



## VS Reports Dictionary

This data dictionary contains the definitions of goals and measures for the VS report, VS Dashboard report, VS M&M report, and VS Follow-up reports.

Many of these measures are the same but only report Open Bypass, EVAR, Open AAA, or Open Thrombectomy procedures. When the definition contains "X procedure" in the definition, the definition is procedure specific. The procedure is either an open bypass, EVAR, open AAA, or open thrombectomy, depending on which measure you are viewing.

### **A note about follow-up outcomes measures:**

- For any follow-up form to be counted as complete and included in the follow-up report, a minimum of current living status and four other fields are marked with a response other than 'Not Documented.'
- The Discharge Status of Death will exclude forms due at 30-days from the numerator and denominator.
- The Discharge Status of Death OR Current Living Status of Dead on the 30-Day follow-up form will exclude forms due at 1-year from the numerator and denominator.

Updated with 2023 Q4 report release.

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## AAA Repair

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The numerator and denominator are the same. The total number of discharges containing an OAAA or EVAR procedure.

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## ACE Inhibitors (Follow-up report)

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Numerator: The number of completed VS follow-up forms that have Yes entered for ACE Inhibitors AND the patient was discharged on an ACE Inhibitor.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for ACE Inhibitors AND the patient was discharged on an ACE Inhibitor.

Exclusion: A contraindication to ACE Inhibitors.

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## ACE-I/ARB (All procedures, VS Dashboard)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient is taking an ACE Inhibitor (ACE-I) or an Angiotensin II Receptor Antagonist (ARB) within 30 days of hospital admission.

Denominator: The total number or discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusions: A contraindication to either an ACE-I or ARB.

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## ACE-I/ARB (PAD Open Bypass)

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Numerator: The number of discharges with a PAD open bypass procedure where the patient is taking an ACE Inhibitor (ACE-I) or an Angiotensin II Receptor Antagonist (ARB) within 30 days of hospital admission.

Denominator: The total number or discharges containing a PAD open bypass procedure.

Exclusions: A contraindication to either an ACE-I or ARB.

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## ALI (only) (OT)

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Numerator: The number of Open Thrombectomy procedures where the Indication of ALI is the only indication marked for that procedure.

Denominator: The total number of Open Thrombectomy procedures.

Note: BMC2 only collects urgent and emergent open thrombectomy procedures.

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## ASA and Clopidogrel (All procedures)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient is taking both Aspirin and Clopidogrel (Plavix) within 30 days of hospital admission.

Denominator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusion: A contraindication to Aspirin or Clopidogrel (Plavix).

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## Abdominal/Back Pain

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Numerator: The number of X procedures where the patient presented with Abdominal/Back Pain.

Denominator: The total number of X procedures.

Note: there can be multiple indications per procedure.

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## Acute Limb Ischemia

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Numerator: The number of Open Bypass procedures where the patient presented with Acute Limb Ischemia.

Denominator: The total number of Open Bypass procedures.

Note: There can be multiple indications per procedure.

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## Additional Procedure (Follow-up report)

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Numerator: The number of completed VS follow-up forms where an additional procedure was performed that was related to the EVAR.

Denominator: The number of completed VS follow-up forms that have an EVAR procedure in the corresponding discharge.

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## Reason for Additional Procedure

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Numerator: The number of completed VS forms in which the response for "EVAR Additional Procedure" is X.

Denominator: The number of completed VS forms where an additional procedure was performed that was related to the EVAR.

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## Additional concomitant procedures (VS report)

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Numerator: The number of Open Bypass procedures where an additional concomitant procedure was performed.

Denominator: The total number of Open Bypass procedures.

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## Type of Additional Concomitant Procedure

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Numerator: The X type of additional concomitant procedure that was performed during an Open Bypass.

Denominator: The total number of Open Bypass procedures where an additional concomitant procedure was performed.

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## Air kerma (Gy)

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Average and standard deviation calculations of Air Kerma (AK; Cumulative Air Kerma) reported in Gy for all EVAR procedures.

Exclusions:

- EVAR performed for ruptured AAA repair
- Fenestrated EVAR procedure

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## Air kerma Fenestrated Graft (Gy)

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Average and standard deviation calculations of Air Kerma (AK; Cumulative Air Kerma) reported in Gy for all EVAR procedures where a fenestrated graft was implanted.

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## Air kerma Ruptured AAA (Gy)

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Average and standard deviation calculations of Air Kerma (AK; Cumulative Air Kerma) reported in Gy for all EVAR procedures

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## All Discharges Transfused w/Hgb >=8

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Numerator: The number of discharges with an Open AAA, EVAR or, Open Bypass procedure where a post-procedure transfusion of PRBCs was given and the Hemoglobin value prior to the Transfusion is >= 8.0.

Denominator: The number of discharges with an Open AAA, EVAR, or Open Bypass procedure where a post-procedure transfusion of PRBCs was given.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

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## All Discharges with HgB <=8.0

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure that have a post-procedure hemoglobin < =8.0, as measured by the lowest nadir hemoglobin.

Denominator: The number of discharges containing an EVAR, Open AAA, Open bypass, Open thrombectomy, CAS, or CEA procedure.

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## Amputation (planned) (Follow-up report)

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Numerator: The number of completed VS follow-up forms where the patient had an amputation post-hospitalization.

Denominator: The number of completed VS follow-up forms.

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## Amputation (planned, Prior to DC)(VS report)

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Numerator: The number of discharges with a VS procedure where an Amputation was performed post-procedure and before discharge.

Denominator: The total number of discharges with a VS procedure.

Note: Multiple options may be selected.

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## Location of Amputation

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Numerator: The number of X location of amputation.

Denominator: The total number of discharges with a VS procedure where an amputation was performed post-procedure and before discharge.

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## Anemia (pre-procedure)

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Numerator: The number of discharges with a VS procedure that have a pre-procedure hemoglobin value of <13 for males, <12 for females.

Denominator: The total number of discharges with a VS procedure.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

Reference:

<http://en.wikipedia.org/wiki/Anemia>

## Anticoagulant (OT)

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Numerator: The number of discharges containing an open thrombectomy procedure where the patient took an anticoagulant within 30 days of admission.

Denominator: The total number of discharges containing an open thrombectomy procedure.

Medications is this measure:

- Dabigatran (Pradaxa)
- Edoxaban (Savaysa)
- Rivaroxaban (Xarelto)
- Apixaban (Eliquis)
- Warfarin/Coumadin

Exclusion: A contraindication to any of the anticoagulants in the list and the patient was not taking another anticoagulant in the list.

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## Antiplatelets (ex ASA)(Follow-up report)

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Numerator: The number of completed VS follow-up forms that have Yes entered for antiplatelets AND the patient was discharged on an antiplatelet.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for antiplatelets AND the patient was discharged on an antiplatelet.

Exclusion: A contraindication to antiplatelets. Note: This measure does not include aspirin.

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## Aspirin (All procedures, VS Dashboard)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient is taking Aspirin within 30 days of hospital admission.

Denominator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusion: A contraindication to aspirin.

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## Aspirin (Follow-up report)

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Numerator: The number of completed VS follow-up forms that have Yes entered for aspirin AND the patient was discharged on aspirin.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for aspirin AND the patient was discharged on aspirin.

Exclusion: A contraindication to aspirin.

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## Aspirin (X Procedure)(VS report)

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Numerator: The number of discharges containing X procedure where the patient is taking Aspirin within 30 days of hospital admission.

Denominator: The total number of discharges containing X procedure.

Exclusion: A contraindication to aspirin.

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## Aspirin (adm)(VS report)

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Numerator: The number of discharges with an Open AAA, EVAR, or open bypass procedure where the patient is taking ASA within 30 days of hospital admission.

Denominator: The total number or discharges with an Open AAA, EVAR, or open bypass procedure.

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Exclusions: A contraindication to ASA.

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## Aspirin (dis)(VS report)

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Numerator: The number of discharges with an Open AAA, EVAR, or open bypass procedure where ASA is ordered or continued at discharge.

Denominator: The total number of discharges with an Open AAA, EVAR, or open bypass procedure.

Exclusions: A contraindication to ASA.

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## Asymptomatic (X Procedure)

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Numerator: The number of X procedures where the patient was Asymptomatic for AAA.

Denominator: The total number of X procedures.

Note: There can be multiple indications per procedure.

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## Average Age (MI) (mean, stdev)

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The average (mean) age of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Note: Age as of the admission date.

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## Average Age (PAD Open Bypass) (mean, stdev)

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The average (mean) age of discharges containing a PAD open bypass procedure. This is calculated using the age as of the admission date.

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## Average Age (mean, stdev)

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Calculates the average (mean) age of patients as of the admission date. Compare the birthdate of each discharge with the admission date to compute the age of the patient at admission.

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## B. Blockers (adm)(VS report)

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Numerator: The number of discharges with an Open AAA, EVAR, or open bypass procedure where the patient is taking a beta blocker within 30 days of hospital admission.

Denominator: The total number of discharges with an Open AAA, EVAR, or open bypass procedure.

Exclusion: A contraindication to beta blockers.

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## B. Blockers (dis)(VS report)

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Numerator: The number of discharges with an Open AAA, EVAR, or open bypass procedure where a beta blocker is ordered or continued at discharge.

Denominator: The total number of discharges with an Open AAA, EVAR, or open bypass procedure.

Exclusions: A contraindication to beta blockers.

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## Beta Blocker (All procedures, VS Dashboard)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA

procedure where the patient is taking a Beta Blocker within 30 days of hospital admission.

Denominator: The total number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusions: A contraindication to a Beta Blocker.

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## **Beta Blocker (X Procedure)(VS report)**

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Numerator: The number of discharges containing X procedure where the patient was taking a Beta Blocker within 30 days of hospital admission.

Denominator: The number of discharges containing X procedure.

Exclusion: A contraindication to Beta Blockers.

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## **Beta Blockers (Follow-up report)**

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Numerator: The number of completed VS follow-up forms that have Yes entered for beta blockers AND the patient was discharged on a beta blocker.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for beta blockers AND the patient was discharged on a beta blocker.

Exclusion: A contraindication to beta blockers.

