NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each subcriterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 0351 **NQF Project:** Surgery Endorsement Maintenance 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Death among surgical inpatients with serious, treatable complications (PSI 4)
De.2 **Brief description of measure:** Percentage of cases having developed specified complications of care with an in-hospital death.
1.1-2 **Type of Measure:** Outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** Not applicable
De.4 **National Priority Partners Priority Area:** Population health, Safety De.5 **IOM Quality Domain**: Effectiveness De.6 **Consumer Care Need:** Getting better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** Government entity and in the public domain - no agreement necessary A.4 **Measure Steward Agreement attached:**	**A** Y☐ N☐
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least	**B** Y☐

every 3 years. Yes, information provided in contact section	N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public Reporting, Quality Improvement (Internal to the specific organization)	C Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	D Y☐ N☐
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	Met Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. ***Measures must be judged to be important to measure and report*** *in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) **Specific NPP goal**:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** Pending update. This indicator was originally proposed by Silber et al.31 as a more powerful tool than the risk adjusted mortality rate to detect true differences in patient outcomes across hospitals. The underlying premise was that better hospitals are distinguished not by having fewer adverse occurrences but by more successfully averting death among (i.e., rescuing) patients who experience such complications. Silber et al's original definition was based on key clinical findings abstracted from the medical records of 2,831 cholecystectomy patients and 3,141 transurethral prostatectomy patients admitted to 531 hospitals in 1985. The key postoperative diagnoses that defined the denominator at risk of "failure to rescue" included cardiac arrhythmias, congestive heart failure, cardiac arrest, pneumonia, pulmonary embolus, pneumothorax, renal dysfunction, stroke, wound infection, and unplanned return to surgery. More recently, Needleman and Buerhaus137 adapted failure to rescue to administrative data sets, hypothesizing that this outcome might be sensitive to nurse staffing. Their denominator definition included the ICD-9-CM codes for sepsis, pneumonia (including aspiration), acute upper gastrointestinal bleeding, shock, cardiac/respiratory arrest, deep vein thrombosis (DVT), and pulmonary embolus (PE). 1a.4 **Citations for Evidence of High Impact:** Updated citations will be presented in the May Steering Committee meeting	1a C☐ P☐ M☐ N☐

Measures of Patient Safety Based on Hospital Administrative Data -
The Patient Safety Indicators, August 2002
http://qualityindicators.ahrq.gov/downloads/technical/psi_technical_review.zip

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Silber and colleagues have published a series of studies establishing the construct validity of failure to rescue rates through their associations with
hospital characteristics and other measures of hospital performance. Among patients admitted for cholecystectomy and transurethral prostatectomy, failure to rescue was independent of severity of illness at admission, but was significantly associated with the presence of surgical housestaff and a lower percentage of board-certified anesthesiologists.31 The adverse occurrence rate was independent of this hospital characteristic. In a larger sample of 74,647 patients who underwent general surgical procedures in 1991-92, lower failure to rescue rates were found at hospitals with high ratios of registered nurses to beds.68 Failure rates were strongly associated with risk adjusted mortality rates, as expected, but not with complication rates.143 Finally, among
16,673 patients admitted for coronary artery bypass surgery, failure rates were lower (whereas complication rates were higher) at hospitals with magnetic resonance imaging facilities, bone marrow transplantation units, or approved residency training programs.32 More recently, Needleman and Buerhaus137 confirmed that higher registered nurse staffing (RN hours/adjusted patient day) and better nursing skill mix (RN hours/licensed nurse hours) were consistently associated with lower failure to rescue rates among major surgery patients from 799 hospitals in 11 states in 1997, even using administrative data to define complications. An increase from the 25th to the 75th percentile on these two
measures of staffing was associated with 5.9% (95% CI, 1.5% to 10.2%) and 3.9% (95% CI, -1.1% to 8.8%) decreases, respectively, in the rate of failure-to-rescue among major surgery patients.138 These associations were inconsistent among medical patients, in that nursing skill mix was associated with the failure-to-rescue rate (rate ratio 0.81, 95% CI 0.66-1.00) but aggregate registered nurse staffing was not (rate ratio 1.00, 95% CI 0.99-1.01). An increase from the 25th to the 75th percentile on nursing skill mix was associated with a 2.5% (95% CI, 0.0% to 5.0%) decrease in the failure-to-rescue rate among medical patients.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
1) Signal Variance 2) Signal Standard Deviation 3) Better Than Average 4) Worse than Average (95% probability interval)

