

**Quality ID #76 (NQF 2726): Prevention of Central Venous Catheter (CVC) - Related Bloodstream Infections**

- National Quality Strategy Domain: Patient Safety
- Meaningful Measure Area: Healthcare Associated Infections

**2022 COLLECTION TYPE:**  
**MIPS CLINICAL QUALITY MEASURES (CQMS)**

**MEASURE TYPE:**  
Process – High Priority

**DESCRIPTION:**  
Percentage of patients, regardless of age, who undergo central venous catheter (CVC) insertion for whom CVC was inserted with all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed.

**INSTRUCTIONS:**  
This measure is to be submitted **each time** a CVC insertion is performed during the performance period. There is no diagnosis associated with this measure. It is anticipated that Merit-based Incentive Payment System (MIPS) eligible clinicians who perform CVC insertion will submit this measure.

**Measure Submission Type:**  
Measure data may be submitted by individual MIPS eligible clinicians, groups, or third party intermediaries. The listed denominator criteria are used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions as allowed by the measure. The quality data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

**DENOMINATOR:**  
All patients, regardless of age, who undergo CVC insertion

**Denominator Criteria (Eligible Cases):**  
**Patient procedure during the performance period (CPT):** 36555, 36556, 36557, 36558, 36560, 36561, 36563, 36565, 36566, 36568, 36569, 36570, 36571, 36572, 36573, 36578, 36580, 36581, 36582, 36583, 36584, 36585, 93503, 93593, 93594, 93595, 93596, 93597

**WITHOUT**  
**Telehealth Modifier:** GQ, GT, 95, POS 02

**NUMERATOR:**  
Patients for whom central venous catheter (CVC) was inserted with all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed

**Definitions:**  
**Maximal Sterile Barrier Technique** – includes **all** of the following elements: Cap AND mask AND sterile gown AND sterile gloves AND sterile full body drape.  
**Sterile Ultrasound Techniques** – require sterile gel and sterile probe covers.  
**Hand Hygiene** – Washing hands with conventional soap and water or with alcohol-based hand rubs (ABHR).

**Numerator Options:**  
**Performance Met:** All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used,

**OR**

***Denominator Exception:***

sterile ultrasound techniques followed (**6030F**)

Documentation of medical reason(s) for not following all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques during CVC insertion (including increased risk of harm to patient if adherence to aseptic technique would cause delay in CVC insertion) (**6030F with 1P**)

**OR**

***Performance Not Met:***

All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques not followed, reason not otherwise specified (**6030F with 8P**)

**RATIONALE:**

Catheter-related bloodstream infection is a costly complication of central venous catheter insertion, but may be avoided with routine use of aseptic technique during catheter insertion. This measure is constructed to require that all of the listed elements of aseptic technique are followed and documented. Hospital-acquired bloodstream infections are a common complication that leads to increased costs and mortality. It is estimated that approximately 51% of hospital-acquired bloodstream infections occur in an intensive care unit (ICU), with the presence of a central venous catheter being the largest risk factor for the development of a bloodstream infection in the hospital. Catheter-related bloodstream infections (CRBSIs) commonly occur when the catheter becomes contaminated by microbes on the skin during insertion. The use of maximal sterile barriers, including sterile gloves, long-sleeved sterile gown, mask, cap, and full-sized sterile drape, during insertion of the catheter has been shown to cost effectively reduce CRBSI rates compared to the use of less stringent precautions.

**CLINICAL RECOMMENDATION STATEMENTS:**

**2011 Guidelines for Prevention of Intravascular Catheter-Related Infections. CDC Healthcare Infection Control Practices Advisory Committee (HICPAC).**

Maximal sterile barrier precautions: Use maximal sterile barrier precautions, including the use of a cap, mask, sterile gown, sterile gloves, and a sterile full body drape, for the insertion of CVCs, PICCS, or guidewire exchange (CDC) (Category IB)

Hand hygiene: Perform hand hygiene procedures, either by washing hands with conventional soap and water or with alcohol-based hand rubs (ABHR) (Category IB)

Skin Preparation: Prepare clean skin with a >0.5% chlorhexidine preparation with alcohol before central venous catheter and peripheral arterial catheter insertion and during dressing changes. If there is a contraindication to chlorhexidine, tincture of iodine, an iodophor, or 70% alcohol can be used as alternatives (Category IB)

Sterile Ultrasound: The Food and Drug Administration recommends that policies and clinical practice standards be reviewed to ensure the use of sterile ultrasound gel. Once a container of sterile or non-sterile ultrasound gel is opened, it is no longer sterile and contamination during ongoing use is possible.

