



## **Patient Safety Indicator 23 (PSI 23) Central Venous Catheter-Related Blood Stream Infection Rate**

**June 2017**

**Area-Level Indicator**

**Type of Score: Rate**

### **Prepared by:**

Agency for Healthcare Research and Quality

U.S. Department of Health and Human Services

[www.qualityindicators.ahrq.gov](http://www.qualityindicators.ahrq.gov)

### **DESCRIPTION**

Central venous catheter-related bloodstream infections per 100,000 population, ages 18 years and older. Excludes cases with an immunocompromised state and cases with cancer.

*[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 events per 100,000 population.]*

## NUMERATOR

Surgical and medical discharges, for patients ages 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium), with any-listed ICD-9-CM diagnosis codes for selected infections. Surgical and medical discharges are defined by specific MS-DRG codes.

[Appendix C – Medical Discharge MS-DRGs](#)

[Appendix E – Surgical Discharge MS-DRGs](#)

*Central venous catheter-related blood stream infection diagnosis code for discharges on or after October 1, 2007, but before October 1, 2011: (IDTMC2D)*

99931      Infection due to central venous catheter

*Central venous catheter-related blood stream infection diagnosis code for discharges on or after October 1, 2011: (IDTMC3D\_PSI)*

99932      Bloodstream infection due to central  
              venous catheter

## **NUMERATOR EXCLUSIONS**

Exclude cases:

- with any-listed ICD-9-CM diagnosis codes for cancer
- with any-listed ICD-9-CM diagnosis codes or any-listed ICD-9-CM procedure codes for immunocompromised state
- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), principal diagnosis (DX1=missing), or county (PSTCO=missing)

[\*Appendix H – Cancer Diagnosis Codes\*](#)

[\*Appendix I – Immunocompromised State Diagnosis and Procedure Codes\*](#)

## **DENOMINATOR**

Population ages 18 years and older 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.