



**AHRQ Quality Indicators™ (AHRQ QI™)  
ICD-9-CM and ICD-10-CM/PCS  
Specification Enhanced Version 5.0**

**Inpatient Quality Indicators #11 (IQI #11)  
Abdominal Aortic Aneurysm (AAA)  
Repair Mortality Rate**

**October 2015  
Provider-Level Indicator  
Type of Score: Rate**

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## IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate

DESCRIPTION
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In-hospital deaths per 1,000 discharges with abdominal aortic aneurysm (AAA) repair, ages 18 years and older. Includes metrics for discharges grouped by type of diagnosis and procedure. Excludes obstetric discharges and transfers to another hospital.

*[NOTE: The software provides the rate per hospital discharge. However, common practice reports the measure as per 1,000 discharges. The user must multiply the rate obtained from the software by 1,000 to report in-hospital deaths per 1,000 hospital discharges.]*

### Stratification of Indicator

The indicator is stratified into four groups by 1) type of AAA repair (open vs. endovascular) and 2) AAA rupture status

Cases are assigned to strata according to a hierarchy based on mortality, with cases being assigned to the stratum with the highest mortality for which the case qualifies. In the case of AAA Repair Mortality the current hierarchy is as follows:

Strata hierarchy (listed from highest mortality to lowest mortality):

1. Stratum A (Open repair of ruptured AAA)
2. Stratum C (Endovascular repair of ruptured AAA)
3. Stratum B (Open repair of unruptured AAA)
4. Stratum D (Endovascular repair of unruptured AAA)

## **IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate**

### **NUMERATOR OVERALL**

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

**Note: The indicator is stratified into four groups by 1) type of AAA repair (open vs. endovascular) and 2) AAA rupture status**

### **NUMERATOR STRATUM A (Open repair of ruptured AAA)**

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

### **NUMERATOR STRATUM B (Open repair of unruptured AAA)**

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

### **NUMERATOR STRATUM C (Endovascular repair of ruptured AAA)**

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

### **NUMERATOR STRATUM D (Endovascular repair of unruptured AAA)**

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

### **IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate**

<b>NUMERATOR EXCLUSIONS</b>
<i>Not Applicable</i>

## IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate

### DENOMINATOR OVERALL

Overall:

Discharges, for patients ages 18 years and older, with the following

- any-listed ICD-9-CM or ICD-10-CM diagnosis codes for ruptured AAA and any-listed ICD-9-CM or ICD-10-PCS procedure code for open AAA repair; or
- any-listed ICD-9-CM or ICD-10-CM diagnosis codes for unruptured AAA and any-listed ICD-9-CM or ICD-10-PCS procedure codes for open AAA repair; or
- any-listed ICD-9-CM or ICD-10-CM diagnosis codes for ruptured AAA and any-listed ICD-9-CM or ICD-10-PCS procedure codes for endovascular AAA repair; or
- any-listed ICD-9-CM or ICD-10-CM diagnosis codes for unruptured AAA and any-listed ICD-9-CM or ICD-10-PCS procedure codes for endovascular AAA repair

#### *Un-ruptured AAA diagnosis code: (PRAAA2D)*

ICD-9-CM	Description	ICD-10-CM	Description
4414	ABDOM AORTIC ANEURYSM	I714	Abdominal aortic aneurysm, without rupture

#### *Ruptured AAA diagnosis codes: (PRAAARD)*

ICD-9-CM	Description	ICD-10-CM	Description
4413	RUPT ABD AORTIC ANEURYSM	I713	Abdominal aortic aneurysm, ruptured

#### *Open AAA repair procedure codes: (PRAAAP)*

ICD-9-CM	Description	ICD-10-PCS	Description
3834	AORTA RESECTION & ANAST	04500ZZ	Destruction of Abdominal Aorta, Open Approach
3844	RESECT ABDOM AORTA W REPL	04503ZZ	Destruction of Abdominal Aorta, Percutaneous Approach

3864	EXCISION OF AORTA	04504ZZ	Destruction of Abdominal Aorta, Percutaneous Endoscopic Approach
		04B00ZZ	Excision of Abdominal Aorta, Open Approach
		04B03ZZ	Excision of Abdominal Aorta, Percutaneous Approach
		04B04ZZ	Excision of Abdominal Aorta, Percutaneous Endoscopic Approach
		04R007Z	Replacement of Abdominal Aorta with Autologous Tissue Substitute, Open Approach
		04R00JZ	Replacement of Abdominal Aorta with Synthetic Substitute, Open Approach
		04R00KZ	Replacement of Abdominal Aorta with Nonautologous Tissue Substitute, Open Approach
		04R047Z	Replacement of Abdominal Aorta with Autologous Tissue Substitute, Percutaneous Endoscopic Approach
		04R04JZ	Replacement of Abdominal Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach
		04R04KZ	Replacement of Abdominal Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach

***Endovascular AAA repair procedure codes: (PRAAA2P)***

ICD-9-CM	Description	ICD-10-PCS	Description
3971	ENDO IMPL GRFT ABD AORTA	04U03JZ	Supplement Abdominal Aorta with Synthetic Substitute, Percutaneous Approach
3977	TEMPORARY (PARTIAL) THERAPEUTIC ENDOVASCULAR OCCLUSION OF VESSEL	04U04JZ	Supplement Abdominal Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach

3978	ENDOASCULAR IMPLANTATION OF BRANCHING OF FENESTRATED GRAFT(S) IN AORTA	04V03DZ	Restriction of Abdominal Aorta with Intraluminal Device, Percutaneous Approach
		04V04DZ	Restriction of Abdominal Aorta with Intraluminal Device, Percutaneous Endoscopic Approach

## IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate

### DENOMINATOR EXCLUSIONS

Exclude cases:

- transferring to another short-term hospital (DISP=2)
- MDC 14 (pregnancy, childbirth, and puerperium)
- with missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)



## **IQI #11 Abdominal Aortic Aneurysm (AAA) Repair Mortality Rate**

**Note: The indicator is stratified into four groups by 1) type of AAA repair (open vs. endovascular) and 2) AAA rupture status**

### **DENOMINATOR STRATA**

#### **DENOMINATOR STRATUM A (Open repair of ruptured AAA)**

Discharges, for patients ages 18 years and older, with any-listed ICD-9-CM or ICD-10-CM diagnosis code for ruptured AAA (see above) and any-listed ICD-9-CM or ICD-10-PCS procedure code for open AAA repair (see above).

#### **DENOMINATOR STRATUM B (Open repair of unruptured AAA)**

Discharges, for patients ages 18 years and older, with any-listed ICD-9-CM or ICD-10-CM diagnosis code for un-ruptured AAA (see above) and any-listed ICD-9-CM or ICD-10-PCS procedure code for open AAA repair (see above).

#### **DENOMINATOR STRATUM C (Endovascular repair of ruptured AAA)**

Discharges, for patients ages 18 years and older, with any-listed ICD-9-CM or ICD-10-CM diagnosis code for ruptured AAA (see above) and any-listed ICD-9-CM or ICD-10-PCS procedure code for endovascular AAA repair (see above).

#### **DENOMINATOR STRATUM D (Endovascular repair of unruptured AAA)**

Discharges, for patients ages 18 years and older, with any-listed ICD-9-CM or ICD-10-CM diagnosis code for un-ruptured AAA (see above) and any-listed ICD-9-CM or ICD-10-PCS procedure code for endovascular AAA repair (see above).