1) 0.000996672391 2) 0.031570118641 3) 1.89% 4) 3.92%

1b.3 Citations for data on performance gap:
AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million adult discharges

1b.4 Summary of Data on disparities by population group:
1) Estimate 2) Standard error 3) P-value: Relative to marked group-c 4) P-value:
2007 relative to 2006
Median income of patient´s ZIP code:
First quartile (lowest income) 107.685 0.446 0.000 0.000
Second quartile 106.520 0.514 0.000 0.000
Third quartile 103.842 0.541 0.423 0.000
Fourth quartile (highest income)c 103.204 0.583 0.000

Expected payment source:
Private insurancec 101.823 0.497 0.000
Medicare 103.325 0.362 0.015 0.000
Medicaid 110.349 0.684 0.000 0.000
Other insurance 114.903 1.368 0.000 0.303
Uninsured / self-pay / no charge 126.797 1.093 0.000 0.000

1b.5 Citations for data on Disparities:
AHRQ 2007 Nationwide Inpatient Sample (NIS) with 800 hospitals and 7 million discharges

1b
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N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Mortality is a frequent outcome among patients with serious treatable complications

1c.2-3. Type of Evidence: Expert opinion, Systematic synthesis of research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Silber and colleagues have published a series of studies establishing the construct validity of failure to rescue rates through their associations with
hospital characteristics and other measures of hospital performance. Among patients admitted for cholecystectomy and transurethral prostatectomy, failure to rescue was independent of severity of illness at admission, but was significantly associated with the presence of surgical housestaff and a lower percentage of board-certified anesthesiologists.31 The adverse occurrence rate was independent of this hospital characteristic. In a larger sample of 74,647 patients who underwent general surgical procedures in 1991-92, lower failure to rescue rates were found at hospitals with high ratios of registered nurses to beds.68 Failure rates were strongly associated with risk adjusted mortality rates, as expected, but not with complication rates.143 Finally, among 16,673 patients admitted for coronary artery bypass surgery, failure rates were lower
(whereas complication rates were higher) at hospitals with magnetic resonance imaging facilities, bone marrow transplantation units, or approved residency training programs.32

More recently, Needleman and Buerhaus137 confirmed that higher registered nurse
staffing (RN hours/adjusted patient day) and better nursing skill mix (RN hours/licensed nurse hours) were consistently associated with lower failure to rescue rates among major surgery patients from 799 hospitals in 11 states in 1997, even using administrative data to define complications. An increase from the 25th to the 75th percentile on these two measures of staffing was associated with 5.9% (95% CI, 1.5% to 10.2%) and 3.9% (95% CI, -1.1% to 8.8%) decreases, respectively, in the rate of failure-to-rescue among major surgery patients.138 These associations were inconsistent among medical patients, in that nursing skill mix was associated with the failure-to-rescue rate (rate ratio 0.81, 95% CI 0.66-1.00) but aggregate registered nurse staffing was not (rate ratio 1.00, 95% CI 0.99-1.01). An increase from the 25th to the 75th percentile on nursing skill mix was associated with a 2.5% (95% CI, 0.0% to 5.0%) decrease in the failure-to-rescue rate among medical patients.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
Testing, rating, and review were conducted by the project team. A full report on the literature review and empirical evaluation can be found in Refinement of the HCUP Quality Indicators by the UCSF-Stanford EPC, Detailed coding information for each QI is provided in the document Prevention Quality Indicators Technical Specifications. Rating of performance on empirical evaluations, ranged from 0 to 26. The scores were intended as a guide for summarizing the performance of each indicator on four empirical tests of precision (signal variance, area-level share, signal ratio, and R-squared) and five tests of minimum bias (rank correlation, top and bottom decile movement, absolute change, and change over two deciles), as described in the previous section.