**2012 American Society of Anesthesiologists Practice Guidelines for Central Venous Access**

In preparation for the placement of central venous catheters, use aseptic techniques (e.g., hand washing) and maximal barrier precautions (e.g., sterile gowns, sterile gloves, caps, masks covering both mouth and nose, and full-body drapes).

## **2014 American Institute for Ultrasound in Medicine Practice Parameter for the Performance of Selected Ultrasound-Guided Procedures**

The use of sterile drapes, sterile probe covers, and sterile ultrasound gel may provide the best method to reduce the risk of contamination and infection.

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The PCPI's and AMA's significant past efforts and contributions to the development and updating of the Measures are acknowledged.

ASA is solely responsible for the review and enhancement ("Maintenance") of the Measure as of July 1, 2020.

ASA encourages use of the Measure by other health care professionals, where appropriate.

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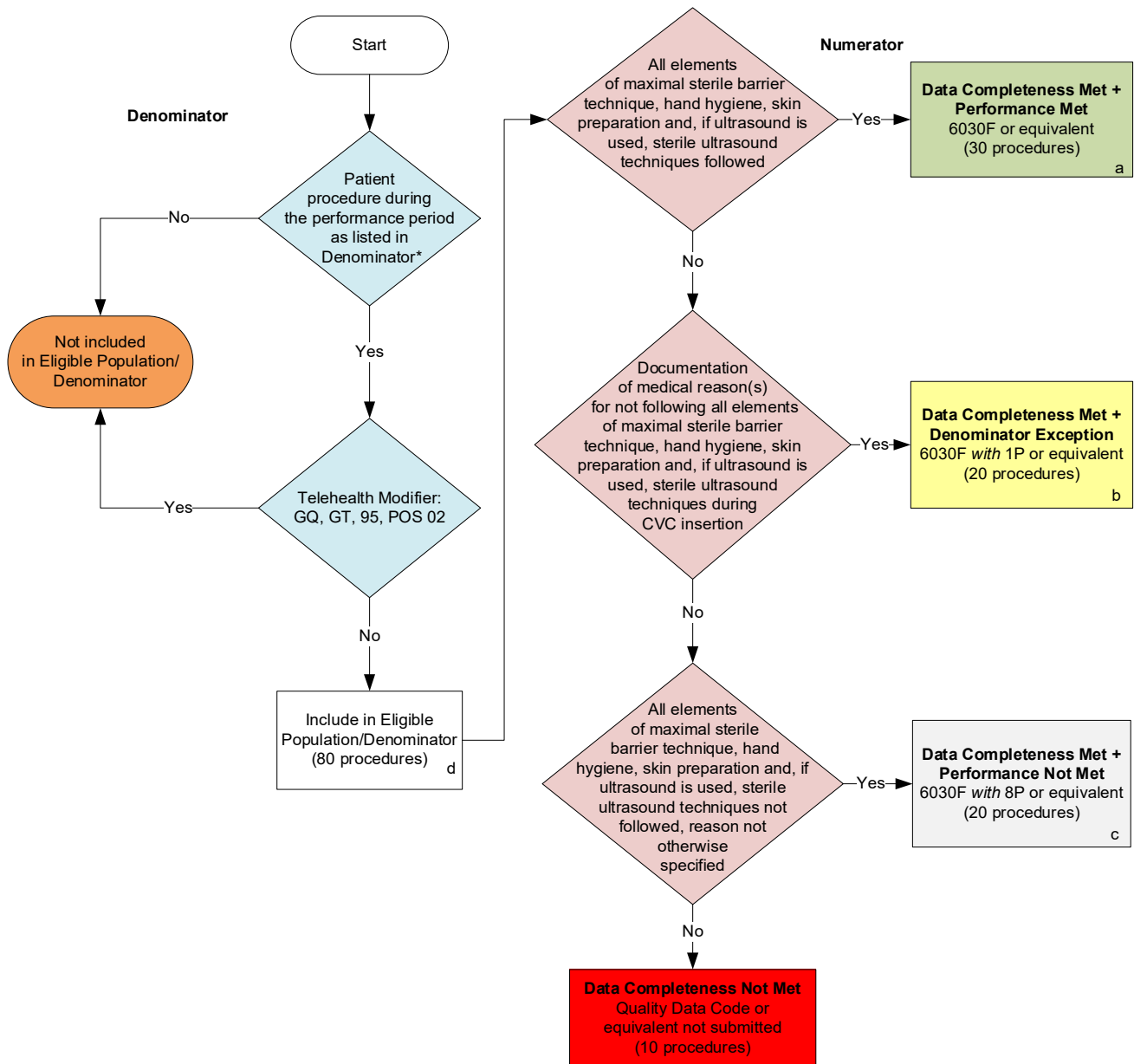
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**2022 Clinical Quality Measure Flow for Quality ID #76 (NQF 2726):  
Prevention of Central Venous Catheter (CVC) – Related Bloodstream Infections**