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## **Bleeding ( $\geq$ 4 units PRBCs) (OT)**

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Numerator: The number of discharges containing an open thrombectomy procedure where a transfusion of 4 or more units of PRBCs was given post-procedure for any procedure within that discharge (within 30 days of the procedure end date).

Denominator: The total number of discharges containing an open thrombectomy procedure.

Note: BMC2 collects urgent and emergent open thrombectomy procedures only.

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## **Bleeding ( $\geq$ 4 units PRBCs) (elective procedure)**

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Numerator: The number of discharges containing an Elective X procedure where a transfusion of 4 or more units of PRBCs was given within 30 days of the procedure end date. (For any procedure within that discharge).

Denominator: The total number of discharges containing an Elective X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

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## **Bleeding ( $\geq$ 4 units PRBCs) (urgent/emergent procedure)**

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Numerator: The number of discharges containing an Urgent or Emergent X procedure where a transfusion of 4 or more units of PRBCs was given post-procedure for any procedure within that discharge (within 30 days of the procedure end date).

Denominator: The total number of discharges containing an Urgent or Emergent X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

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## **Bowel Ischemia (Prior to DC)**

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Numerator: The number of discharges with a VS procedure where Bowel Ischemia developed post-procedure and before discharge.

Denominator: The total number of discharges with a VS procedure.

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## CEA Opioid naïve patients prescribed $\leq 4$ opioid pills at discharge

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Numerator: Number of opioid naïve CEA discharges with an opioid prescription at discharge of  $\leq 4$  pills. CEA discharges where Not Documented is marked for Quantity prescribed are excluded from the numerator.

Denominator: Number of opioid naïve CEA discharges.

Exclusions from the numerator and denominator.

- CEA performed concurrently with CABG.
- Discharge status of death.

*Please note: Opioid naïve is defined as no opioids taken by the patient >30 days before admission to the hospital.*

Goal  $\geq 70\%$ .

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## CEA Opioid naïve patients prescribed $\leq 4$ opioid pills at discharge Goal Graph

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For each hospital, calculate the percentage of discharges meeting the CEA Opioid at discharge criteria. This is the same as the definition for CEA Opioid naïve patients prescribed  $\leq 4$  opioid pills at discharge on the Vascular Surgery Key Indicators of Performance page. Goal  $\geq 70\%$ .

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## CIN

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CIN is defined as a  $> 0.5$  mg/dL increase of post procedure creatinine from pre-procedure creatinine.

Numerator: The number of discharges with an EVAR procedure with an increase of post procedure creatinine of  $>0.5$  mg/dL.

Denominator: The number of discharges with an EVAR procedure.

Exclusions:

- the patient is on dialysis for renal failure pre procedure
- renal transplant
- death in OR
- ruptured AAA
- No value for pre-procedure creatinine
- No value for peak post procedure creatinine, discharge creatinine, or post-discharge creatinine

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## CIN Excluded

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EVAR procedures where the patient has a history of renal failure requiring dialysis or renal transplant (including failed transplants) are excluded from the CIN measure.

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## Hx Renal Failure req Dialysis

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Numerator: The number of discharges with an EVAR procedure where the patient has a History of Renal Failure Currently Requiring Dialysis.

Denominator: The total number of EVAR procedure procedures.

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## Renal Transplant

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Numerator: The number of discharges with an EVAR procedure where the patient has a history of a renal transplant. A history of failed renal transplants is included in this measure.

Denominator: The total number of EVAR procedures.

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## CIN Potential

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Numerator: The number of discharges with an EVAR procedure that meet all the following criteria:

- A pre-procedure creatinine value is entered into the website
- A post-procedure creatinine (Peak, Discharge, or Post Discharge) value is entered into the website
- The patient does not have a history of renal transplant or kidney failure
- The patient did not die during the EVAR
- The EVAR was not performed for ruptured AAA repair.

Denominator: The total number of discharges with an EVAR procedure.

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## Missing Creatinine (pre)

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Numerator: The number of discharges with an EVAR procedure where the pre procedure creatinine value is entered as Not drawn. EVAR procedures that have a Ruptured AAA are excluded from the numerator.

Denominator: The total number of discharges with a VS procedure.

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## Missing Creatinine (post)

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Numerator: The number of discharges with an EVAR procedure where the post procedure peak creatinine, discharge creatinine, and post-discharge creatinine values for that EVAR procedure are all entered as "Not drawn". EVAR procedures that have a Ruptured AAA are excluded from the numerator.

Denominator: The total number of discharges containing an EVAR procedure.

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## CTA (abnormal / performed)

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Numerator: The number of X procedure that had an abnormal Computerized Tomographic Angiography (CTA) pre procedure.

Denominator: The total number of X procedure where a CTA was performed pre procedure.

Note: Pre procedure = the imaging study was performed within 6 months prior to the procedure.

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## Cardiac Stress Test

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Numerator: The number of X procedure that had cardiac stress test pre procedure.

Denominator: The total number of X procedure.

Note: Pre procedure = the test was performed within 6 months prior to the procedure.

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## Abnormal

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Numerator: The number of EVAR procedures that had an abnormal Cardiac Stress Test pre procedure.

Denominator: The total number of EVAR procedures where a Cardiac Stress Test was performed pre procedure.

Note: Pre procedure = the test was performed within 6 months prior to the procedure.

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## Cardiac arrest (in OR)

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Numerator: The number of VS procedures where a cardiac arrest occurred in the OR.

Denominator: The total number of VS procedures.

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Note: For discharges with multiple procedures, cardiac arrest will only be counted once.

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## Carotid Endarterectomy (CEA)

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Numerator: The number of CEA procedures. Denominator: The total number of CEA and CAS procedures.

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## Carotid Endarterectomy and Stenting

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The numerator and denominator are the same. The total number of discharges containing a CEA or CAS.

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## Carotid Stent (CAS)

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Numerator: The number of CAS procedures.

Denominator: The total number of CEA and CAS procedures.

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## Claudication

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Numerator: The number of Open Bypass procedures where the patient presented with Claudication.

Denominator: The total number of Open bypass procedures.

Note: There can be multiple indications per procedure.

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## Claudication only (PAD Open Bypass)

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Numerator: The number of PAD open bypass procedures that were performed for the indication of claudication only.

Denominator: The total number of PAD open bypass procedures.

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## Clopidogrel (Plavix) (All procedures)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient is taking Clopidogrel (Plavix) within 30 days of hospital admission.

Denominator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusion: A contraindication to Clopidogrel (Plavix).

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## Clopidogrel (Plavix) (OT)

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Numerator: The number of discharges containing an open thrombectomy procedure where the patient is taking clopidogrel (Plavix) within 30 days of hospital admission.

Denominator: The number of discharges containing an open thrombectomy procedure.

Exclusion: A contraindication to clopidogrel (Plavix).

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## Contrast cineangiography

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Numerator: The number of Open Bypass procedures that had an abnormal contrast cineangiography pre procedure.

Denominator: The total number of Open Bypass procedures with a documented pre procedure contrast cineangiography.

Note: Pre procedure = the imaging study was performed within 6 months prior to the procedure.

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## Conversion from Endovascular Repair

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Numerator: The number of Open AAA procedures where a Conversion from Endovascular Repair occurred.

Denominator: The total number of Open AAA procedures.

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## Conversion from Endovascular Repair Timeframe

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Numerator: The number of X timeframe that the conversion from endovascular repair took place.

Denominator: the total number of Open AAA procedures that had a Conversion from Endovascular Repair.

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## Conversion to Open (Follow-up)

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Numerator: The number of completed VS forms where the EVAR repair was converted to open AAA repair after discharge.

Denominator: The number of completed VS follow-up forms that have an EVAR procedure in the corresponding discharge.

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## Reason for Conversion to Open

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Numerator: The number of completed VS forms in which the response for "EVAR Conversion to Open" is X.

Denominator: The number of completed VS forms where the EVAR repair was converted to open AAA repair after discharge.

Note: Multiple reasons for EVAR Conversion to Open can be selected.

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## Conversion to Open (VS report)

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Numerator: The number of EVAR procedures where a Conversion to Open occurred.

Denominator: The total number of EVAR procedures.

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## Reason for Conversion to Open

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Numerator: The number of X reason for Conversion to Open.

Denominator: The total number of EVAR procedures where a Conversion to Open occurred.

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## Coronary Artery Disease (CAD)

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Numerator: The number of discharges with a VS procedure where the patient has a history of CAD.

Denominator: The total number of discharges with a VS procedure.

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## Coumadin (Follow-up report)

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Numerator: The number of completed VS follow-up forms that have Yes entered for Anticoagulant AND the patient was discharged on Coumadin.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for Anticoagulant AND the patient was discharged on Coumadin.

Exclusion: A contraindication to Coumadin.

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## Creatinine (pre) $\geq 1.5$

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Numerator: The number of discharges with an EVAR procedure where the pre procedure creatinine value for the first EVAR procedure is  $\geq 1.5$ .

Denominator: The total number of discharges with an EVAR procedure where a pre procedure creatinine value was entered for the first EVAR procedure.

Exclusions:

- Renal Failure Currently Requiring Dialysis
- Ruptured AAA

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## Current Living Status (Dead)

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Numerator: The number of completed VS follow-up forms where Dead is entered for Current Living Status. Denominator: The number of completed VS follow-up forms.

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## Current Living Status

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Numerator: The number of completed VS follow-up forms where X is entered for Current Living Status.

Denominator: The number of completed VS follow-up forms.

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## Current Smoker (VS and Carotid)

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Numerator: The number of discharges with an elective VS or carotid procedure where the patient smoked cigarettes, cigars, pipe, or chewed tobacco within one month prior to arrival to the hospital.

Denominator: The total number of discharges with an elective VS or carotid procedure.

Exclusion from numerator and denominator: Death during procedure, death post-procedure, or death at discharge.

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## Current Smoker

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Numerator: The number of discharges with an elective VS procedure where the patient smoked cigarettes, cigars, pipe, or chewed tobacco within one month prior to arrival to the hospital.

Denominator: The total number of discharges with an elective VS procedure.

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## Death (OT)(VS Dashboard)

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Numerator: The number of discharges containing an open thrombectomy procedure where the outcome of death occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an open thrombectomy procedure.

Note: BMC2 collects urgent and emergent open thrombectomy procedures only.