1c.6 Method for rating evidence: The project team conducted empirical analyses to explore the frequency and variation of the indicators, the potential bias, based on limited risk adjustment, and the relationship between indicators. The data sources used in the empirical analyses were the 1997 Florida State Inpatient Database (SID) for initial testing and development and the 1997 HCUP State Inpatient Database for 19 States (referred to in this guide as the HCUP SID) for the final empirical analyses.

All potential indicators were examined empirically by developing and conducting statistical tests for precision, bias, and relatedness of indicators. Three different estimates of hospital performance were calculated for each indicator:

1. The raw indicator rate was calculated using the number of adverse events in the numerator divided by the number of discharges in the population at risk by hospital.

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N☐

2. The raw indicator was adjusted to account for differences among hospitals in age, gender, modified DRG, and comorbidities.

- Adjacent DRG categories that were separated by the presence or absence of comorbidities or complications were collapsed to avoid adjusting for the complication being measured. Most of the super-Major Diagnostic Category (MDC) DRG categories were excluded for the same reason.
- APR-DRG risk adjustment was not implemented because removing applicable complications from each indicator was beyond the scope of this project.
- The ICD-9-CM codes used to define comorbidity categories were modified to exclude conditions likely to represent potentially preventable complications in certain settings.
- "Acute on chronic" comorbidities were captured so that some patients with especially severe comorbidities would not be mislabeled as not having conditions of interest.
- Comorbidities in obstetric patients were added.
- 3. Multivariate signal extraction methods were applied to adjust for reliability by estimating the amount of "noise" (i.e., variation due to random error) relative to the amount of "signal" (i.e., systematic variation in hospital performance or reliability) for each indicator.

Similar reliability adjustment has been used in the literature for similar purposes.40 41 The project team constructed a set of statistical tests to examine precision, bias, and relatedness of indicators for all accepted Provider-level Indicators, and precision and bias for all accepted Area-level Indicators. It should be noted that rates based on fewer than 30 cases in the numerator or the denominator are not reported. This exclusion rule serves two purposes:

- It eliminates unstable estimates based on too few cases.
- It helps protect the identities of hospitals and patients.

1c.7 Summary of Controversy/Contradictory Evidence: Panelists expressed concern regarding patients with "do not resuscitate" (DNR) status. In cases where this DNR status is not a direct result of poor quality of care, it would be contrary to patient desire and poor quality of care to rescue a patient. In addition, very old patients?or patients with advanced cancer or HIV?may not desire or may be particularly difficult to rescue from these complications. As a result, this indicator definition was modified to exclude those patients age 75 years and older. In addition, panelists suggested the exclusion of patients admitted from long-term care facilities.

Panelists noted that several adverse incentives may be introduced by implementing this indicator. In particular, since some type of adjustment may be desirable, this indicator may encourage the upcoding of complications and comorbidities to inflate the denominator or manipulate risk adjustment. Others noted that this indicator could encourage irresponsible resource use and allocation, although this is likely to be a controversial idea. Finally, panelists emphasized that this indicator should be used internally by hospitals, as it is not validated for public reporting.

See the following for a complete treatment of the topic:
http://www.qualityindicators.ahrq.gov/downloads/psi/psi_guide_v31.pdf
Note: The Literature Review Findings column summarizes evidence specific to each potential concern on the link between the PQIs and quality of care, as described in step 3 above. A question mark (?) indicates that the concern is theoretical or suggested, but no specific evidence was found in the literature. A check mark indicates that the concern has been demonstrated in the literature.

