach
0FYG0Z2	Transplantation of Pancreas, Zooplasic, Open Approach	30243Y0	Transfusion of Autologous Hematopoietic Stem Cells into Central Vein, Percutaneous Approach
0TY00Z0	Transplantation of Right Kidney, Allogeneic, Open Approach	30243Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Central Vein, Percutaneous Approach
0TY00Z2	Transplantation of Right Kidney, Zooplasic, Open Approach	30243Y2	Transfusion of Allogeneic Related Hematopoietic Stem Cells into Central Vein, Percutaneous Approach
0TY10Z0	Transplantation of Left Kidney, Allogeneic, Open Approach	30243Y3	Transfusion of Allogeneic Unrelated Hematopoietic Stem Cells into Central Vein, Percutaneous Approach
0TY10Z2	Transplantation of Left Kidney, Zooplasic, Open Approach	30243Y4	Transfusion of Allogeneic Unspecified Hematopoietic Stem Cells into Central Vein, Percutaneous Approach
0WY20Z0	Transplantation of Face, Allogeneic, Open Approach	30250G0	Transfusion of Autologous Bone Marrow into Peripheral Artery, Open Approach
0XYJ0Z0	Transplantation of Right Hand, Allogeneic, Open Approach	30250G1	Transfusion of Nonautologous Bone Marrow into Peripheral Artery, Open Approach

0XYK0Z0	Transplantation of Left Hand, Allogeneic, Open Approach	30250X0	Transfusion of Autologous Cord Blood Stem Cells into Peripheral Artery, Open Approach
30230AZ	Transfusion of Embryonic Stem Cells into Peripheral Vein, Open Approach	30250X1	Transfusion of Nonautologous Cord Blood Stem Cells into Peripheral Artery, Open Approach
30230G0	Transfusion of Autologous Bone Marrow into Peripheral Vein, Open Approach	30250Y0	Transfusion of Autologous Hematopoietic Stem Cells into Peripheral Artery, Open Approach
30230G1	Transfusion of Nonautologous Bone Marrow into Peripheral Vein, Open Approach	30250Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Peripheral Artery, Open Approach
30230G2	Transfusion of Allogeneic Related Bone Marrow into Peripheral Vein, Open Approach	30253G0	Transfusion of Autologous Bone Marrow into Peripheral Artery, Percutaneous Approach
30230G3	Transfusion of Allogeneic Unrelated Bone Marrow into Peripheral Vein, Open Approach	30253G1	Transfusion of Nonautologous Bone Marrow into Peripheral Artery, Percutaneous Approach
30230G4	Transfusion of Allogeneic Unspecified Bone Marrow into Peripheral Vein, Open Approach	30253X0	Transfusion of Autologous Cord Blood Stem Cells into Peripheral Artery, Percutaneous Approach
30230X0	Transfusion of Autologous Cord Blood Stem Cells into Peripheral Vein, Open Approach	30253X1	Transfusion of Nonautologous Cord Blood Stem Cells into Peripheral Artery, Percutaneous Approach
30230X1	Transfusion of Nonautologous Cord Blood Stem Cells into Peripheral Vein, Open Approach	30253Y0	Transfusion of Autologous Hematopoietic Stem Cells into Peripheral Artery, Percutaneous Approach
30230X2	Transfusion of Allogeneic Related Cord Blood Stem Cells into Peripheral Vein, Open Approach	30253Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Peripheral Artery, Percutaneous Approach
30230X3	Transfusion of Allogeneic Unrelated Cord Blood Stem Cells into Peripheral Vein, Open Approach	30260G0	Transfusion of Autologous Bone Marrow into Central Artery, Open Approach
30230X4	Transfusion of Allogeneic Unspecified Cord Blood Stem Cells into Peripheral Vein, Open Approach	30260G1	Transfusion of Nonautologous Bone Marrow into Central Artery, Open Approach
30230Y0	Transfusion of Autologous Hematopoietic Stem Cells into Peripheral Vein, Open Approach	30260X0	Transfusion of Autologous Cord Blood Stem Cells into Central Artery, Open Approach