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## Death (Prior to DC)(VS report)

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Numerator: The number of discharges containing a VS procedure where a patient died post-procedure and prior to discharge.

Denominator: The number discharges that containing a VS procedure.

Note: Deaths are counted once for discharges that have multiple procedures.

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## Death (Procedure end to 30 days, elective procedure)

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Numerator: The number of VS discharges containing an Elective X procedure where a death occurred within 30 days of the procedure.

Denominator: The total number of discharges containing an Elective X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

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## Death (Procedure end to 30 days, urgent/emergent procedure)

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Numerator: The number of discharges containing an urgent or emergent X procedure where the outcome of death occurred within 30 days of the procedure.

Denominator: The total number of discharges containing an urgent or emergent X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

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## Death (VS and M&M reports)

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Numerator: The number of discharges with a VS procedure where death is the discharge status.

Denominator: The total number of discharges with a VS procedure.

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## Death in OR

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Numerator: The number of VS procedures where a death occurred in the OR.

Denominator: The total number of VS procedures.

Note: For discharges with multiple procedures, death will only be counted once.

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## Diabetes (MI)(VS Dashboard)

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Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient has a history of Diabetes.

Denominator: The number of discharges containing an EVAR, Open AAA, Open bypass, Open thrombectomy, CAS, or CEA procedure.

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## Diabetes (PAD Open Bypass)(VS Dashboard)

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Numerator: The number of discharges containing a PAD Open Bypass procedure where the patient has a history of any type of diabetes.

Denominator: The total number of discharges containing a PAD Open Bypass procedure.

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## Diabetes Mellitus (VS report)

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Numerator: The number of discharges with a VS procedure where the patient has a history of any type of diabetes.

Denominator: The total number of discharges with a VS procedure.

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## Discharge Status

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Numerator: The number of discharges with a VS procedure with X Discharge Status.

Denominator: The total number of discharges with a VS procedure.

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## Discharges (VS Report)

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The total number of discharges that contain a vascular surgery procedure. The numerator and denominator are the same.

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## Discharges

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The total number of discharges with a VS procedure. The numerator and denominator are the same.

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## Discharges w/ EVAR

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Numerator: The number of discharges containing an EVAR procedure.

Denominator is the total number of discharges containing an Open AAA, EVAR, or Open Bypass procedure.

Exclusion: Procedures with a Ruptured AAA.

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## Discharges with Myocardial Infarction with Hgb $\leq 8.0$

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Numerator: The number of discharges containing an EVAR, Open AAA, Open bypass, Open thrombectomy, CAS, or CEA procedure that have a post-procedure hemoglobin  $\leq 8.0$ , as measured by the lowest nadir hemoglobin and an outcome of myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an EVAR, Open AAA, Open bypass, Open thrombectomy, CAS, or CEA procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

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## EKG (abnormal / performed)

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Numerator: The number of X procedure that had an abnormal EKG pre procedure.

Denominator: The total number of X procedure where an EKG was performed pre procedure.

Note: Pre procedure = the test was performed within 6 months prior to the procedure.

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## EVAR (transfusion)(VS Dashboard)

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Numerator: The number of discharges containing a EVAR procedure in which PRBCs were transfused post-operatively within 30 days of the procedure end date.

Denominator: The total number of discharges containing an EVAR procedure.

Note: Multiple transfusion given during a discharge are counted only once.

Exclusions:

- Ruptured AAA repair
  - Indication of Trauma
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## EVAR Current AAA Diameter (mean, stdev)

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The mean (average) and standard deviation of the Current AAA Diameter for completed VS follow-up forms with an EVAR procedures in the corresponding discharge.

## EVAR Current Endoleak

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Numerator: The number of completed VS forms where the patient has an endoleak at the time of follow-up.

Denominator: The number of completed VS follow-up forms that have an EVAR procedure in the corresponding discharge.

### Type 1

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Numerator: The number of completed VS forms that have a Type 1 Endoleak. Denominator: The number of completed VS forms where the patient has an endoleak at the time of follow-up.

Note: Type 1 Endoleak = Attachment site, proximal or distal attachment site leak.

### Type 2

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Numerator: The number of completed VS forms that have a Type 2 Endoleak. Denominator: The number of completed VS forms where the patient has an endoleak at the time of follow-up.

Note: Type 2 Endoleak = Branch, retrograde filling of sac via lumbar, IMA or accessory renals.

### Type 3

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Numerator: The number of completed VS forms that have a Type 3 Endoleak. Denominator: The number of completed VS forms where the patient has an endoleak at the time of follow-up.

Note: Type 3 Endoleak = Mid, filling of sac via leak at component overlap sites or fabric tear.

### Indeterminate

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Numerator: The number of completed VS forms where the endoleak type is Indeterminate. Denominator: The number of completed VS forms where the patient has an endoleak at the time of follow-up.

## EVAR Imaging Performed (P4P)

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Numerator: The number of completed VS 1-year follow-up form with an EVAR procedure in the corresponding discharge where a CT or US was performed within 6 months - 14 months of the date of discharge.

Denominator: The number of completed VS follow-up forms that have an EVAR procedure in the corresponding discharge.

Exclusions from the numerator and denominator: Death prior to 1-year follow-up.

**Goal  $\geq$  80%**

## EVAR Imaging Performed (P4P) Goal Graph

---

For each hospital, calculate the percentage of discharges meeting the EVAR Imaging Performed criteria. This is the same as the definition for EVAR Imaging Performed (P4P) on the Vascular Surgery 1-Year Follow-up report. Goal  $\geq$  80%.

## EVAR Opioid naïve patients prescribed $\leq$ 4 opioid pills at discharge

---

Numerator: Number of opioid naïve EVAR discharges with an opioid prescription at discharge of  $\leq$  4 pills.

Denominator: Number of opioid naïve EVAR discharges.

Exclusions from the numerator:

- EVAR discharges where Not Documented is marked for Quantity prescribed

Exclusions from the numerator and denominator:

- EVARs performed concurrently with another procedure
- Cutdowns
- A discharge status of death.

*Please note: Opioid naïve is defined as no opioids taken by the patient >30 days before admission to the hospital.*

**Goal >=70%.**

## EVAR Opioid naïve patients prescribed <= 4 opioid pills at discharge Goal Graph

For each hospital, calculate the percentage of discharges meeting the EVAR Opioid at discharge criteria. This is the same as the definition for EVAR Opioid naïve patients prescribed <= 4 opioid pills at discharge (P4P) on the Vascular Surgery Key Indicators of Performance page. Goal  $\geq 70\%$ .

## EVAR Opioid naïve patients prescribed >4 pills at discharge

Numerator: The number of opioid-naïve EVAR discharges prescribed >4 opioid pills at discharge. EVAR discharges where Not Documented is entered for Opioid Quantity Prescribed are **included** in the numerator.

Denominator: The total number of opioid-naïve EVAR discharges.

Exclusion: EVAR discharges that are performed concurrently with another procedure.

*Please note: Opioid naïve is defined as No entered for Pre-operative opioid use.*

## Elective EVAR not discharged by post-op day 2

Numerator: The number of discharges with an elective EVAR procedure that has a post procedure LOS >3.

- Intra-operative and post-operative outcomes are excluded from the numerator only.

Denominator: The total number of discharges with an elective EVAR procedure.

**Goal: <10%**

Exclusions from the numerator and denominator:

- EVAR procedures that are performed concurrently with another VS or carotid procedure within the same discharge.
- EVAR procedures performed with a Fenestrated Graft.

## Elective EVAR not discharged by post-op day 2 Goal Graph

For each hospital, compute the percentage of elective EVARs meeting the P4P criteria for LOS. This is the same as the definition for Elective EVAR not discharged by post-op day 2 on the Vascular Surgery Key Indicators of Performance page. Goal < 10%.

## Elective Procedure (VS Dashboard)

Numerator: The number of discharges containing an elective X procedure.

Denominator: The total number of discharges containing X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Elective VS Discharges (OAAA, EVAR, OBP)

---

Numerator: The number of discharges in which the first procedure is an Elective Open AAA, EVAR, or Open Bypass procedure.

Denominator: The number of discharges in which the first procedure is an Elective Open AAA, EVAR, or Open Bypass procedure.

---

## Elective asymptomatic CEA not discharged home by post-op day 2

---

Numerator: The number of discharges with an elective CEA procedure that are asymptomatic and have a post procedure LOS >3. LOS is calculated as the discharge date minus the date of procedure +1.

Denominator: The number of discharges with an elective CEA procedure that are asymptomatic.

Exclusions:

- CEAs performed concurrently with CABG
- Indication of Urgent Cardiac Surgery within 30 days
- An intra-operative or post-operative complication
- CEAs performed with any other VS or carotid procedure within the same discharge

---

## Elective asymptomatic CEA not discharged home by post-op day 2 Goal Graph

---

For each hospital, calculate the percentage of discharges meeting the CEA LOS criteria. This is the same as the definition for Elective asymptomatic CEA not discharged home by post-op day 2 (P4P) on the Outcomes (CEA) page. Goal <8.0%.

---

## Endoleak at Completion

---

Numerator: The number of EVAR procedures where there was an endoleak at completion.

Denominator: The total number of EVAR procedures.

---

## Endoleak Type

---

Numerator: The number of X Endoleak Type.

Denominator: The total number of EVAR procedures where there was an Endoleak at Completion.

---

## Ever Smoked (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient smoked any time in their life.

Denominator: The total number of discharges with an elective VS or carotid procedure.

Exclusion from numerator and denominator: Death during procedure, death post-procedure, or death at discharge.

---

## Ever Smoked

---

Numerator: The number of discharges with an elective VS procedure where the patient smoked at any time during their life.

Denominator: The total number of discharges with an elective VS procedure.

---

## Exercise Counseling at DC (PAD)

---

Numerator: The number of discharges containing an open bypass procedure where the patient received exercise counseling or education.

Denominator: The number of discharges containing an open bypass procedure.

Exclusions:

- Death in OR or post procedure
- Discharges with Wheelchair or Bedridden entered for Ambulation pre procedure.

---

## Female Gender

---

Numerator: The number of discharges with a VS procedure where the patient is female.

Denominator: The total number of discharges with a VS procedure.