1c.8 Citations for Evidence (*other than guidelines*): Updated citations will be presented in the May Steering Committee meeting

Silber JH, Williams SV, Krakauer H, Schwartz JS. Hospital and patient characteristics associated with death after surgery. A study of adverse occurrence and failure to rescue. Med Care 1992;30(7):615-29.
Silber J, Rosenbaum P, Ross R. Comparing the contributions of groups of predictors: Which outcomes vary with hospital rather than patient characteristics? J Am Stat Assoc 1995;90:7-18.
Silber JH, Rosenbaum PR, Williams SV, Ross RN, Schwartz JS. The relationship between choice of outcome measure and hospital rank in general surgical procedures: Implications for quality assessment. Int J Qual Health Care 1997;9(3):193-200.
Needleman J, Buerhaus PI, Mattke S, Stewart M, Zelevinsky K. Nurse Staffing and Patient Outcomes in Hospitals. Boston MA: Health Resources and Services Administration; 2001 February 28. Report No.:230-99-0021.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number*): Not applicable **1c.10 Clinical Practice Guideline Citation:** Not applicable **1c.11 National Guideline Clearinghouse or other URL:** Not applicable **1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom*):** Not applicable **1c.13 Method for rating strength of recommendation** (*If different from USPSTF system, also describe rating and how it relates to USPSTF)*: Not applicable **1c.14 Rationale for using this guideline over others:** Not applicable	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, met? **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	**Eval Rating**
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome*): All discharges with a disposition of "deceased" (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator. **2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator*):** Time window can be determined by user, but is generally a calendar year. **2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions*):** All discharges with a disposition of "deceased" (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured*): All surgical discharges age 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3) with potential complications of care listed in Death among Surgical definition (e.g., pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer). **2a.5 Target population gender:** Female **2a.6 Target population age range:** 18 and older **2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the***	**2a-specs** **C☐** **P☐** **M☐** **N☐**

denominator):
Time window can be determined by user, but is generally a calendar year.

2a.8 **Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
All surgical discharges age 18 years and older or MDC 14 (pregnancy, childbirth, and puerperium) defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure, principal procedure within 2 days of admission OR admission type of elective (ATYPE=3) with potential complications of care listed in Death among Surgical definition (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer).

See Patient Safety Indicators Appendices:
• Appendix A – Operating Room Procedure Codes
• Appendix D – Surgical Discharge DRGs
• Appendix E – Surgical Discharge MS-DRGs
PSI appendices at:
http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf:

FTR 2 - DVT/PE: Denominator
A diagnosis of pulmonary embolism or deep vein thrombosis in any secondary diagnosis field

ICD-9-CM Pulmonary Embolism and Deep Vein Thrombosis diagnosis codes:
Pulmonary Embolism
4151
PULMONARY EMBOLISM AND INFARCTION
41511
IATROGENIC PULMONARY EMBOLISM AND INFARCTION
41519
PULMONARY EMBOLISM AND INFARCTION, OTHER
Deep Vein Thrombosis
45111
PHLEBITIS AND THROMBOSIS OF FEMORAL VEIN (DEEP) (SUPERFICIAL)
45119
PHLEBITIS AND THROMBOPHLEBITIS OF DEEP VESSEL OF LOWER EXTREMITIES – OTHER
4512
PHLEBITIS AND THROMBOPHLEBITIS OF LOWER EXTREMITIES UNSPECIFIED
45181
PHLEBITIS AND THROMBOPHLEBITIS OF ILIAC VEIN
4519
PHLEBITIS AND THROMBOPHLEBITIS OF OTHER SITES - OF UNSPECIFIED SITE
45340
DVT-EMBLSM LOWER EXT NOS (OCT 04)
45341
DVT-EMB PROX LOWER EXT (OCT 04)
45342
DVT-EMB DISTAL LOWER EXT (OCT 04)
4538
OTHER VENOUS EMBOLISM AND THROMBOSIS OF OTHER SPECIFIED VEINS
4539
OTHER VENOUS EMBOLISM AND THROMBOSIS OF UNSPECIFIED SITE

FTR 3 – Pneumonia: Denominator
A diagnosis of pneumonia in any secondary diagnosis field

ICD-9-CM Pneumonia diagnosis codes:
4820
PNEUMONIA DUE TO KLEBSIELLA PNEUMONIAE
4821