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*



**SAMPLE CALCULATIONS**

**Data Completeness=**  

$$\frac{\text{Performance Met (a=30 procedures)} + \text{Denominator Exception (b=20 procedures)} + \text{Performance Not Met (c=20 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**  

$$\frac{\text{Performance Met (a=30 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception (b=20 procedures)}} = \frac{30 \text{ procedures}}{50 \text{ procedures}} = 60.00\%$$

\* See the posted measure specification for specific coding and instructions to submit this measure.  
 NOTE: Submission Frequency: Procedure

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**2022 Clinical Quality Measure Flow Narrative for Quality ID #76 (NQF 2726):  
Prevention of Central Venous Catheter (CVC) - Related Bloodstream Infections**

**Disclaimer:** Refer to the measure specification for specific coding and instructions to submit this measure.

1. Start with Denominator
2. Check *Patient procedure during the performance period as listed in Denominator\**:
  - a. If *Patient procedure during the performance period as listed in Denominator\** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Patient procedure during the performance period as listed in Denominator\** equals Yes, proceed to check *Telehealth Modifier*.
3. Check *Telehealth Modifier*:
  - a. If *Telehealth Modifier* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Telehealth Modifier* equals No, include in *Eligible Population/Denominator*.
4. Denominator Population:
  - a. Denominator Population is all Eligible Procedures in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.
5. Start Numerator
6. Check *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed*:
  - a. If *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed* equals Yes, include in *Data Completeness Met and Performance Met*.
    - *Data Completeness Met and Performance Met* is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 30 procedures in the Sample Calculation.
  - b. If *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed* equals No, proceed to check *Documentation of medical reason(s) for not following all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques during CVC insertion*.
7. Check *Documentation of medical reason(s) for not following all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques during CVC insertion*:
  - a. If *Documentation of medical reason(s) for not following all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques during CVC insertion* equals Yes, include in *Data Completeness Met and Denominator Exception*.
    - *Data Completeness Met and Denominator Exception* is represented in the Data

Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 20 procedures in the Sample Calculation.

- b. If *Documentation of medical reason(s) for not following all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques during CVC insertion* equals No, proceed to check *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques not followed, reason not otherwise specified*.
8. Check *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques not followed, reason not otherwise specified*:
    - a. If *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques not followed, reason not otherwise specified* equals Yes, include in the *Data Completeness Met and Performance Not Met*.
      - *Data Completeness Met and Performance Not Met* letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 20 procedures in the Sample Calculation.
    - b. If *All elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques not followed, reason not otherwise specified* equals No, proceed to check *Data Completeness Not Met*.
  9. Check *Data Completeness Not Met*:
    - If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

### **Sample Calculations**

Data Completeness equals Performance Met (a equals 30 procedures) plus Denominator Exception (b equals 20 procedures) plus Performance Not Met (c equals 20 procedures) divided by Eligible Population / Denominator (d equals 80 procedures). All equals 70 procedures divided by 80 procedures. All equals 87.5 percent.

Performance Rate equals Performance Met (a equals 30 procedures) divided by Data Completeness Numerator (70 procedures) minus Denominator Exception (b equals 20 procedures). All equals 30 procedures divided by 50 procedures. All equals 60 percent.

\*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Procedure

The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.