30230Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Peripheral Vein, Open Approach	30260X1	Transfusion of Nonautologous Cord Blood Stem Cells into Central Artery, Open Approach
30230Y2	Transfusion of Allogeneic Related Hematopoietic Stem Cells into Peripheral Vein, Open Approach	30260Y0	Transfusion of Autologous Hematopoietic Stem Cells into Central Artery, Open Approach
30230Y3	Transfusion of Allogeneic Unrelated Hematopoietic Stem Cells into Peripheral Vein, Open Approach	30260Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Central Artery, Open Approach
30230Y4	Transfusion of Allogeneic Unspecified Hematopoietic Stem Cells into Peripheral Vein, Open Approach	30263G0	Transfusion of Autologous Bone Marrow into Central Artery, Percutaneous Approach
30233AZ	Transfusion of Embryonic Stem Cells into Peripheral Vein, Percutaneous Approach	30263G1	Transfusion of Nonautologous Bone Marrow into Central Artery, Percutaneous Approach
30233G0	Transfusion of Autologous Bone Marrow into Peripheral Vein, Percutaneous Approach	30263X0	Transfusion of Autologous Cord Blood Stem Cells into Central Artery, Percutaneous Approach
30233G1	Transfusion of Nonautologous Bone Marrow into Peripheral Vein, Percutaneous Approach	30263X1	Transfusion of Nonautologous Cord Blood Stem Cells into Central Artery, Percutaneous Approach
30233G2	Transfusion of Allogeneic Related Bone Marrow into Peripheral Vein, Percutaneous Approach	30263Y0	Transfusion of Autologous Hematopoietic Stem Cells into Central Artery, Percutaneous Approach
30233G3	Transfusion of Allogeneic Unrelated Bone Marrow into Peripheral Vein, Percutaneous Approach	30263Y1	Transfusion of Nonautologous Hematopoietic Stem Cells into Central Artery, Percutaneous Approach
30233G4	Transfusion of Allogeneic Unspecified Bone Marrow into Peripheral Vein, Percutaneous Approach	3E030U1	Introduction of Nonautologous Pancreatic Islet Cells into Peripheral Vein, Open Approach
30233X0	Transfusion of Autologous Cord Blood Stem Cells into Peripheral Vein, Percutaneous Approach	3E033U1	Introduction of Nonautologous Pancreatic Islet Cells into Peripheral Vein, Percutaneous Approach
30233X1	Transfusion of Nonautologous Cord Blood Stem Cells into Peripheral Vein, Percutaneous Approach	3E0J3U1	Introduction of Nonautologous Pancreatic Islet Cells into Biliary and Pancreatic Tract, Percutaneous Approach

30233X2	Transfusion of Allogeneic Related Cord Blood Stem Cells into Peripheral Vein, Percutaneous Approach	3E0J7U1	Introduction of Nonautologous Pancreatic Islet Cells into Biliary and Pancreatic Tract, Via Natural or Artificial Opening
30233X3	Transfusion of Allogeneic Unrelated Cord Blood Stem Cells into Peripheral Vein, Percutaneous Approach	3E0J8U1	Introduction of Nonautologous Pancreatic Islet Cells into Biliary and Pancreatic Tract, Via Natural or Artificial Opening Endoscopic

Cirrhosis diagnosis codes: (HEPFA2D)

K702	Alcoholic fibrosis and sclerosis of liver	K744	Secondary biliary cirrhosis
K7030	Alcoholic cirrhosis of liver without ascites	K745	Biliary cirrhosis, unspecified
K7031	Alcoholic cirrhosis of liver with ascites	K7460	Unspecified cirrhosis of liver
K740	Hepatic fibrosis	K7469	Other cirrhosis of liver
K743	Primary biliary cirrhosis		

Hepatic failure diagnosis codes: (HEPFA3D)

K7040	Alcoholic hepatic failure without coma	K7201	Acute and subacute hepatic failure with coma
K7041	Alcoholic hepatic failure with coma	K7210	Chronic hepatic failure without coma
K7110	Toxic liver disease with hepatic necrosis, without coma	K7211	Chronic hepatic failure with coma
K7111	Toxic liver disease with hepatic necrosis, with coma	K7290	Hepatic failure, unspecified without coma
K7200	Acute and subacute hepatic failure without coma	K7291	Hepatic failure, unspecified with coma
		K767	Hepatorenal syndrome