Table of Similar, or Competing Measures and those with potential for Harmonization

AAA Repair

AHRQ and Leapfrog measures have similar measure focus though view differently which combines volume and mortality (i.e., mortality vs. combined volume and mortality to predict survival) and use administrative/claims data; level of analysis for both is facility.

SVS measures have a focus similar to that of the AHRQ mortality measure and use registry data. Level of analysis can be at group, individual or facility level.

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
Status	Currently undergoing maintenance review Notes: 0357 and 0359 reported as a pair. Importance Y-10; N-11 related to lack of stratification; vote on remaining criteria pending developer response to requests related to methods changes for stratification by open and EVAR and RA model clarification. Developer asked to meet with SVS to harmonize or blend AAA measures	Currently undergoing maintenance review Notes: 0357 and 0359 reported as a pair Importance Y-10; N-11 related to lack of stratification; vote on remaining criteria pending developer response to requests related to methods changes for stratification by open and EVAR and RA model clarification. Developer asked to meet with SVS to harmonize or blend AAA measures	Endorsed 9/2010	Currently undergoing review Notes: Criteria met N- 11, Y-9; SC requests to permit further consideration addressed, remaining concern documentation and tracking of aneurysm size outside registry	Currently undergoing review Notes: Criteria met N-12, Y-9; SC requests to permit further consideration addressed, remaining concern documentation and tracking of aneurysm size outside registry
Steward	Agency for Healthcare Research and Quality	Agency for Healthcare Research and Quality	Leapfrog Group	Society for Vascular Surgery	Society for Vascular Surgery

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
Description	Count of discharges with a procedure code of provider-level AAA repair.	Percent of <u>adult hospital</u> discharges <u>in a one-year</u> <u>time period</u> with <u>a</u> procedure code of AAA repair <u>and a diagnosis of</u> <u>AAA</u> with an in-hospital death.	A reliability adjusted measure of AAA repair performance that optimally combines two important domains: AAA hospital volume and AAA operative mortality, to provide predictions on hospital AAA survival rates in patients age 18 and over.	Percentage of asymptomatic patients undergoing open repair of small abdominal aortic aneurysms (AAA) who die while in hospital. This measure is proposed for both hospitals and individual providers.	Percentage of patients undergoing elective endovascular repair of small asymptomatic abdominal aortic aneurysms (AAA) who die while in hospital. This measure is proposed for both hospitals and individual providers.
Type of Measure	Structure/management	Outcome	Outcome	Outcome	Outcome
Numerator	Discharges, age 18 years and older, with an abdominal aortic aneurysm repair procedure and a p <u>rincipal</u> rimary or secondary diagnosis of AAA. Time window: Time window can be determined by user, but is generally a calendar year. Note the volume- outcome estimates are based on one year of data.	Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator. Time window: Time window can be determined by user, but is generally a calendar year. <u>Note that the reliability</u> weights are calculated on one year of data.	Survival rate for patients age 18 and over without AAA rupture who undergo an AAA repair. Time Window: During the hospital admission	Mortality following elective open repair of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting	Mortality following elective endovascular AAA repair of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting
Numerator	Discharges, age 18 years	Number of deaths	For the observed	ANY registry that	A registry that includes

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534: In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open repair of small AAAs	of small AAAs
abdominal aortic	meeting the inclusion and	submits the observed	details, AAA diameter	AAA diameter and
aneurysm repair	exclusion rules for the	deaths for AAA cases in	and discharge status is	discharge status is
procedure and a	denominator.	patients without rupture	required to identify	required to identify
p <u>rincipalrimary or</u>		as identified using the	patients for numerator	patients for numerator
secondary diagnosis of		denominator and	inclusion. The Society for	inclusion. The Society for
AAA in any field.		exclusion codes.	Vascular Surgery	Vascular Surgery Vascular
			Vascular Quality	Quality Initiative (SVS
ICD-9-CM AAA			Initiative (SVS VQI) and	VQI) and the Vascular
procedure codes:			the Vascular Study	Study Group of New
3834			Group of New England	England (VSGNE)
AORTA RESECTION &			(VSGNE) are examples of	registries records such
ANAST			registries that record such	information. Patients who
3844			information but the	died in hospital following
RESECT ABDM AORTA			measure is not limited to	endovascular infrarenal
WREPL			these registries. Patients	AAA repair (EVAR) if
3864			who died in hospital	their asymptomatic
EXCISION OF AORTA			following elective open	aneurysm was repaired
3971			infrarenal AAA repair if	electively and was
ENDO IMPLANT OF			their aneurysm was	asymptomatic and small
GRAFT IN AORTA			asymptomatic and small	(< 6cm dia in men, <5.5
			(< 6cm dia in men, <5.5	cm dia in women, judged
ICD-9-CM AAA			cm dia in women, judged	by preoperative imaging
diagnosis codes:			by preoperative imaging	(CT, MR or ultrasound)).
4413			(CT, MR or ultrasound)).	
RUPT ABD AORTIC				
ANEURYSM				
4414				
ABDOM AORTIC				
ANEURYSM				
Exclude cases:				
MDC 14 (pregnancy,				