PNEUMONIA DUE TO PSEUDOMONAS
4822
PNEUMONIA DUE TO HEMOPHILUS INFLUENZAE [H. INFLUENZAE]
4823
PNEUMONIA DUE TO STREPTOCOCCUS
48230
PNEUMONIA DUE TO STREPTOCOCCUS – STREPTOCOCCUS, UNSPECIFIED
48231
PNEUMONIA DUE TO STREPTOCOCCUS – GROUP A
48232
PNEUMONIA DUE TO STREPTOCOCCUS – GROUP B
48239
PNEUMONIA DUE TO STREPTOCOCCUS – OTHER STREPTOCOCCUS
4824
PNEUMONIA DUE TO STAPHYLOCOCCUS
48240
PNEUMONIA DUE TO STAPHYLOCOCCUS – PNEUMONIA DUE TO STAPHYLOCOCCUS, UNSPECIFIED
48241
METHICILLIN SUSCEPTIBLE PNEUMONIA DUE TO STAPHYLOCOCCUS AUREUS OCT08-
48242
METHICILLIN RESISTANT PNEUMONIA DUE TO STAPHYLOCOCCUS AUREUS OCT08-
48249
PNEUMONIA DUE TO STAPHYLOCOCCUS – OTHER STAPHYLOCOCCUS PNEUMONIA
4828
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA
48281
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA – ANAEROBES
48282
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA – EXCHERICHIA COLI [E COLI]
48283
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA – OTHER GRAM-NEGATIVE BACTERIA
48284
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA – LEGIONNAIRES´ DISEASE
48289
PNEUMONIA DUE TO OTHER SPECIFIED BACTERIA – OTHER SPECIFIED BACTERIA
4829
BACTERIAL PNEUMONIA UNSPECIFIED
485
BRONCHOPNEUMONIA, ORGANISM UNSPECIFIED
486
PNEUMONIA, ORGANISM UNSPECIFIED
5070
DUE TO INHALATION OF FOOD OR VOMITUS
514
PULMONARY CONGESTION AND HYPOSTASIS

FTR 4 – Sepsis: Denominator
A diagnosis of sepsis in any secondary diagnosis field

Include ICD-9-CM Sepsis diagnosis codes:
0380
STREPTOCOCCAL SEPTICEMIA
0381
STAPHYLOCOCCAL SEPTICEMIA
03810
STAPHYLOCOCCAL SEPTICEMIA, UNSPECIFIED
03811
METHICILLIN SUSCEPTIBLE STAPHYLOCOCCUS AUREUS SEPTICEMIA OCT08-

03812
METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS SEPTICEMIA OCT08-
03819
OTHER STAPHYLOCOCCAL SEPTICEMIA
0382
PNEUMOCOCCAL SEPTICEMIA (STREPTOCOCCUS PNEUMONIAE SEPTICEMIA)
0383
SEPTICEMIA DUE TO ANAEROBES
03840
GRAM-NEGATIVE ORGANISM, UNSPECIFIED
03841
HEMOPHILUS INFLUENZAE
03842
ESCHERICHIA COLI
03843
PSEUDOMONAS
03844
SERRATIA
03849
SEPTICEMIA DUE TO OTHER GRAM-NEGATIVE ORGANISMS
0388
OTHER SPECIFIED SEPTICEMIAS
0389
UNSPECIFIED SEPTICEMIA
78552
SEPTIC SHOCK OCT03-
78559*
SHOCK W/O MENTION OF TRAUMA- OTHER
99591
SYSTEMIC INFLAMMATORY RESPONSE SYNDROME DUE TO INFECTIOUS PROCESS W/O ORGAN DYSFUNCTION
99592
SYSTEMIC INFLAMMATORY RESPONSE SYNDROME DUE TO INFECTIOUS PROCESS W/ ORGAN DYSFUNCTION
9980
POSTOPERATIVE SHOCK
*No longer valid in FY2005

FTR 5 - Shock or Cardiac Arrest: Denomniator
A diagnosis of shock or cardiac arrest in any secondary field or any procedure for shock or cardiac arrest