---

## Fluoro Time (Fenestrated Graft)

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Average and standard deviation calculations of fluoroscopy time reported in minutes for all EVAR procedures where a fenestrated graft was implanted.

---

## Fluoro Time (Ruptured AAA)

---

Average and standard deviation calculations of fluoroscopy time reported in minutes for all EVAR procedures performed for ruptured AAA repair.

---

## Fluoro Time

---

Average and standard deviation calculations of fluoroscopy time reported in minutes for all EVAR procedures.

Exclusions:

- EVAR performed for Ruptured AAA repair
- Fenestrated EVAR procedure

---

## Forms Completed

---

Numerator: The number of VS follow-up forms that were completed, as of the date the report was run, with a sufficient number of responses to be deemed complete.

Denominator: The number of VS follow-up Forms Due.

Note:

- A completed form is defined as one in which at least the Current Living Status and four other fields are marked with a response other than 'Not Documented'.
- A discharge status of Death or Current Living Status of Dead will exclude the discharge from the numerator and denominator.

**30 Day Follow-up Form Completed Goal is  $\geq 80\%$**

**1-Year Follow-up Form Completed Goal is  $\geq 90\%$**

---

## Forms Due

---

The number of follow-up forms due, as of the date the report is generated.

At 30 days: The numerator is the total number of VS follow-up forms due in the given time period. The denominator is the total number of VS discharges in the given time period. A discharge status of Death excludes the form from the numerator and denominator.

At 1 year: The numerator is the total number of VS follow-up forms due in the given time period. The denominator is the total number of VS discharges in the given time period. A discharge status of Death or Current Living Status of Dead on the 30-day follow-up form excludes the form from the numerator and denominator.

See the [Forms Completed](#) definition for the definition of a completed form.

---

## Glucose (> 180)

---

Numerator: The number of PAD open bypass procedures with an intraoperative Glucose (peak) value >180.

Denominator: The total number of PAD open bypass procedures.

---

## Graft Body Diameter (EVAR)(mean, stdev)

---

The average (mean) and standard deviation of Graft Body Diameter for EVAR procedures.

Exclusion: EVAR procedures where a value for Graft Body Diameter is not entered.

---

## Graft Body Diameter (OAAA) (mean, stdev)

---

The average (mean) and standard deviation of Graft Body Diameter for Open AAA procedures.

Exclusion: Open AAA procedures where a value for Graft Body Diameter is not entered.

---

## Graft Configuration (EVAR)

---

Numerator: The number of EVAR procedures with X Graft Configuration.

Denominator: The total number of EVAR procedures.

---

## Graft Failure (Urgent/Emergent PAD Open Bypass)

---

Numerator: The number of discharges containing an urgent or emergent PAD open bypass procedure where a clot developed in the stent or graft within 30 days of the procedure end date. (This includes discharges where No is entered for Open Bypass Patent on the 30 day follow-up form).

Denominator: The total number of discharges containing an urgent or emergent PAD open bypass procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Graft Type (EVAR)

---

Numerator: The number of EVAR procedures that had X graft type implanted.

Denominator: The total number of EVAR procedures.

---

---

## Graft Not Utilized (type)

---

Numerator: The number of EVAR procedures where a graft was not implanted.

Denominator: The total number of EVAR procedures.

---

## Graft Type (OAAA)

---

Numerator: The number of Open AAA procedures that had X graft type implanted.

Denominator: The total number of Open AAA procedures where a graft was implanted.

---

## Graft Type (origin from femoral)

---

### Vein graft

---

Numerator: The number of open bypass procedures where a vein graft was implanted.

Denominator: The number of open bypass procedures.

Note: Only procedures with a graft origin in the common femoral or superficial femoral artery are included.

---

### Prosthetic

---

Numerator: The number of open bypass procedures where a prosthetic graft was implanted.

Denominator: The number of open bypass procedures.

Note: Only procedures with a graft origin in the common femoral or superficial femoral artery are included.

---

## Hypertension

---

Numerator: The number of discharges with a VS procedure where the patient has a history of hypertension.

Denominator: The total number of discharges with a VS procedure.

---

## Infection / Sepsis

---

Numerator: The number of discharges with a VS procedure where an infection/sepsis developed post-procedure and before discharge.

Denominator: The number of discharges with a VS procedure.

Note: Multiple Infection/Sepsis are only counted once per discharge.

---

## Infection/Sepsis (Prior to DC)

---

Numerator: The number of discharges with a VS procedure where an infection/sepsis developed post-procedure and before to discharge.

Denominator: The number of discharges with a VS procedure.

Note: Multiple Infection/Sepsis are only counted once per discharge.

---

## Source of Infection/Sepsis

---

Numerator: The number of X source of Infection/Sepsis.

Denominator: The number of discharges with a VS procedure where an infection developed post-procedure and before discharge.

---

## Inflow

---

### Aorto-Femoral

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in the Aorta and a Graft Insertion or Graft Insertion #2 in a Femoral artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Femoral-femoral

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in a Femoral artery and a Graft Insertion or Graft Insertion #2 also in a Femoral artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Axillary-femoral

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in an Axillary artery and a Graft Insertion or Graft Insertion #2 in a Femoral artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Other Inflow

---

Numerator: The number of Open Bypass procedures that have a graft implanted in the axillary, aorta, or iliac arteries and the distal end of the graft does not extend beyond the profunda femoris.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

## Intraoperative Graft Revision

---

Numerator: The number of Open Bypass procedures with a documented Intraoperative Graft Revision.

Denominator: The total number of Open Bypass procedures.

---

## Kerma Area Product (Gy.cm<sup>2</sup>)

---

Average and standard deviation calculations of Kerma Area Product reported in Gy.cm<sup>2</sup> for all EVAR procedures.

Exclusions:

- EVAR performed for ruptured AAA repair
  - Fenestrated EVAR procedure
- 

## Kerma Area Product Fenestrated Graft (Gy.cm<sup>2</sup>)

---

Average and standard deviation calculations of Kerma Area Product reported in Gy.cm<sup>2</sup> for all EVAR procedures where a fenestrated graft was implanted.

---

## Kerma Area Product Ruptured AAA (Gy.cm2)

---

Average and standard deviation calculations of Kerma Area Product reported in Gy.cm2 for all EVAR procedures performed for ruptured AAA repair.

---

## Length of Stay (mean, stdev)

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The average (mean) and standard deviation of length of stay for X procedure. Length of stay is calculated as date of discharge minus the date of admission.

---

## Length of Stay Post-op (mean, stdev)

---

The average (mean) and standard deviation of the length of stay post-op for X procedure. The length of stay post-op is calculated as the date of discharge minus the procedure end date of the first procedure within a discharge.

---

## MI (Follow-up report)

---

Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for an MI post-procedure.

Denominator: The number of completed VS follow-up forms.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## MRI/MRA (abnormal / performed)

---

Numerator: The number of X procedure that had an abnormal MRI/MRA pre procedure.

Denominator: The total number of X procedure where a MRI/MRA was performed pre procedure.

Note: Pre procedure = the imaging study was performed within 6 months prior to the procedure.

---

## Major Amputation (OT)

---

Numerator: The number of discharges containing an open thrombectomy procedure where an amputation was performed post-procedure on the same limb as the open thrombectomy within 30 days of the procedure end date.

Denominator: The total number of discharges containing an open thrombectomy procedure.

Note:

- Amputation is defined as amputation points of foot amputation, AKA, BKA, or hip disarticulation.
- BMC2 collects urgent and emergent open thrombectomy procedures only.

---

## Major Amputation (Planned) (X PAD Open Bypass)

---

Numerator: The number of discharges containing an X PAD Open Bypass procedure where an amputation was performed post-procedure on the same side as the open bypass.

Denominator: The total number of discharges containing an urgent or emergent PAD Open Bypass procedure.

Note:

- Amputation is defined as amputation points of foot amputation, AKA, BKA, or hip disarticulation.
- The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Male Gender

---

Numerator: The number of discharges with a VS procedure where the patient is male.

Denominator: The total number of discharges with a VS procedure.

---

## Maximum AAA Diameter (mean, stdev)

---

The average (mean) and standard deviation of Maximum AAA Diameter for X procedure.

Exclusions:

- Indication of iliac aneurysm repair only.
  - Maximum AAA Diameter value is not entered.
- 

## Myocardial Infarction (OT)

---

Numerator: The number of discharges containing an open thrombectomy procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an open thrombectomy procedure.

Note:

- BMC2 collects urgent and emergent open thrombectomy procedures only.
  - MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.
- 

## Myocardial Infarction (Prior to Discharge)

---

Numerator: The number of discharges with a VS procedure where a Myocardial Infarction (MI) occurred post-procedure and before discharge.

Denominator: The number of discharges with a VS procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## Myocardial Infarction (elective procedure)

---

Numerator: The number of discharges containing an Elective X procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an Elective X procedure.

Note:

- MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.
- The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Myocardial Infarction (in OR)

---

Numerator: The number of VS procedures where an MI occurred in the OR.

Denominator: The total number of VS procedures.

---

## Myocardial Infarction (urgent/emergent procedure)

---

Numerator: The number of discharges containing an Urgent or Emergent X procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an Urgent OR Emergent X procedure.

Note:

- MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.
- The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Myocardial Infarction Rate (Elective)

---

Numerator: The number of discharges containing an Elective EVAR, Open AAA, PAD Open bypass, CAS, or CEA procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an Elective EVAR, Open AAA, PAD Open bypass, CAS, or CEA procedure.

Note:

- MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.
- The first procedure in a discharge determines procedure status (elective, urgent, emergent).

---

## Myocardial Infarction Rate (Overall)

---

Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## Myocardial Infarction Rate (Urgent/Emergent)

---

Numerator: The number of discharges containing an Urgent or Emergent EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an Urgent or Emergent EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Note:

- MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.
- The first procedure in a discharge determines procedure status (elective, urgent, emergent)

---

## Myocardial Infarction Rate by Discharge Type

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### PAD/Open Bypass

---

Numerator: The number of discharges containing a PAD Open bypass procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing a PAD Open bypass procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

### AAA

---

Numerator: The number of discharges containing an EVAR or Open AAA procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an EVAR or Open AAA procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## CVOD

---

Numerator: The number of discharges containing a CAS or CEA procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing a CAS or CEA procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## Nephropathy Requiring Dialysis

---

Numerator: The number of discharges with a VS procedure where patient had acute or worsening renal failure, post procedure, which led to dialysis during the hospitalization.