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
	childbirth, and puerperium)				
Denominator	N/A	Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. <u>The</u> <u>denominator may be</u> <u>stratified by open vs.</u> <u>endovascular procedures,</u> <u>and ruptured vs. un-</u> <u>ruptured AAA.</u> Time window: Time window can be determined by user, but is generally a calendar year.	All hospital patients age 18 and over without rupture who had an AAA repair. Time Window: 12 months	All elective open repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting	All elective endovascular repairs of asymptomatic AAAs in men with < 6 cm dia and women with < 5.5 cm dia AAAs. Time window: Lifetime for provider reporting, annual for hospital reporting
Denominator Categories	Female, Male; 18 and older	Female, Male; 18 and older		Female, Male; 18 years or older	Female, Male; 18 years or older
Denominator Details	N/A	Discharges, age 18 years and older, with ICD-9-CM AAA repair code procedure and a diagnosis of AAA in any field. <u>The</u> <u>denominator may be</u> <u>stratified by open vs.</u> <u>endovascular procedures,</u> <u>and ruptured vs. un-</u> <u>ruptured AAA.</u> ICD-9-CM AAA repair procedure codes:	For the volume predicted mortality, hospitals count the number of all AAA repair cases using the following procedure codes. ICD-9-CM Procedure Codes for AAA repair 3834 Aorta Resection & Anast 3844 Resection Abdominal Aorta with	ANY registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for denominator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) are examples of	A registry that includes hospitalization details, AAA diameter and discharge status is required to identify patients for denominator inclusion. The Society for Vascular Surgery Vascular Quality Initiative (SVS VQI) and the Vascular Study Group of New England (VSGNE) registries records such

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure0359: Abdominal aorticartery (AAA) repairmortality rate (IQI 11)3834AORTA RESECTION &ANAST3844RESECT ABDM AORTAW REPL3864EXCISION OF AORTA3971ENDO IMPLANT OFGRAFT IN AORTAICD-9-CM AAA diagnosiscodes:4413RUPT ABD AORTICANEURYSM4414ABDOM AORTIC	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA) replacement 3864 Excision of aorta 3925 Aorta-iliac-femoral bypass 3971 Endo Implant of Graft in Aorta For the observed mortality hospitals count the number of AAA repair cases that also have a diagnosis of unruptured AAA using the following codes. ICD-9CM Codes for AAA without rupture 441.4 Dissection of aorta aneurysm unspecified	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs registries that record such information but the measure is not limited to these registries. Patients who underwent elective open AAA repair are included if their aneurysm was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging (CT, MR or ultrasound)).	New Candidate Standard 1534: In-hospital mortality following elective EVAR of small AAAs information. Patients who underwent endovascular AAA repair are included if their aneurysm was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging).
	3864 EXCISION OF AORTA 3971 ENDO IMPLANT OF GRAFT IN AORTA ICD-9-CM AAA diagnosis codes: 4413 RUPT ABD AORTIC ANEURYSM 4414 ABDOM AORTIC	For the observed mortality hospitals count the number of AAA repair cases that also have a diagnosis of unruptured AAA using the following codes. ICD-9CM Codes for AAA without rupture 441.4 Dissection of aorta aneurysm unspecified	included if their aneurysm was asymptomatic and small (< 6cm dia in men, <5.5 cm dia in women, judged by preoperative imaging	cm dia in women, judged
	ANEURYSM Exclude cases: • missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) • transferring to another	site 441.7 Thoracoabdominal aneurysm without rupture 441.9 Aortic aneurysm of unspecified site without rupture		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
		 short-term hospital (DISP=2) MDC 14 (pregnancy, childbirth, and puerperium) 			
Exclusions	Numerator exclusions • MDC 14 (pregnancy, childbirth, and puerperium)	 Exclude cases: missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), quarter (DQTR=missing) or principal diagnosis (DX1 =missing) transferring to another short-term hospital (DISP=2) MDC 14 (pregnancy, childbirth, and puerperium) 	Patients with ruptured aneurysm or thoracoabdominal aneurysms.	> 6 cm minor diameter - men > 5.5 cm minor diameter - women Symptomatic AAAs that required urgent/emergent (non- elective) repair	> 6 cm diameter - men > 5.5 cm diameter - women Symptomatic AAAs that required urgent/emergent (non-elective) repair
Exclusion Details	This volume measure does not have a denominator.	 Exclude cases: missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing) transferring to another 	For the count of all AAA procedures exclude: 3845 Thoracoabdominal procedures. For the observed mortality domain, exclude all Thoracic Diagnosis Codes and dissection codes for AAA 441.0x General code	Patients undergoing non- elective open repair of symptomatic AAAs or those with AAAs larger than the diameters noted above.	Patients undergoing non- elective open repair of symptomatic AAAs or those with AAAs larger than the diameters noted above.

	Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
	0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
	aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
	volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
				repair of small AAAs	
		short-term hospital	441.1 Thoracic aneurysm		
		(DISP=2)	ruptured		
		• MDC 14 (pregnancy,	441.2 Thoracic aneurysm		
		childbirth, and	without rupture		
		puerperium)	441.3 Abdominal		
			aneurysm ruptured		
			441.5 Aortic aneurysm of		
			unspecified site ruptured		
			441.6 Thoracoabdominal		
			aneurysm ruptured.		
			Mortality Domain does		
			excludes thoracic		
			aneurysm Procedure		
			Code:		
			38.45 Resection of vessel		
			with replacement, other		
			thoracic vessels.		
Risk Adjustment	No risk adjustment	Risk adjustment method	We used an empirical	No risk adjustment	No risk adjustment
	necessary	widely or commercially	Bayes approach to	necessary	necessary
		available. The predicted	combine mortality rates		
		value for each case is	with information on		
		computed using a	hospital volume at each		
		hierarchical model	hospital. In traditional		
		(logistic regression with	empirical Bayes methods,		
		hospital random effect)	a point estimate (e.g.,		
		and covariates for gender,	mortality rate observed at		
		age in years (in 5-year age	a hospital) is adjusted for		
		groups), All Patient	reliability by shrinking it		
		Refined-Diagnosis Related	towards the overall mean		
		Group (APR-DRG) and	(e.g., overall mortality		
		APR-DRG risk-of-	rate in the population).		

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534: In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
	mortality subclass. The	We modified this		
	reference population used	traditional approach by		
	in the model is the	shrinking the observed		
	universe of discharges for	mortality rate back		
	states that participate in	toward the mortality rate		
	the HCUP State Inpatient	expected given the		
	Databases (SID) for the	volume at that hospital –		
	year 2007 (updated	we refer to this as the		
	annually), a database	"volume-predicted		
	consisting of 43 states and	mortality". With this		
	approximately 30 million	approach, the observed		
	adult discharges. The	mortality rate is weighted		
	expected rate is computed	according to how reliably		
	as the sum of the	it is estimated, with the		
	predicted value for each	remaining weight placed		
	case divided by the	on the information		
	number of cases for the	regarding hospital		
	unit of analysis of interest	volume [volume-		
	(i.e., hospital, state, and	predicted mortality].		
	region). The risk adjusted			
	rate is computed using	Risk adjustment for		
	indirect standardization as	patient characteristics is		
	the observed rate divided	not used because in		
	by the expected rate,	sensitivity analysis,		
	multiplied by the	composite measures		
	reference population rate.	based on an unadjusted		
	Risk adjustment factors:	mortality input and a		
	sex	risk-adjusted mortality		
	age 18-24; age 25-29; age	input had a correlation of		
	30-34; age 35-39; age 40-44;	(.95) and thus were		
	age 45-49; age 50-54; age	equally good at		
	55-59; age 60-64; age 65-69;	predicting future		

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair	Endorsed Measure 0736: Survival predictor for abdominal aortic	New Candidate Standard 1523: In- hospital mortality	New Candidate Standard 1534 : In-hospital mortality following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open repair of small AAAs	of small AAAs
	age 70-74; age 75-79; age 80-84; age 85+	performance.		
	each age category*female ADRG 1731 (other vascular procedures-	The formula for calculating the survival predictor has two		
	minor) ADRG 1732 (other vascular procedures- moderate) ADRG 1733 (other	components, one is a volume predicted mortality rate, and the second is an observed mortality rate.		
	vascular procedures- major) ADRG 1734 (other vascular procedures-	The volume predicted mortality rate reflects the hospitals experience		
	extreme) ADRG 1691 (major thoracic and abdominal vascular procedures-	performing AAA surgeries (thus, it includes all AAA surgeries) and uses		
	minor) ADRG 1692 (major thoracic and abdominal	mortality for all hospitals at that specific volume to create the volume		
	vascular procedures- moderate) ADRG 1693 (major	predicted mortality. The input data from the hospitals for this domain		
	thoracic and abdominal vascular procedures- major) ADRG 1694 (major	is a volume count of all AAAs performed in the hospital.		
	thoracic and abdominal vascular procedures- extreme ADRG 9999 (other)	The second domain is the observed mortality, for this domain the population is the group		