Include ICD-9-CM Shock or Cardiac Arrest diagnosis codes:
4275
CARDIAC ARREST
6395
COMPLICATIONS FOLLOWING ABORTION AND ECTOPIC AND MOLAR PREGNANCIES, SHOCK
66910
SHOCK DURING OR FOLLOWING LABOR AND DELIVERY – UNSPECIFIED AS TO EPISODE OF CARE OR NOT APPLICABLE
66911
SHOCK DURING OR FOLLOWING LABOR AND DELIVERY – DELIVERED, W/ OR W/O MENTION OF ANTEPARTUM CONDITION
66912
SHOCK DURING OR FOLLOWING LABOR AND DELIVERY – DELIVERED, W/ MENTION OF POSTPARTUM COMPLICATION
66913
SHOCK DURING OR FOLLOWING LABOR AND DELIVERY – ANTEPARTUM CONDITION OR COMPLICATION
66914
SHOCK DURING OR FOLLOWING LABOR AND DELIVERY – POSTPARTUM CONDITION OR COMPLICATION
7855

SHOCK NOS
78550
SHOCK, UNSPECIFIED
78551
CARDIOGENIC SHOCK
78552
SEPTIC SHOCK OCT03-
78559
SHOCK W/O MENTION OF TRAUMA- OTHER
7991
RESPIRATORY ARREST
9950
OTHER ANAPHYLACTIC SHOCK
9954
SHOCK DUE TO ANESTHESIA
9980
POSTOPERATIVE SHOCK
9994
ANAPHYLACTIC SHOCK DUE TO SERUM
ICD-9-CM Shock or Cardiac Arrest procedure codes:
9393
NONMECHANICAL METHODS OF RESUSCITATION
9960
CARDIOPULMONARY RESUSCITATION, NOS
9963
CLOSED CHEST CARDIAC MASSAGE

FTR 6 - GI Hemorrhage/Acute Ulcer: Denominator
A diagnosis of hemorrhage or acute ulcer in any secondary field

ICD-9-CM GI Hemorrhage/Acute Ulcer diagnosis codes:
4560
ESOPHAGEAL VARICES W/ BLEEDING
45620
ESOPHAGEAL VARICES IN DISEASES CLASSIFIED ELSEWHERE W/ BLEEDING
5307
GASTROESOPHAGEAL LACERATION-HEMORRHAGE SYNDROME
53082
ESOPHAGEAL HEMORRHAGE
Gastric ulcer:
53100
ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53101
ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53110
ACUTE W/ PERFORATION – W/O MENTION OF OBSTRUCTION
53111
ACUTE W/ PERFORATION – W/ OBSTRUCTION
53120
ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53121
ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53130
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53131
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
53190
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF

OBSTRUCTION
53191
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
Duodenal ulcer:
53200
ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53201
ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53210
ACUTE W/ PERFORATION – W/O MENTION OF OBSTRUCTION
53211
ACUTE W/ PERFORATION – W/ OBSTRUCTION
53220
ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53221
ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53230
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53231
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
53290
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53291
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
Peptic ulcer:
53300
SITE UNSPECIFIED ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53301
SITE UNSPECIFIED ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53310
SITE UNSPECIFIED ACUTE W/ PERFORATION – W/O MENTION OF OBSTRUCTION
53311
SITE UNSPECIFIED ACUTE W/ PERFORATION – W/ OBSTRUCTION
53320
SITE UNSPECIFIED ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53321
SITE UNSPECIFIED ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53330
SITE UNSPECIFIED ACUTE W/O MENTION OF HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53331
SITE UNSPECIFIED ACUTE W/O MENTION OF HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53390
SITE UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53391
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
Gastrojejunal ulcer:
53400
ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53401
ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53410
ACUTE W/ PERFORATION – W/O MENTION OF OBSTRUCTION
53411
ACUTE W/ PERFORATION – W/ OBSTRUCTION
53420

ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53421
ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53430
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53431
ACUTE W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
53490
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/O MENTION OF OBSTRUCTION
53491
UNSPECIFIED AS ACUTE OR CHRONIC, W/O MENTION OF HEMORRHAGE OR PERFORATION – W/ OBSTRUCTION
Gastritis and duodenitis:
53501
ACUTE GASTRITIS – W/ HEMORRHAGE
53511
ATROPHIC GASTRITIS – W/ HEMORRHAGE
53521
GASTRIC MUCOSAL HYPERTROPHY – W/ HEMORRHAGE
53531
ALCOHOLIC GASTRITIS – W/ HEMORRHAGE
53541
OTHER SPECIFIED GASTRITIS – W/ HEMORRHAGE
53551
UNSPECIFIED GASTRITIS AND GASTRODUODENITIS – W/ HEMORRHAGE
53561
DUODENITIS – W/ HEMORRHAGE
53783
ANGIODYSPLASIA OF STOMACH AND DUODENUM – W/ HEMORRHAGE
53784
DIEULAFOY LESION (HEMORRHAGIC) OF STOMACH AND DUODENUM
56202
DIVERTICULOSIS OF SMALL INTESTINE – W/ HEMORRHAGE
56203
DIVERTICULITIS OF SMALL INTESTINE – W/ HEMORRHAGE
56212
DIVERTICULOSIS OF COLON – W/ HEMORRHAGE
56213
DIVERTICULITIS OF COLON – W/ HEMORRHAGE
5693
HEMORRHAGE OF RECTUM AND ANUS
56985
ANGIODYSPLASIA OF INTESTINE – W/ HEMORRHAGE
56986
DIEULAFOY LESION (HEMORRHAGIC) OF INTESTINE
5780
HEMATEMESIS
5781
BLOOD IN STOOL
5789
HEMORRHAGE OF GASTROINTESTINAL TRACT, UNSPECIFIED

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Exclude cases:
• age 90 years and older
• transferred to an acute care facility (DISP = 2)
• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing)

NOTE: Additional exclusion criteria is specific to each diagnosis (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer). See 2a.10.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
Exclude cases:
• age 90 years and older
• transferred to an acute care facility (DISP = 2)
• missing discharge disposition (DISP=missing), gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1 =missing)

NOTE: Additional exclusion criteria is specific to each diagnosis (pneumonia, DVT/PE, sepsis, shock/cardiac arrest, or GI hemorrhage/acute ulcer). See below for specifics.

FTR 2 - DVT/PE: Exclusions
• with a diagnosis of pulmonary embolism or deep vein thrombosis in the primary diagnosis field (Defined in 2a.8)
• with a diagnosis of abortion-related or postpartum obstetric pulmonary embolism in the primary diagnosis field

ICD-9-CM Abortion-related and Postpartum Obstetric Pulmonary Embolism diagnosis codes:
63460
SPONTANEOUS ABORTION W/ EMBOLISM - UNSPECIFIED
63461
SPONTANEOUS ABORTION W/ EMBOLISM - INCOMPLETE
63462
SPONTANEOUS ABORTION W/ EMBOLISM - COMPLETE
63560
LEGAL ABORTION W/ EMBOLISM - UNSPECIFIED
63561
LEGAL ABORTION W/ EMBOLISM - INCOMPLETE
63562
LEGAL ABORTION W/ EMBOLISM - COMPLETE
63660
ILLEGAL ABORTION W/ EMBOLISM - UNSPECIFIED
63661
ILLEGAL ABORTION W/ EMBOLISM - INCOMPLETE
63662
ILLEGAL ABORTION W/ EMBOLISM - COMPLETE
63760
ABORTION NOS W/ EMBOLISM - UNSPECIFIED
63761
ABORTION NOS W/ EMBOLISM - INCOMPLETE
63762
ABORTION NOS W/ EMBOLISM - COMPLETE
6386
ATTEMPTED ABORTION W/ EMBOLISM
6396
POSTABORTION EMBOLISM
67320
OBSTETRICAL BLOOD-CLOT EMBOLISM, UNSPECIFIED AS TO EPISODE OF CARE OR NOT APPLICABLE
67321
OBSTETRICAL BLOOD-CLOT EMBOLISM, DELIVERED, W/ OR W/O MENTION OF ANTEPARTUM CONDITION
67322
OBSTETRICAL BLOOD-CLOT EMBOLISM, DELIVERED, W/ MENTION OF POSTPARTUM COMPLICATION
67323
OBSTETRICAL BLOOD-CLOT EMBOLISM, ANTEPARTUM CONDITION OR COMPLICATION
67324