Denominator: The total number of discharges with a VS or carotid procedure.

---

## New Opioid @ Discharge (VS)

---

Numerator: The number of discharges with X procedure where the patient was not taking an opioid at admission, but an opioid was prescribed at discharge.

Denominator: The total number of X procedure.

This section is broken out by specific procedure type:

- EVAR
- Open AAA
- Bypass
- Open Thrombectomy

---

## No Anti-Platelet at Discharge

---

Numerator: The number of CEA, CAS, or Open bypass procedures where at least one of the following medications was not prescribed or continued at discharge:

- Aspirin
- Clopidogrel (Plavix)
- Prasugrel (Effient)
- Ticagrelor (Brilinta)
- Cilostazol (Pletal)

Denominator: The total number of CEA, CAS, or Open bypass procedures.

Exclusions:

- Death during the procedure or post procedure
- The patient was discharged to Hospice, An Other Acute Care Hospital, or Left AMA
- A contraindication Aspirin and Plavix and none of the following medications were given:
  - Effient
  - Brilinta
  - Cilostazol
- Indication of Trauma

---

## No Statin At DC

---

Numerator: The number of discharges containing an open bypass procedure where a statin is not prescribed or continued at discharge.

Denominator: The total number discharges containing an open bypass procedures.

- Indication of trauma
- Discharge status of
  - Hospice
  - Death
  - Left Against Medical Advice
  - Other Acute Care

---

## No vein mapping before Elective LE OBP

---

This measure reports the outliers for the Vein mapping completed before elective LE OBP (P4P) measure.

Numerator: The number of elective lower extremity open bypass procedures where vein mapping was not performed before the procedure.

Denominator: The total number of elective lower extremity open bypass procedures.

Exclusions:

- Axillary-femoral, Axillary-bifemoral, aorto-bifemoral, and crossover femoral-femoral open bypass procedures.
- A redo open bypass performed during the same discharge.

---

## Obesity (PAD Open Bypass)

---

Numerator: The number of discharges containing a PAD open bypass procedure with a BMI > 30.

Denominator: The number of discharges containing a PAD open bypass procedure.

Note: BMI is defined as the patient's weight in kilograms divided by the square of the patient's height in meters. Note: height is captured in centimeters.

---

## Open AAA (transfusion)(VS Dashboard)

---

Numerator: The number of discharges containing an Open AAA procedure in which PRBCs are transfused post-operatively within 30 days of the procedure end date.

Denominator: The total number of discharges containing an open AAA procedure.

Note: Multiple transfusion given during a discharge are only counted once.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Open AAA Repair

---

Numerator: The number of discharges containing an Open AAA procedure.

Denominator: The total number of discharges containing an Open AAA or EVAR procedure.

---

## Open Bypass Patency

---

Numerator: The number of completed VS forms that have Yes is entered for "Open Bypass Patent".

Denominator: The number of completed VS forms that have Yes or No entered for "Open Bypass Patency".

---

## Open Bypass Pulses

---

Numerator: The number of completed VS follow-up forms in which "Open Bypass Pulses" has been selected.

Denominator: The number of completed VS follow-up forms that have an Open bypass procedure in the corresponding discharge.

---

## Method for Determining Graft Patency

---

Numerator: The number of completed VS follow-up forms in which the response for "Open Bypass Pulses" is X method for determining graft patency.

Denominator: The number of completed VS follow-up forms in which "Open Bypass Pulses" has been selected.

---

## Open Bypass Revision

---

Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for a graft revision.

Denominator: The number of completed VS follow-up forms that have an Open bypass procedure in the corresponding discharge.

---

## Surgical

---

Numerator: The number of completed VS forms in which the response for "Open Bypass Revision" is "Surgical".

Denominator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for a graft revision.

---

## Percutaneous

---

Numerator: The number of completed VS forms in which the response for "Open Bypass Revision" is "Percutaneous".

Denominator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for a graft revision.

---

## Open Thrombectomy

---

The number of VS discharges that contain an open thrombectomy procedure. The numerator and denominator are the same.

---

## Opioids @ Admission (VS)

---

Numerator: The number of discharges with X procedure where the patient is taking an opioid within 30 days of hospital admission.

Denominator: The total number of X procedure.

This section is broken out by specific procedure type:

- EVAR
  - Open AAA
  - Bypass
  - Open Thrombectomy
- 

## Opioids @ Discharge (VS)

---

Numerator: The number of discharges containing X procedure where an opioid is prescribed or continued at discharge.

Denominator: The total number of X procedure.

This section is broken out by specific procedure type:

- EVAR
- Open AAA
- Bypass
- Open Thrombectomy

---

## Outflow

---

### Femoral-Popliteal

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in a Femoral artery and a Graft Insertion or Graft Insertion #2 in a Popliteal artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Femoral-Tibial

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in a Femoral artery and a Graft Insertion or Graft Insertion #2 in a Tibial artery.

Denominator: The total number of Open Bypass Procedures where a graft was implanted.

---

### Popliteal-Tibial

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in a Popliteal artery and a Graft Insertion or Graft Insertion #2 in a Tibial artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Popliteal-Popliteal

---

Numerator: The number of Open Bypass procedures that have a Graft Origin in a Popliteal artery and a Graft Insertion or Graft Insertion #2 also in a Popliteal artery.

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### Other Outflow

---

Numerator: The number of Open Bypass procedures where the Graft Insertion or Graft Insertion #2 is an upper or lower extremity artery.

Exclusions from the numerator:

The Graft Origin is in the following arteries

- Common Femoral Artery
- Superficial Femoral Artery
- Popliteal Artery

Denominator: The total number of Open Bypass procedures where a graft was implanted.

---

### PAD Open Bypass (transfusion)(VS Dashboard)

---

Numerator: The number of discharges containing a PAD Open Bypass procedure in which a post-procedure transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing a PAD Open Bypass procedure.

Note: Multiple Transfusions given during a discharge are counted once.

Exclusion: Indication of Trauma

---

### PAD/Open Bypass Procedures

---

The numerator and denominator are the number of PAD open bypass procedures.

---

## Patient still taking opioid

---

Numerator: The number of completed 30-day VS follow-up forms where the patient is taking the same opioid as prescribed at discharge or is taking a new opioid/dose.

Denominator: The total number of completed 30-day VS follow-up forms.

---

## Same as discharge

---

Numerator: The number of completed 30-Day VS follow-up forms where the patient is taking the same opioid as was prescribed at discharge.

Denominator: The total number of completed 30-day VS follow-up forms where the patient is taking the same opioid as prescribed at discharge or is taking a new opioid/dose.

---

## New opioid/dose

---

Numerator: The number of completed 30-Day VS follow-up forms where the patient is taking a new opioid/dose.

Denominator: The total number of completed 30-day VS follow-up forms where the patient is taking the same opioid as prescribed at discharge or is taking a new opioid/dose.

---

## Patients Enrolled

---

The number of discharges containing a VS procedure. The numerator and denominator are the same.

---

## Pneumonia (elective procedure)

---

Numerator: The number of discharges containing an elective X procedure where an outcome of Infection/Sepsis (Pulmonary selected) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an elective X procedure.

Note:

- Pneumonia is not tracked on 30 day follow-up form.
- The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## **Pneumonia (urgent/emergent procedure)**

---

Numerator: The number of discharges containing an urgent or emergent X procedure where the outcome of Infection/Sepsis (Pulmonary selected) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an urgent or emergent X procedure.

Note:

- Pneumonia is not tracked on 30 day follow-up form.
- The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Post Creatinine Drawn - High Risk Patients (EVAR) Goal Graph

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For each hospital, compute the percentage of discharges containing an EVAR with a pre procedure creatinine  $\geq 1.5$  that had a post creatinine drawn. This is the same as the definition for [Post-Cr drawn for high risk patients \(EVAR\)](#) measure on the Vascular Surgery CIN age. Goal  $\geq 75\%$ .

---

## Post Procedure Nadir Hemoglobin (mean, stdev)

---

The average (mean) and the standard deviation for Post Procedure Nadir Hemoglobin values for discharges with a VS procedure.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Post-Cr drawn for high risk patients (EVAR)

---

Numerator: The number of discharges with an EVAR procedure where the first EVAR procedure has a pre-procedure creatinine  $\geq 1.5$  and either a post procedure peak creatinine value, discharge creatinine value or post-discharge creatinine value was entered.

Denominator: The number of discharges with an EVAR procedure in which the first EVAR procedure has a pre-procedure creatinine  $\geq 1.5$ .

Exclusions:

- Renal Failure Currently Requiring Dialysis
- Death during the procedure
- No contrast was used during the procedure
- CO2 is entered for contrast type

---

## Post-Op Myocardial Infarction Rate (Procedure end to 30 days)

---

Numerator: The number of discharges with an Elective Open AAA, EVAR, Open Bypass, CEA, or CAS procedure where a myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The total number of discharges with an Elective Open AAA, EVAR, Open Bypass, CEA, or CAS procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## Post-Op Myocardial Infarction Rate Goal Graph

---

For each hospital, compute the percentage of discharges with a post-op Myocardial Infarction. This is the same as the definition for Post-Op Myocardial Infarction (Procedure End to 30 Days) rate on the Vascular Surgery Key Indicators of Performance page. **Goal < 3.0%**.

---

## Pre Procedure BNP >100 pg/mL

---

Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure that have a Pre Procedure BNP level  $> 100$  pg/mL.

Denominator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

---

## Pre Procedure Hydration - High Risk Patients (EVAR)

---

Numerator: The number of discharges with an EVAR procedure that have a pre-procedure creatinine  $\geq 1.5$  and IV fluids (Saline, Lactated Ringer's, Other Hydration, or Sodium Bicarbonate) was administered pre procedure.

Denominator: The number of discharges with an EVAR procedure where the first EVAR procedure has a pre-procedure creatinine  $\geq 1.5$ .

