

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

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Area-Level Indicator

Type of Score: Rate

Prepared by:

Agency for Healthcare Research and Quality

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DESCRIPTION

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

[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 hospitalizations per 100,000 population.]

NUMERATOR

Hospital 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 discharges:

- with any listed ICD-10-CM diagnosis code for kidney or urinary tract disorder (***KIDNEY****)
- with any listed ICD-10-CM diagnosis code for high-risk immunocompromised state (***Appendix F: IMMUNHD***)
- with any listed ICD-10-PCS procedure code for immunocompromised state (***Appendix O: IMMUNIP***)
- with any listed ICD-10-CM diagnosis code for intermediate-risk immunocompromised state (***Appendix G: IMMUITD***), including cirrhosis (***Appendix G: HEPFA2D***) and hepatic failure (***Appendix G: HEPFA3D***)
- with admission source for transferred from a different hospital or other health care facility (***Appendix J***) (ATYPE is not 4 and UB04 Admission source - 2, 3)
- with a point of origin code for transfer from a hospital, skilled nursing facility (SNF) or intermediate care facility (ICF), or other healthcare facility (***Appendix J***) (ATYPE is not 4 and UB04 Point of Origin - 4, 5, 6)
- where age in days is less than ninety days (ageday <90) or neonates (***Appendix I***) with missing age in days
- with a principal ICD-10-CM diagnosis code assigned to MDC 14 Pregnancy, Childbirth & the Puerperium (***Appendix N: MDC14PRINDX***)
- with an ungroupable DRG (DRG=999)
- with missing sex (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 Codes***](#)

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

[***Appendix I - Definitions of Neonate, Newborn, Normal Newborn, and Outborn***](#)

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

[***Appendix N - MDC 14 and 15 Principal Diagnosis Codes***](#)

[***Appendix O - Immunocompromised State Procedure Codes***](#)

DENOMINATOR

Population ages 3 months through 17 years in metropolitan area¹ 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.

¹ The denominator is extrapolated by applying a multiplicative factor to the population count for the 0 to 4 age group and combining this estimate with the counts for the other age groups in the denominator age range. 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 AHRQ QI software.

* See below for code list

Urinary tract infection diagnosis codes: (ACSUTID)

N10	Acute pyelonephritis	N2885	Pyeloureteritis cystica
N12	Tubulo-Interstitial nephritis, not specified as acute or chronic	N2886	Ureteritis cystica
N136	Pyonephrosis	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	Agenesis 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 exstrophy 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

Kidney or urinary tract disorder diagnosis codes: (KIDNEY)

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