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534: In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open repair of small AAAs	of small AAAs
	MDC 5 (cardiovascular)	of AAA cases without		
	Transfer-in-status	rupture, the data needed		
		for this domain is the		
		number of observed		
		deaths occurring for		
		AAA cases without		
		rupture, within the		
		inpatient setting.		
		The general composite		
		measure calculation is as		
		follows:		
		Predicted Survival = 1-		
		Predicted Mortality		
		Predicted Mortality =		
		(weight)*(mortality) + (1-		
		weight)*(volume		
		predicted mortality)		
		Volume predicted		
		mortality* = intercept -		
		coefficient*ln(caseload),		
		where the intercepts and		
		coefficients are derived		
		from regression using the		
		NIS data and the caseload		
		comes from the Leapfrog		
		Hospital Survey (answer		
		to question #1 for each		
		high-risk procedure).		
		*Any negative values are		

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534: In-hospital mortality following elective EVAR of small AAAs
		reset to "0"Weight = mortality signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure).Method: We used an empirical Bayes approach to combine mortality rates with information on hospital volume at each hospital. In traditional empirical Bayes methods, a point estimate (e.g., mortality rate observed at a hospital) is adjusted for reliability by shrinking it towards the overall mean (e.g., overall mortality rate in the population). We modified this traditional approach by shrinking the observed		

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
		 mortality rate back toward the mortality rate expected given the volume at that hospital – we refer to this as the "volume-predicted mortality". With this approach, the observed mortality rate is weighted according to how reliably it is estimated, with the remaining weight placed on the information regarding hospital volume [volume- predicted mortality]. Risk adjustment for patient characteristics is not used because in sensitivity analysis, composite measures based on an unadjusted mortality input and a risk-adjusted mortality input had a correlation of (.95) and thus were equally good at predicting future performance. 		

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
		calculating the survival predictor has two components, one is a volume predicted mortality rate, and the second is an observed mortality rate.		
		The volume predicted mortality rate reflects the hospitals experience performing AAA surgeries (thus, it includes all AAA surgeries) and uses mortality for all hospitals at that specific volume to		
		create the volume predicted mortality. The input data from the hospitals for this domain is a volume count of all AAAs performed in the hospital.		
		The second domain is the observed mortality, for this domain the population is the group of AAA cases without rupture, the data needed for this domain is the		

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
		number of observed deaths occurring for AAA cases without rupture, within the inpatient setting.The general composite measure calculation is as follows: Predicted Survival = 1- Predicted MortalityPredicted Mortality = (weight)*(mortality) + (1- weight)*(volume predicted mortality)Volume predicted mortality* = intercept - coefficient*ln(caseload), where the intercepts and coefficients are derived from regression using the NIS data and the caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure). *Any negative values are reset to "0"		
		Weight = mortality		

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA) signal/(mortality signal + [mortality sigma/caseload]), where mortality signal and sigma are derived from the NIS data and the	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534: In-hospital mortality following elective EVAR of small AAAs
Stratification	The stratification of the	Gender, age (5-year age	caseload comes from the Leapfrog Hospital Survey (answer to question #1 for each high-risk procedure).	N/A	N/A
	 denominator for open vs. endovascular and ruptured vs. unruptured involve the following codes in the denominator specification: Abdominal Aortic Aneurysm Repair (PRAAAR) Volume Indicator IQI #4 Mortality (post-op) Indicator IQI #11 AAA Repair ICD-9-CM Procedure Codes: PROC FORMAT; OPEN VALUE \$PRAAARP 	groups), race / ethnicity, primary payer, custom The stratification of the denominator for open vs. endovascular and ruptured vs. unruptured involves the following codes in the denominator specification: Abdominal Aortic Aneurysm Repair (PRAAAR) Volume Indicator / IQI #4 Mortality (post-op) Indicator / IQI #11 AAA Repair ICD-9-CM Procedure Codes: PROC FORMAT			

Maintenance 0357: Abdom				New Candidate Standard 1534: In-hospital mortality
aneurysm (A volume (IQI			1 2	
3834 = 1 / ACRESECTION3844 = 1 / REABDM AOR3864 = 1 / EXAORTA/OTHER = 0ENDOVASCVALUE \$PR3971 = 1 / ENGRFT ABD AOTHER = 0Include OnlyICD-9-CM DECodes:RUPTUREDVALUE \$PR4413 = 1 / REAORTIC ANOTHER = 0UNRUPTURVALUE \$PR4414 = 1 / AEAORTIC ANOTHER = 0UNRUPTURVALUE \$PR4414 = 1 / AEAORTIC ANOTHER = 0The followingresults were awith the spectmodification:Table 1. Refer	& ANASTVALUE \$PRAAACSECT $3834 = 1 / AORTA$ FA W REPLRESECTION & ACISION OF $3844 = 1 / RESEC$ AORTA W REPL $3864 = 1 / RESEC$ AORTA W REPL $3864 = 1 / RESEC$ AORTA W REPL $3864 = 1 / RESEC$ ULARAORTA/AAA2POTHER = 0DO IMPLENDOVASCULAAORTA/VALUE \$PRAAA $3971 = 1 / ENDO IAAAGRFT ABD AORGagnosisOTHER = 0Include Only: AAICD-9-CM DiagneAAARDCodes:UPT ABDRUPTUREDEURYSM /VALUE $PRAAA4413 = 1 / RUPTAAA2DOTHER = 0BDOMUNRUPTUREDEURYSM /VALUE $PRAAA4414 = 1 / ABDONAORTIC ANEUROTHER = 0The following anaresults were achiethe specification$	A ANAST CT ABDM J ION OF AR AR A2P IMPL CTA/ AA hossis ARD ABD RYSM/ A2D M RYSM/ halytic ieved with		