Exclusions:

- Renal Failure Currently Requiring Dialysis
- Ruptured AAA

---

## Pre procedure Hgb (mean, stdev)

---

The average (mean) and standard deviation of the pre-procedure Hgb value for all discharges with a VS procedure.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Pre-Procedure Smoking Cessation (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented prior to the date of admission.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Physician Delivered Advice (VS and Carotid, Pre-Procedure)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the provider recommended the patient quit smoking prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Physician Delivered Advice (VS and Carotid, Pre-Procedure)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco the patient refused to quit smoking prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Nicotine Replacement Therapy (NRT) (VS and Carotid, Pre-Procedure)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pt Refused Nicotine Replacement Therapy (NRT) (VS and Carotid, Pre-Procedure)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused NRT prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Referral to Smoking Counseling Service (VS and Carotid, Pre-Procedure)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pt Refused Referral to Smoking Counseling Services (VS and Carotid, Pre-Procedure)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the patient refused the referral to a smoking counseling service prior to the date of admission.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pre-Procedure Smoking Cessation**

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented prior to the date of admission.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Physician Delivered Advice (Pre-Procedure)**

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the provider recommended the patient quit smoking prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pt Refused Physician Delivered Advice (Pre-Procedure)**

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the patient refused to quit smoking prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Nicotine Replacement Therapy (NRT) (Pre-Procedure)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the provider recommended NRT prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Nicotine Replacement Therapy (NRT) (Pre-Procedure)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the patient refused NRT prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Referral to Smoking Counseling Services (Pre-Procedure)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Referral to Smoking Counseling Service (Pre-Procedure)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, chews tobacco and the patient refused the referral to a smoking counseling service prior to the date of admission.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pre-procedure Anemia

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Anemia is measured by the World Health Organization definition. For men the threshold is 13, for women, it is 12.

Source <https://ada.com/hemoglobin-levels/#normal-hemoglobin-ranges-by-age>

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## All discharges with anemia

---

Numerator: The number of discharges that have a pre-procedure hemoglobin value of <13 for males, <12 for females for the first procedure in a discharge.

Denominator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass.

Exclusions:

- Ruptured AAA repair
  - Indication of Trauma
- 

## Transfused discharges with anemia

---

Numerator: The number of discharges containing an containing EVAR, Open AAA, or PAD Open bypass that have a pre-procedure hemoglobin value of <13 for males, <12 for females for the first procedure in a discharge and a transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing an containing EVAR, Open AAA, or PAD Open bypass where a transfusion of PRBCs was given within 30 days of the procedure end date.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Preadmission Living Location

---

Numerator: The number of discharges with a VS procedure with X Preadmission Living Location.

Denominator: The total number of discharges with a VS procedure.

---

## Prior CABG

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Numerator: The number of discharges with X procedure where a CABG was performed within 6 months prior to the EVAR.

Denominator: The total number of X procedure.

---

## Prior PCI

---

Numerator: The number of discharges with X procedure where a PCI was performed within 6 months prior to the EVAR.

Denominator: The total number of X procedure.

---

## Procedures

---

Numerator: The number of X procedures.

Denominator: The total number of VS procedures.

---

## Procedures EVAR

---

Numerator: The number of EVAR procedures. Denominator: The number of VS procedures.

---

## Procedures Open AAA

---

Numerator: The number of Open AAA procedures.

Denominator: The total number of VS procedures.

---

## Procedures Revasc / Bypass

---

Numerator: The number of Open Bypass procedures.

Denominator: The total number of VS procedures.

---

## Prosthetic Graft

---

Numerator: The number of Prosthetic Grafts for Open Bypass procedures.

Denominator: The total number of Open Bypass procedures.

---

## Prosthetic Graft Type

---

Numerator: The number of X Prosthetic Graft Type that was used for Open Bypass procedures.

Denominator: The total number of Open Bypass procedures where a Prosthetic Graft was implanted.

---

## Proximal Clamp Position

---

Numerator: The number of X proximal clamp positions for Open AAA procedures.

Denominator: The total number of Open AAA procedures.

---

## Race

---

Numerator: The number of discharges with a VS procedure of X race.

Denominator: The total number of discharges with a VS procedure.

---

## Readmission (Procedure end to 30 days, OT)

---

Numerator: The number of discharges containing an open thrombectomy procedure where the patient is readmitted to the hospital within 30 days of the procedure end date.

Denominator: The total number of discharges containing an open thrombectomy procedure.

Note: BMC2 only collects urgent and emergent open thrombectomy procedures.

---

## Readmission (Procedure end to 30 days, elective procedure)

---

Numerator: The number of discharges containing an elective X procedure where the patient is readmitted to the hospital within 30 days of the procedure end date.

Denominator: The total number of discharges containing an elective X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Readmission (Procedure end to 30 days, urgent/emergent procedure)

---

Numerator: The number of discharges containing an urgent or emergent X procedure where the patient is readmitted to the hospital within 30 days of the procedure end date.

Denominator: The total number of discharges containing an urgent or emergent X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Readmission - All Cause (Procedure end to 30 Days)

---

Numerator: The number of VS discharges that contain an Open Bypass, EVAR, OAAA, or Open Thrombectomy procedure where the patient is readmitted to the hospital for the following outcomes within 30 days of the procedure date.

- Lymph leak
- Wound infection/dehiscence
- Graft infection
- Anticoag complication
- Thrombectomy/lysis

Denominator: The total number of VS discharges that contain an Open Bypass, EVAR, OAAA, or Open Thrombectomy procedure.

---

## Readmission at 30 days (all cause)

---

Numerator: The number of discharges with an Elective Open Bypass, EVAR, or Open AAA procedure that have a readmission to the hospital for lymph leak, wound infection/dehiscence, graft infection, anticoag complication or thrombectomy/lysis within 30 days of the procedure end date.

Denominator: The total number of discharges with an Elective Open Bypass, EVAR, or Open AAA procedure.

---

## Readmission for SSI (Procedure end to 30 Days)

---

Numerator: The number of discharges with an elective OAAA, EVAR, or Open Bypass procedure that have Readmission to Hospital for a graft infection or wound infection/dehiscence that is within 30 days of the procedure end date.

Denominator: The total number of discharges with an Elective OAAA, EVAR, or Open Bypass procedure.

Note: For discharges with multiple procedures, the discharge is included in the numerator and denominator if the first VS procedure (OAAA, EVAR, Open Bypass) in the discharge is an Elective procedure.

---

## Readmissions (Follow-up)

---

Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital.

Denominator: The number of completed VS follow-up forms.

---

## Reason for Readmission to Hospital

---

Numerator: The number of completed VS follow-up forms that have X entered as a reason for Readmission to Hospital.

Denominator: The number of completed VS follow-up forms where the patient was readmitted to the hospital.

---

## Redo Procedure (PAD Open Bypass)

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Numerator: The number of PAD open bypass Redo Procedures.

Denominator: The total number of PAD open bypass procedures.

---

## Renal Failure (elective procedure)

---

Numerator: The number of discharges containing an Elective X procedure where there is an outcome of renal failure or dialysis within 30 days of the procedure end date.

Denominator: The total number of discharges containing an elective X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

## Renal Failure (urgent/emergent procedure)

---

Numerator: The number of discharges containing an urgent or emergent X procedure where an outcome of renal failure or dialysis occurred within 30 days of the procedure end date.

Denominator: The total number of discharges containing an urgent or emergent X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

---

---

## Renal Failure/dialysis (Follow-up report)

---

Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for renal failure or a new requirement of dialysis post-procedure.

Denominator: The number of completed VS follow-up forms.

Note: Renal failure/dialysis report at 30 days only.

---

## Rest Pain (PAD Open Bypass)

---

Numerator: The number of PAD open bypass procedures that were performed for the indication of rest pain.

Denominator: The total number of PAD open bypass procedures.

Note: A procedure can have more than one indication.

---

## Rest Pain

---

Numerator: The number of Open Bypass procedures where the patient presented with Rest Pain.

Denominator: The total number of Open Bypass procedures.

Note: There can be multiple indications per procedure.

---

## Ruptured AAA

---

Numerator: The number of X procedures with a Ruptured AAA repair.

Denominator: The total number of X procedures.

---

## SSI Rate (Procedure end to 30 days)

---

Numerator: The number of discharges with an Elective Open AAA, EVAR or Open Bypass procedure that have a post procedure outcome of graft infection or Wound site infection within 30 days of the procedure end date.

Denominator: The total number of discharges with an Elective Open AAA, EVAR, or Open Bypass procedure.

Note: For discharges with multiple procedures, the discharge is included in the numerator and denominator if the first VS procedure (OAAA, EVAR, Open Bypass) in the discharge is an Elective procedure.

---

## Skin Prep Type

---

Note: A procedure may have more than one prep type entered.

---

### Iodine based

---

Numerator: The number of PAD open bypass procedures where the skin was prepped with Iodine or Iodine and alcohol.

Denominator: The total number of PAD open bypass procedures.

Note: A procedure can have more than one skin prep.

---

### Chlorhexidine based

---

Numerator: The number of PAD open bypass procedures where the skin was prepped with Chlorhexidine or Chlorhexidine and

Denominator: The total number of PAD open bypass procedures.

Note: A procedure can have more than one skin prep.

---

## Chlorhexidine and Iodine

---

Numerator: The number of PAD open bypass procedures where the skin was prepped with Chlorhexidine and iodine.

Denominator: The total number of PAD open bypass procedures.

Note: A procedure can have more than one skin prep.

---

## Smokers receive smoking cessation tx prior to dc (P4P)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented before the hospital admission date, during the hospitalization or at the time of discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

**Goal:  $\geq 25\%$**

---

## Smokers receive smoking cessation tx prior to dc (P4P) Goal Graph

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Smokers receive smoking cessation tx prior to dc (P4P) - Goal  $\geq 25\%$

For each hospital, calculate the percentage of discharges meeting the EVAR Opioid at discharge criteria. This is the same as the definition for Smokers receive smoking cessation tx prior to dc (P4P)<sub>measure</sub> on the Vascular Surgery Key Indicators of Performance page.

**Goal  $\geq 25\%$**

---

## Smoking (Follow-up)

---

Numerator: The number of completed VS follow-up forms for an elective VS procedure where the patient smoked cigarettes, cigars, pipe, or chewed tobacco within one month of hospital admission and is still smoking during follow-up.

Denominator: The number of completed VS follow-up forms for an elective VS procedure where the patient smoked cigarettes, cigars, pipe or chewed tobacco within one month of hospital admission and either Yes or No is entered for Smoking on the follow-up form.

---

## Smoking Cessation (VS and Carotid)

---

The Smoking Cessation section combines Pre-procedure Smoking Cessation and Smoking Cessation at Discharge.

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented before the hospital admission date, during the hospitalization or at the time of discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Physician Delivered Advice (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Physician Delivered Advice (VS and carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused to quit smoking prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission, during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Nicotine Replacement Therapy (NRT) (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Nicotine Replacement Therapy (NRT)(VS and carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused NRT prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission, during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Referral to Smoking Counseling Services (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Referral to Smoking Counseling Services (VS and Carotid)

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused the referral to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

---

## Smoking Cessation

---

The Smoking Cessation section combines Pre-procedure Smoking Cessation and Smoking Cessation at Discharge.

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented before the hospital admission date, during the hospitalization or at the time of discharge.

**Denominator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

**Exclusion:** Death during procedure, death post-procedure, or death at discharge.

---

## Physician Delivered Advice

---

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission, during the hospitalization or at discharge.

**Denominator:** The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

**Exclusion:** Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Physician Delivered Advice

---

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused to quit smoking prior to the date of admission, during the hospitalization or at discharge.

**Denominator:** The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking prior to the date of admission, during the hospitalization or at discharge.

**Exclusion:** Death during procedure, death post-procedure, or death at discharge.

---

## Nicotine Replacement Therapy (NRT)

---

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission, during the hospitalization or at discharge.

**Denominator:** The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

**Exclusion:** Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Nicotine Replacement Therapy (NRT)

---

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused NRT prior to the date of admission, during the hospitalization or at discharge.

**Denominator:** The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT prior to the date of admission, during the hospitalization or at discharge.

**Exclusion:** Death during procedure, death post-procedure, or death at discharge.

---

## Referral to Smoking Counseling Services

---

**Numerator:** The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pt Refused Referral to Smoking Counseling Services**

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused the referral to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Denominator: The total number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service prior to the date of admission, during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Smoking Cessation Since DC (Follow-up)**

---

Numerator: The number of completed VS follow-up forms for an elective VS procedure where the patient smoked cigarettes, cigars, pipe, or chewed tobacco within one month of hospital admission and the patient is not smoking during follow-up.

Denominator: The number of completed VS follow-up forms for an elective VS procedure where the patient smoked cigarettes, cigars, pipe or chewed tobacco within one month of hospital admission and either Yes or No is entered for Smoking on the follow-up form.

Exclusions: Not documented is entered for Smoking on the follow-up form.

---

## **Smoking Cessation at DC (VS and Carotid)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Physician Delivered Advice (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Pt Refused Physician Delivered Advice (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused to quit smoking during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## **Nicotine Replacement Therapy (NRT) (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Pt Refused Nicotine Replacement Therapy (NRT) (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused NRT during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Referral to Smoking Counseling Services (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Pt Refused Referral to Smoking Counseling Services (VS and Carotid, Discharge)**

---

Numerator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco the patient refused the referral to a smoking counseling service during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS or carotid procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Smoking Cessation at DC**

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Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and at least 2 of 3 smoking cessation interventions (Physician-delivered advice, Nicotine replacement therapy, Referral to smoking counseling services) were implemented during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Physician Delivered Advice (Discharge)**

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

### **Pt Refused Physician Delivered Advice (Discharge)**

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Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused to quit smoking during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended the patient quit smoking during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Nicotine Replacement Therapy (NRT) (Discharge)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Nicotine Replacement Therapy (NRT) (Discharge)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused NRT during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider recommended NRT during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Referral to Smoking Counseling Services (Discharge)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Pt Refused Referral to Smoking Counseling Services (Discharge)

---

Numerator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the patient refused the referral to a smoking counseling service during the hospitalization or at discharge.

Denominator: The number of discharges with an elective VS procedure where the patient currently smokes cigarettes, cigars, pipe, or chews tobacco and the provider referred the patient to a smoking counseling service during the hospitalization or at discharge.

Exclusion: Death during procedure, death post-procedure, or death at discharge.

---

## Statin (All procedures)(VS dashboard)

---

Numerator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure where the patient was taking a statin within 30 days of hospital admission.

Denominator: The number of discharges containing an EVAR, Open AAA, PAD Open bypass, Open thrombectomy, CAS, or CEA procedure.

Exclusion: A contraindication to a statin.

---

## Statin (X Procedure)(VS report)

---

Numerator: The number of discharges containing X procedure where the patient was taking a statin within 30 days of hospital admission.

Denominator: The number of discharges containing X procedure.

Exclusion: A contraindication to a statin.

---

## Statin (adm)

---

Numerator: The number of discharges with an OAAA, EVAR, or Open bypass procedure where the patient is taking a statin within 30 days of hospital admission.

Denominator: The total number of discharges with an OAAA, EVAR, or Open bypass procedure.

Exclusion: A contraindication to statins.

---

## Statin (dis)

---

Numerator: The number of discharges with an OAAA, EVAR, or open bypass procedure where a statin is ordered or continued at discharge.

Denominator: The total number of discharges with an OAAA, EVAR, or open bypass procedure.

Exclusions: A contraindication to statins.

---

## Statins (Follow-up report)

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Numerator: The number of completed VS follow-up forms that have Yes entered for statins AND the patient was discharged on a statin.

Denominator: The number of completed VS follow-up forms that have either Yes or No entered for statins AND the patient was discharged on a statin.

Exclusion: A contraindication to a statin.

---

## Stent / Graft Thrombosis (Prior to DC)

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Numerator: The number of discharges with a VS procedure where a Stent/Graft Thrombosis occurred post-procedure and before to discharge.

Denominator: The number of discharges with a VS procedure.

Note: Multiple Stent/Graft Thrombosis are only counted once per discharge.

---

## Unsuccessful

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Numerator: The number of Stent/Graft Thrombosis that were treated unsuccessfully.

Denominator: The number of discharges with a VS procedure where a Stent/Graft Thrombosis occurred post-procedure and before to discharge.

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## Stent/Graft Thrombosis (in OR)

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Numerator: The number of VS procedures where thrombus formed in a stent or graft during the procedure.

Denominator: The total number of VS procedures.

Note: For discharges with multiple procedures, stent/graft thrombosis is only counted once.

---

## Unsuccessful Stent/Graft Thrombosis

---

Numerator: The number of VS procedures where a thrombosis that formed in a stent or graft during the procedure was treated unsuccessfully.

Denominator: The total number of VS procedures where a thrombosis that formed in a stent or graft during the procedure.

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## Stress Test (MI)

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The number of discharges containing an EVAR, Open AAA, or PAD Open bypass, Open thrombectomy, CAS, or CEA procedures where a stress-test was performed within 6 months of the procedure.

Denominator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass, Open thrombectomy, CAS, or CEA bypass procedure.

---

## Stroke/Death/Myocardial Infarction (Procedure end to 30 days, CAS)

---

Numerator: The number of discharges containing a CAS procedure where a new stroke, death, or myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The number of discharges containing a CAS procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

---

## Stroke/Death/Myocardial Infarction (Procedure end to 30 days, CEA)

---

Numerator: The number of discharges containing a CEA procedure where a new stroke, death, or myocardial infarction (MI) occurred within 30 days of the procedure end date.

Denominator: The number of discharges containing a CEA procedure.

Note: MI includes Type 2 Myocardial Infarction, Type 1 NSTEMI or STEMI.

Exclusion: CEA performed concurrently with CABG.

---

## Stroke/TIA (Follow-up report)

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Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital for Stroke or TIA post-procedure.

Denominator: The number of completed VS follow-up forms.

---

## Subsequent Operations

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Numerator: The number of completed VS forms where the patient had subsequent operations related to the Open AAA repair.

Denominator: The number of completed VS follow-up forms with an Open AAA procedure in the corresponding discharge

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## Incision

---

Numerator: The number of completed VS forms in which the response for "Open AAA Subsequent Operations" is "Incision".

Denominator: The number of completed VS forms where the patient had subsequent operations related to the Open AAA repair.

Note: Incision = A subsequent procedure performed related to infection or hernia.

---

## Graft

---

Numerator: The number of completed VS forms in which the response for "Open AAA Subsequent Operations" is "Graft".

Denominator: The number of completed VS forms where the patient had subsequent operations related to the Open AAA repair.

Note: Graft = An additional procedure was performed related to infection, thrombosis, pseudo-aneurysm, or aortoenteric fistula.

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## Intestine

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Numerator: The number of completed VS forms in which the response for "Options for Open AAA Subsequent Operations" is "Intestine". Denominator: The number of completed VS forms where the patient had subsequent operations related to the Open AAA repair.

Note: Intestine = An additional procedure was performed related to bowel obstruction or aortoenteric fistula.

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## Leg Ischemia

---

Numerator: The number of completed VS forms in which the response for "Open AAA Subsequent Operations" is "Leg Ischemia". Denominator: The number of completed VS forms where the patient had subsequent operations related to the Open AAA repair.

Note: Leg ischemia = An additional procedure was performed related to thrombosis or embolism.

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## Symptomatic (X Procedure)

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Numerator: The number of X procedures that were performed for the indication of Abdominal/Back pain.

Denominator: The total number of X procedures.

---

## TIA / Stroke

---

Numerator: The number of discharges with a VS procedure where a patient had a TIA/Stroke post-procedure and before discharge.

Denominator: The number of discharges with a VS procedure.

Note: TIAs/-strokes are only counted once per discharge.

---

## TIA/stroke (Prior to DC)

---

Numerator: The number of discharges with a VS procedure where a patient had a TIA/Stroke post-procedure and before discharge.

Denominator: The number of discharges with a VS procedure.

Note: Multiple TIAs/-strokes are only counted once per discharge.

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## Temperature (< 36 deg)

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Numerator: The number of PAD open bypass procedures with an intraoperative Nadir body temperature < 36 degrees.

Denominator: The total number of PAD open bypass procedures.