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
Population Rate and				
Volume	Table 1. Reference			
Open, Ruptured Open,	Population Rate and			
Un-ruptured	Volume Open, Ruptured			
Endovascular,	Open, Un-ruptured			
Ruptured Endovascular,	Endovascular, Ruptured			
Un-ruptured Original	Endovascular, Un-			
(Composite)	ruptured			
Population Rate	Original(Composite)			
2004 39.04% 4.43%	Population Rate			
29.11% 1.05% 6.09%	2004 39.04% 4.43% 29.11%			
2005 41.10% 4.45%	1.05% 6.09%			
28.06% 1.03% 5.76%	2005 41.10% 4.45% 28.06%			
2006 41.11% 4.53%	1.03% 5.76%			
29.18% 0.93% 5.22%	2006 41.11% 4.53% 29.18%			
2007 39.77% 4.48%	0.93% 5.22%			
24.84% 1.16% 4.88%	2007 39.77% 4.48% 24.84%			
2008 38.27% 4.82%	1.16% 4.88%			
27.17% 1.02% 4.61%	2008 38.27% 4.82% 27.17%			
%Change -2.0% 8.5% -	1.02% 4.61%			
6.9% -2.9% -27.9%	%Change -2.0% 8.5% -6.9%			
Volume	-2.9% -27.9%			
2004 3,241 15,723 456	Volume			
17,438 36,768	2004 3,241 15,723 456			
2005 2,876 12,941 568	17,438 36,768			
19,981 36,292	2005 2,876 12,941 568			
2006 2,652 11,152 647	19,981 36,292			
22,778 37,156	2006 2,652 11,152 647			
2007 2,445 9,693 799	22,778 37,156			
25,101 37,970	2007 2,445 9,693 799 25,101			
2008 2,352 8,851 1,068	37,970			
28,103 40,293	2008 2,352 8,851 1,068			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
%Change -32.1% -57.5%	28,103 40,293			
85.1% 47.7% 9.2%	%Change -32.1% -57.5%			
Source: State Inpatient	85.1% 47.7% 9.2%			
Databases (SID),	Source: State Inpatient			
Healthcare Cost and	Databases (SID),			
Utilization Project	Healthcare Cost and			
(HCUP)	Utilization Project (HCUP)			
Table 2. Hospital	Table 2. Hospital			
Discrimination, 2008	Discrimination, 2008			
Open, Ruptured Open,	Open, Ruptured Open,			
Un-ruptured	Un-ruptured			
Endovascular,	Endovascular, Ruptured			
Ruptured Endovascular,	Endovascular,			
Un-ruptured Original	Un-ruptured			
(Composite)	Original(Composite)			
Hospitals 1,015 1,343 507	Hospitals 1,015 1,343 507			
1,439 1,711	1,439 1,711			
Best Performing 24.74%	Best Performing 24.74%			
10.20% 12.91% 0.00%	10.20% 12.91% 0.00%			
4.64%	4.64%			
Worst Performing 26.53%	Worst Performing 26.53%			
24.26% 39.11% 0.75%	24.26% 39.11% 0.75%			
5.52%	5.52%			
5th 32.15% 2.25% 20.14%	5th 32.15% 2.25% 20.14%			
0.16% 3.02%	0.16% 3.02%			
10th 33.42% 2.67%	10th 33.42% 2.67% 21.52%			
21.52% 0.24% 3.32%	0.24% 3.32%			
25th 35.60% 3.49%	25th 35.60% 3.49% 23.98%			
23.98% 0.46% 3.86%	0.46% 3.86%			
Median 38.14% 4.59%	Median 38.14% 4.59%			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534: In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
26.91% 0.84% 4.53%	26.91% 0.84% 4.53%			
75th 40.79% 5.90%	75th 40.79% 5.90% 30.08%			
30.08% 1.39% 5.27%	1.39% 5.27%			
90th 43.28% 7.27%	90th 43.28% 7.27% 33.14%			
33.14% 2.04% 6.00%	2.04% 6.00%			
95th 44.82% 8.18%	95th 44.82% 8.18% 35.06%			
35.06% 2.52% 6.47%	2.52% 6.47%			
Source: State Inpatient	Source: State Inpatient			
Databases (SID),	Databases (SID),			
Healthcare Cost and	Healthcare Cost and			
Utilization Project	Utilization Project			
(HCUP). Best performing	(HCUP). Best performing			
is below the median at	is below the median at			
95% probability; worst	95% probability; worst			
performing is above the	performing is above the			
median at 95%	median at 95% probability.			
probability.				
	Table 2A. Model			
Table 2A. Model	Covariates, 2008			
Covariates, 2008	Open, Ruptured Open,			
Open, Ruptured Open,	Un-ruptured			
Un-ruptured	Endovascular, Rupture			
Endovascular,	Endovascular,			
Ruptured Endovascular,	Un-ruptured			
Un-ruptured Original	Original(Composite)			
(Composite)	Frequency			
Frequency	N 2,284 8,729 1,038 27,989			
N 2,284 8,729 1,038 27,989	39,963			
39,963	Female 23.5% 27.3% 21.5%			
Female 23.5% 27.3%	17.8% 20.3%			
21.5% 17.8% 20.3%	18 - 24 0.0% 0.0% 0.0%			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
18 - 24 0.0% 0.0% 0.0%	0.0% 0.0%			
0.0% 0.0%	25 - 29 0.1% 0.1% 0.0%			
25 - 29 0.1% 0.1% 0.0%	0.0% 0.0%			
0.0% 0.0%	30 - 34 0.0% 0.1% 0.0%			
30 - 34 0.0% 0.1% 0.0%	0.0% 0.0%			
0.0% 0.0%	35 - 39 0.0% 0.1% 0.1%			
35 - 39 0.0% 0.1% 0.1%	0.0% 0.1%			
0.0% 0.1%	40 - 44 0.1% 0.5% 0.0%			
40 - 44 0.1% 0.5% 0.0%	0.1% 0.1%			
0.1% 0.1%	45 - 49 0.8% 0.9% 0.8%			
45 - 49 0.8% 0.9% 0.8%	0.3% 0.5%			
0.3% 0.5%	50 - 54 1.9% 2.4% 1.8%			
50 - 54 1.9% 2.4% 1.8%	1.2% 1.5%			
1.2% 1.5%	55 - 59 4.7% 6.3% 5.8%			
55 - 59 4.7% 6.3% 5.8%	3.5% 4.3%			
3.5% 4.3%	60 - 64 11.0% 12.5% 9.0%			
60 - 64 11.0% 12.5% 9.0%	9.4% 10.2%			
9.4% 10.2%	70 - 74 18.7% 21.4% 14.9%			
70 - 74 18.7% 21.4% 14.9%	20.1% 20.2%			
20.1% 20.2%	75 - 79 19.7% 20.5% 16.4%			
75 - 79 19.7% 20.5% 16.4%	22.2% 21.6%			
22.2% 21.6%	80 - 84 17.3% 11.5% 19.7%			
80 - 84 17.3% 11.5% 19.7%	17.3% 16.1%			
17.3% 16.1%	85 - high 10.0% 4.3% 16.8%			
85 - high 10.0% 4.3%	9.4% 8.5%			
16.8% 9.4% 8.5%	169-1 0.0% 26.7% 0.1%			
169-1 0.0% 26.7% 0.1%	0.6% 6.3%			
0.6% 6.3%	169-2 0.0% 30.2% 0.0%			
169-2 0.0% 30.2% 0.0%	1.1% 7.3%			
1.1% 7.3%	169-3 0.1% 21.1% 0.0%			
169-3 0.1% 21.1% 0.0%	0.5% 5.0%			
 0.5% 5.0%	169-4 88.4% 14.5% 6.2%			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
169-4 88.4% 14.5% 6.2%	0.4% 8.6%			
0.4% 8.6%	173-2 0.0% 0.0% 0.0%			
173-2 0.0% 0.0% 0.0%	35.1% 24.6%			
35.1% 24.6%	173-3 0.0% 0.0% 0.1% 7.6%			
173-3 0.0% 0.0% 0.1%	5.3%			
7.6% 5.3%	173-4 0.0% 0.0% 84.4%			
173-4 0.0% 0.0% 84.4%	2.3% 3.8%			
2.3% 3.8%	MDC 5 11.5% 7.5% 9.2%			
MDC 5 11.5% 7.5% 9.2%	2.1% 4.0%			
2.1% 4.0%	Transfer-in 14.5% 2.4%			
Transfer-in 14.5% 2.4%	18.5% 1.6% 2.9%			
18.5% 1.6% 2.9%	Source: State Inpatient			
Source: State Inpatient	Databases (SID),			
Databases (SID),	Healthcare Cost and			
Healthcare Cost and	Utilization Project			
Utilization Project	(HCUP). APR-DRG 169			
(HCUP). APR-DRG 169	(MAJOR THORACIC &			
(MAJOR THORACIC &	ABDOMINAL			
ABDOMINAL	VASCULAR			
VASCULAR	PROCEDURES); APR-			
PROCEDURES); APR-	DRG 173 (OTHER			
DRG 173 (OTHER	VASCULAR			
VASCULAR	PROCEDURES)			
PROCEDURES)				
	Table 2B. Model			
Table 2B. Model	Covariates, 2008			
Covariates, 2008	Open, Ruptured Open,			
Open, Ruptured Open,	Un-ruptured			
Un-ruptured	Endovascular, Ruptured			
Endovascular,	Endovascular,			
Ruptured Endovascular,	Un-ruptured Original			

0357 : <i>A</i> aneury	t enance Measure Abdominal aortic ysm (AAA) repair ne (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open	New Candidate Standard 1534 : In-hospital mortality following elective EVAR of small AAAs
Un-ru	ptured Original	(Composite)		repair of small AAAs	
(Comp	posite)	Odds Ratios			
Odds	Ratios	Female 1.116 1.063 1.548*			
Femal	e 1.116 1.063 1.548*	1.386* 1.143*			
1.386*	1.143*	18 - 24			
18 - 24	Ł	25 - 29			
25 - 29)	30 - 34			
30 - 34	Ł	35 - 39			
35 - 39)	40 - 44			
40 - 44	Ł	45 - 49 0.538 0.634 0.387			
45 - 49	0.538 0.634 0.387	50 - 54 0.445 0.483 1.761			
50 - 54	0.445 0.483 1.761	0.637			
0.637		55 - 59 0.547* 0.713 0.526			
55 - 59	0.547* 0.713 0.526	1.068 0.644*			
1.068 (0.644*	60 - 64 0.910 0.814 1.048			
60 - 64	0.910 0.814 1.048	1.613 0.999			
1.613 (0.999	70 - 74 1.721* 1.023 1.699			
70 - 74	1.721* 1.023 1.699	1.138 1.328*			
1.138 1	1.328*	75 - 79 1.804* 1.410 1.800*			
75 - 79	9 1.804* 1.410 1.800*	1.862* 1.569*			
1.862*	1.569*	80 - 84 2.941* 2.459* 2.346*			
80 - 84	ł 2.941* 2.459*	2.002* 2.499*			
2.346*	2.002* 2.499*	85 - high 4.225* 2.469*			
85 - hi	gh 4.225* 2.469*	2.052* 2.717* 3.006*			
2.052*	2.717* 3.006*	169-1 0.052* 41.786*			
169-1 (0.052* 41.786*	13.066*			
13.066	*	169-2 0.070* 15.660*			
169-20	0.070* 15.660*	13.998*			
13.998	;*	169-3 0.284* 71.019*			
169-3 (0.284* 71.019*	55.144*			
55.144	*	169-4 1.375* 2.372* 1.587			
169-4	1.375* 2.372* 1.587	173-2 1.576 1.470			

	Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
	0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534: In-hospital mortality
	aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
	volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open repair of small AAAs	of small AAAs
	173-2 1.576 1.470 173-3 32.328* 30.741*	173-3 32.328* 30.741* 173-4 0.789			
	173-4 0.789 MDC 5 1.000 1.000 1.000	MDC 5 1.000 1.000 1.000 1.000 1.000			
	1.000 1.000 Transfer-in 0.948 0.779	Transfer-in 0.948 0.779 1.011 1.824* 1.251*			
	1.011 1.824* 1.251* C-statistic 0.659 0.868	C-statistic 0.659 0.868 0.626 0.942 0.940			
	0.626 0.942 0.940	Source: State Inpatient			
	Source: State Inpatient Databases (SID),	Databases (SID), Healthcare Cost and			
	Healthcare Cost and Utilization Project	Utilization Project (HCUP); * - significant at			
	(HCUP); * - significant at p<.05	p<.05			
Type Score	Count	Rate/proportion		Rate/proportion	Rate/proportion
Algorithm	The volume is the number of discharges with a diagnosis of, and a procedure for AAA. <u>There are four volume</u> <u>strata: open vs.</u> <u>endovascular, and</u> <u>ruptured vs. un-</u> <u>ruptured.</u>	There are four rates calculated, one for each stratum (open vs. endovascular, ruptured vs. un-ruptured). Each stratum indicator is expressed as a rate, and is defined as outcome of interest / population at risk or numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs several steps to produce the rates. 1) Discharge- level data is used to		Identify denominator, exclude non-elective repair of symptomatic or ruptured patients and men with AAA >6 cm, and women with AAA >5.5, find number of deaths Outcome = deaths/ # cases	Identify denominator, exclude non-elective repair of symptomatic or ruptured patients and men with AAA >6 cm, and women with AAA >5.5, find number of deaths Outcome = deaths/ # cases