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## Tissue Loss (PAD Open Bypass)

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Numerator: The number of PAD open bypass procedures where the procedure was performed for the indication of Ulcer / Gangrene OR a Wound (WIFI) grade was documented.

Denominator: The total number of PAD open bypass procedures.

---

## Total Elective Discharges (OAAA, EVAR, OBP, CEA, CAS)

---

Numerator: The number of discharges in which the first procedure is an Elective Open AAA, EVAR, Open Bypass, CEA, or CAS procedure.

Denominator: The number of discharges in which the first procedure is an Elective Open AAA, EVAR, Open Bypass, CEA, or CAS procedure.

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## Total X Procedure w/follow-up

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Numerator: The number of completed VS follow-up forms that have X procedure in the corresponding discharge.

Denominator: The number of VS follow-up forms that are due that have X procedure in the corresponding discharge.

---

## Transfusion (PRBC, in OR)(VS report)

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Numerator: The number of VS procedures where a patient had a Transfusion of PRBCs during the procedure.

Denominator: The total number of VS procedures.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

Note: For discharges with multiple procedures, transfusion is only counted once.

---

## Transfusion PRBC (all discharges)(VS report)

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Numerator: The number of discharges with an Open AAA, EVAR, or Open Bypass procedure in which a post-procedure transfusion of PRBCs was given.

Denominator: The number of discharges with an Open AAA, EVAR, or Open Bypass procedure.

Note: Multiple Transfusions given during a discharge are counted once.

Exclusions:

- Ruptured AAA repair
  - Indication of Trauma
- 

## Transfusion Rate (Elective)(VS Dashboard)

---

Numerator: The number of discharges containing an Elective Open AAA, EVAR, or Open Bypass procedure in which a post-procedure transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing an Elective Open AAA, EVAR, or Open Bypass procedure.

Note: Multiple Transfusions given during a discharge are counted once.

Exclusions:

- Ruptured AAA repair
  - Indication of Trauma
- 

## Transfusion Rate (Overall)(VS Dashboard)

---

Numerator: The number of discharges containing an Open AAA, EVAR, or PAD Open Bypass procedure in which a post-procedure transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing an Open AAA, EVAR, or PAD Open Bypass procedure.

Note: Multiple Transfusions given during a discharge are counted once.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Transfusion Rate (Urgent/Emergent)(VS Dashboard)

---

Numerator: The number of discharges containing an Urgent or Emergent Open AAA, EVAR, or Open Bypass procedure in which a post-procedure transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing an Urgent or Emergent Open AAA, EVAR, or Open Bypass procedure.

Note: Multiple Transfusions given during a discharge are counted once.

Exclusions:

- Ruptured AAA repair
- Indication of Trauma

---

## Transfusion when Asymptomatic with Hgb $\geq$ 8.0(Discharge Level)(VS Report)

---

Numerator: The number of discharges with an Elective Open AAA, EVAR, or Open Bypass procedure that have a transfusion of PRBCs within 30 days of the procedure end date, the value of the hemoglobin prior to transfusion is  $\geq$ 8.0, and the patient is asymptomatic before the transfusion.

Denominator: The number of discharges with an Elective Open AAA, EVAR, or Open Bypass procedure that have a transfusion of PRBCs within 30 days of the procedure end date.

Exclusions from the denominator:

- Ruptured AAA repair
- Indication of Trauma

---

## Transfusions (Follow-up report)

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Numerator: The number of completed VS follow-up forms where the patient was readmitted to the hospital and a Transfusion of PRBCs was given.

Denominator: The number of completed VS follow-up forms.

Note: Transfusion reported at 30 days only.

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## Ulcer / Gangrene (VS report)

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Numerator: The number of Upper Extremity Open Bypass procedures where Ulcer / Gangrene is entered as an indication to surgery and the number of Lower Extremity Open Bypass procedures that have Wound (WIFI) entered.

Denominator: The total number of upper extremity and lower extremity open bypass procedures.

Note: There can be multiple indications per procedure.

---

## Urgent/Emergent Procedure

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Numerator: The number of discharges containing an urgent or emergent X procedure.

Denominator: The total number of discharges containing an X procedure.

Note: The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).

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## Use of Lytic/Anticoagulant

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### All discharges with lytics

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Numerator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass procedure where heparin was given post procedure or lytics (Tissue Plasminogen Activator, Tenecteplase, Retavase) were given during the procedure or post procedure.

Denominator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass procedure.

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### Discharges with lytics and transfusion

---

Numerator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass procedure where heparin was given post procedure or lytics (Tissue Plasminogen Activator, Tenecteplase, Retavase) were given during the procedure or post procedure and a transfusion of PRBCs was given within 30 days of the procedure end date.

Denominator: The number of discharges containing an EVAR, Open AAA, or PAD Open bypass procedure where a transfusion of PRBCs was given within 30 days of the procedure end date.

Exclusions:

- Ruptured AAA
- Indication of Trauma

---

## VS and Carotid Forms Completed

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Numerator: The number of VS and carotid 1-year follow-up forms, as of the date the report was run, with Current Living Status and four other fields marked with a response other than 'Not documented.'

Denominator: The number of VS and carotid 1-year follow-up forms due.

Death prior to 1-year follow up is excluded from the numerator and denominator.

**Goal >=80%**

---

## Vascular Surgery Any Anti-Platelet at Discharge

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Numerator: The number of discharges with an Open Bypass, CEA, or CAS procedure where an antiplatelet was ordered or continued at discharge.

Denominator: The number of discharges containing an Open Bypass, CEA, or CAS procedure. **Goal: >95%.**

Antiplatelets included in this measure:

- Aspirin
- Clopidogrel (Plavix)
- Prasugrel (Effient)
- Ticlopidine (Ticlid)
- Ticagrelor (Brilinta)
- Cilostazol (Pletal)

Exclusions:

- Death during the procedure or post procedure
- The patient was discharge to Hospice, An Other Acute Care Hospital, or Left AMA
- A contraindication to the medications above
- Indication of Trauma

---

## Vascular Surgery Any Anti-Platelet at Discharge Goal Graph

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For each hospital, compute the percentage of discharges meeting the Any Anti-Platelet at discharge criteria . This is the same as the definition for Vascular Surgery Any Anti-Platelet at Discharge on the Vascular Surgery QI Goals page.

Goal  $\geq 95\%$

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## Vascular Surgery Statin at Discharge

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Numerator: Number of discharges with an Open Bypass, CEA, or CAS procedure where a statin was prescribed or continued at discharge.

Denominator: The total number of discharges with an Open Bypass, CEA, or CAS procedure.

Exclusions:

- An indication of peripheral aneurysm repair or trauma.
- The patient was discharged to an Other Acute Care Hospital or Left AMA.
- A death occurred during the procedure or after the procedure.
- A contraindication to a statin.

Goal  $>95\%$

---

## Vascular Surgery Statin at Discharge Goal Graph

---

For each hospital, compute the percentage of discharges meeting the Statin at discharge criteria . This is the same as the definition for Vascular Surgery Statin at Discharge on the Vascular Surgery Key Indictors of Performance page. Goal  $\geq 95\%$ .

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## Vein Graft

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Numerator: The number of Vein Grafts used for Open Bypass procedures.

Denominator: The total number of Open Bypass procedures.

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## Vein Graft Location

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Numerator: The number of X Vein Graft Location.

Denominator: The total number of Open Bypass procedures that had a Vein Graft.

---

## Vein mapping completed before elective LE OBP (P4P)

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Numerator: The number of elective lower extremity open bypass procedures where vein mapping was performed before the procedure.

Denominator: The total number of elective lower extremity open bypass procedures.

Exclusions:

- Axillary-femoral, Axillary-bifemoral, aorto-bifemoral, and crossover femoral-femoral open bypass procedures.
- A redo open bypass performed during the same discharge.

Goal:  $\geq 50\%$

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## Vein mapping completed before elective LE OBP (P4P) Goal Graph

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For each hospital, calculate the percentage of discharges meeting the vein mapping for lower extremity open bypass P4P criteria. This is the same as the definition for Vein mapping completed before elective LE OBP (P4P) on the Vascular Surgery Key Indicators of Performance page. Goal  $\geq 50\%$ .

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## Wound Closure

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Note: A procedure may have more than one wound closure.

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## Staples

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Numerator: The number of PAD open bypass procedures where staples were used to close the muscle, fascia, or skin.

Denominator: The total number of PAD open bypass procedures.

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## Suture (absorbable)

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Numerator: The number of PAD open bypass procedures where absorbable sutures were used to close the muscle, fascia, or skin.

Denominator: The total number of PAD open bypass procedures.

---

## Suture (permanent)

---

Numerator: The number of PAD open bypass procedures where permanent sutures were used to close the muscle, fascia, or skin.

Denominator: The total number of PAD open bypass procedures.

---

## Wound Complication Rate (Overall)

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Numerator: The number of discharges containing a PAD Open Bypass procedure where a Graft Infection or Wound Site Infection occurred within 30 days of the procedure end date.

Denominator: The number of discharges containing a PAD open bypass procedure.

Note: This measure includes Readmission to hospital for either Wound infection/dehiscence, Lymph Leak or Graft infection selected, or Wound Complication entered on the VS 30-day follow-up form.

---

## Wound Complication Rate (Elective)

---

Numerator: The number of discharges containing an elective PAD Open Bypass procedure where a Graft Infection or Wound Site Infection occurred within 30 days of the procedure end date.

Denominator: The number of discharges containing an elective PAD open bypass procedure.

Note:

- This measure includes Readmission to hospital for either Wound infection/dehiscence, Lymph Leak or Graft infection selected, or Wound Complication entered on the VS 30-day follow-up form.
  - The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).
- 

## Wound Complication Rate (Urgent/Emergent)

---

Numerator: The number of discharges containing an urgent or emergent PAD Open Bypass procedure where a Graft Infection or Wound Site Infection occurred within 30 days of the procedure end date.

Denominator: The number of discharges containing an urgent or emergent PAD open bypass procedure.

Note:

- This measure includes Readmission to hospital for either Wound infection/dehiscence, Lymph Leak or Graft infection selected, or Wound Complication entered on the VS 30-day follow-up form.
  - The first vascular surgery procedure in a discharge with multiple procedures of the same type will be used to determine procedure status (elective, urgent, emergent).
-