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
	identify inpatient records			
	containing the outcome of			
	interest and 2) the			
	population at risk. For			
	provider indicators, the			
	population at risk is			
	derived from hospital			
	<u>discharge records; 3)</u>			
	Calculate observed rates.			
	Using output from steps 1			
	and 2, rates are calculated			
	for user-specified			
	combinations of stratifiers.			
	4) Calculate expected			
	rates. Regression			
	coefficients from a			
	reference population			
	database are applied to the			
	discharge records and			
	aggregated to the provider			
	level. 5) Calculate risk-			
	adjusted rate. Use the			
	indirect standardization to			
	account for case-mix. 6)			
	Calculate smoothed rate.			
	<u>A multi-variate shrinkage</u>			
	factor is applied to the			
	risk-adjusted rates. The			
	shrinkage estimate reflects			
	a reliability adjustment			
	unique to each indicator			
	and hospital, and takes			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open repair of small AAAs	of small AAAs
	into account both the			
	signal (between provider	ļ		
	variance) and noise	ļ		
	(within provider variance)	ļ		
	for the indicator in each	ļ		
	stratum, but also the	ļ		
	covariance with the	ļ		
	indicators across stratum.	ļ		
	The smoothed rate is a	ļ		
	weighted average of the	ļ		
	hospital- and stratum-			
	specific risk-adjusted rate			
	and the volume- and	ļ		
	stratum-specific risk-	ļ		
	adjusted rate, where the	ļ		
	weight is the multi-variate	ļ		
	shrinkage factor; 7)	ļ		
	Calculate combined rate	ļ		
	across stratum. The	ļ		
	overall rate is a weighted	ļ		
	average of the stratum-			
	<u>specific rates. The</u>			
	"disease" weights are the			
	relative frequency of			
	ruptured and un-ruptured			
	cases in the reference			
	population. The			
	<u>"procedure" weights are</u>			
	the relative frequency of			
	open and endovascular			
	cases in the hospital. The			
	stratum weight is the		1	

Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IOI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IOI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open	New Candidate Standard 1534: In-hospital mortality following elective EVAR of small AAAs
aneurysm (AAA) repair volume (IQI 4)	mortality rate (IQI 11) disease weight multiplied by the procedure weight and the sum of weights across stratum is normalized to 1.0. Additional information on calculation algorithms and specifications can be found at http://qualityindicators.a hrq.gov/Downloads/Reso urces/Publications/2011/ QI%20Empirical%20Meth ods%2005-03-11.pdf Each indicator is expressed as a rate, is defined as outcome of interest / population at risk or numerator / denominator. The AHRQ Quality Indicators (AHRQ QI) software performs five steps to produce the rates. 1) Discharge level data is used to mark inpatient records containing the outcome of interest and 2)		hospital mortality following elective open repair of small AAAs	
	the population at risk. For provider indicators, the population at risk is also			

Maintenance Measure	Maintenance Measure	Endorsed Measure 0736:	New Candidate	New Candidate Standard
0357: Abdominal aortic	0359: Abdominal aortic	Survival predictor for	Standard 1523: In-	1534 : In-hospital mortality
aneurysm (AAA) repair	artery (AAA) repair	abdominal aortic	hospital mortality	following elective EVAR
volume (IQI 4)	mortality rate (IQI 11)	aneurysm (AAA)	following elective open	of small AAAs
			repair of small AAAs	
	derived from hospital			
	discharge records; for area			
	indicators, the population			
	at risk is derived from U.S.			
	Census data. 3) Calculate			
	observed rates. Using			
	output from steps 1 and 2,			
	rates are calculated for			
	user specified			
	combinations of stratifiers.			
	4) Calculate expected			
	rates. Regression			
	coefficients from a			
	reference population			
	database are applied to the			
	discharge records and			
	aggregated to the provider			
	or area level. 5) Calculate			
	risk adjusted rate. Use the			
	indirect standardization to			
	account for case mix. 6)			
	Calculate smoothed rate.			
	A Univariate shrinkage			
	factor is applied to the			
	risk adjusted rates. The			
	shrinkage estimate reflects			
	a reliability adjustment			
	unique to each indicator.			
	Full information on			
	calculation algorithms and			
	specifications can be found			
	at			

	Maintenance Measure 0357: Abdominal aortic aneurysm (AAA) repair volume (IQI 4)	Maintenance Measure 0359: Abdominal aortic artery (AAA) repair mortality rate (IQI 11)	Endorsed Measure 0736: Survival predictor for abdominal aortic aneurysm (AAA)	New Candidate Standard 1523: In- hospital mortality following elective open repair of small AAAs	New Candidate Standard 1534: In-hospital mortality following elective EVAR of small AAAs
		http://qualityindicators.a hrq.gov/IQI_download.ht m			
Data Source	Electronic administrative data/claims	Electronic administrative data/claims	Electronic administrative data/claims	Registry data	Registry data
Level of Measurement /Analysis	Facility/agency	Facility/agency	Facility/agency	Clinicians: Individual, group; Facility/agency; Can be measured at all levels	Clinicians: Individual, group; Facility/agency; Can be measured at all levels
Care Settings	Hospital	Hospital	Hospital	Hospital	Hospital