OBSTETRICAL BLOOD-CLOT EMBOLISM, POSTPARTUM CONDITION OR COMPLICATION

FTR 3 – Pneumonia: Exclusions
• with a diagnosis of pneumonia or respiratory complications in the primary diagnosis field (Defined in 2a.8)
• with any diagnosis code for viral pneumonia
• with any diagnosis of or procedure for immunocompromised state.
• MDC 4 (diseases/disorders of respiratory system)

See Patient Safety Indicators Appendices:
• Appendix I – Immunocompromised State Diagnosis and Procedure Codes
PSI appendices at:
http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf:

ICD-9-CM Respiratory Complications diagnosis code:
9973
RESPIRATORY COMPLICATIONS
ICD-9-CM Viral Pneumonia diagnosis codes:
4800
ADENOVIRAL PNEUMONIA
4801
RESPIRATORY SYNCYTIAL VIRAL PNEUMONIA
4802
PARAINFLUENZA VIRAL PNEUMONIA
4803
PNEUMONIA DUE TO SARS OCT03-
4808
VIRAL PNEUMONIA NOT ELSEWHERE CLASSIFIED
4809
VIRAL PNEUMONIA UNSPECIFIED
481
PNEUMOCOCCAL PNEUMONIA
4830
PNEUMONIA DUE TO MYCOPLASMA PNEUMONIAE
4831
PNEUMONIA DUE TO CHLAMYDIA
4838
PNEUMONIA DUE TO OTHER SPECIFIED ORGANISM
4841
PNEUMONIA IN CYTOMEGALIC INCLUSION DISEASE
4843
PNEUMONIA IN WHOOPING COUGH
4845
PNEUMONIA IN ANTHRAX
4846
PNEUMONIA IN ASPERGILLOSIS
4847
PNEUMONIA IN OTHER SYSTEMIC MYCOSES
4848
PNEUMONIA IN INFECTIOUS DISEASE NOT ELSEWHERE CLASSIFIED
4870
INFLUENZA W/ PNEUMONIA
4871
FLU W/ RESPIRATORY MANIFEST NOT ELSEWHERE CLASSIFIED
4878
FLU W/ MANIFESTATION NOT ELSEWHERE CLASSIFIED
488
FLU D/T AVIAN FLU VIRUS
4880

INFLUENZA DUE TO IDENTIFIED AVIAN INFLUENZA VIRUS OCT09-
4881
INFLUENZA DUE TO IDENTIFIED NOVEL H1N1 INFLUENZA VIRUS OCT09-

FTR 4 – Sepsis: Exclusions
• with a diagnosis of sepsis in the principal diagnosis field (Defined in 2a.8)
• with any diagnosis of infection
• with any diagnosis of or procedure for immunocompromised state
• with a length of stay of less than 4 days

See Patient Safety Indicators Appendices:
• Appendix F – Infection Diagnosis Codes
• Appendix I – Immunocompromised State Diagnosis and Procedure Codes
PSI appendices at:
http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf:

FTR 5 - Shock or Cardiac Arrest: Exclusions
• with a primary diagnosis of shock or cardiac arrest (Defined in 2a.8)
• with a primary diagnosis of trauma
• with a primary diagnosis of hemorrhage or GI hemorrhage
• with a primary diagnosis of abortion-related shock
• MDC 4 (diseases/disorders of respiratory system)
• MDC 5 (diseases/disorders of circulatory system)

See Patient Safety Indicators Appendices:
• Appendix G – Trauma Diagnosis Codes
PSI appendices at:
http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf:

ICD-9-CM Hemorrhage diagnosis codes:
2851
ACUTE POSTHEMORRHAGIC ANEMIA
4590
OTHER DISORDERS OF CIRCULATORY SYSTEM, HEMORRHAGE, UNSPECIFIED
56881
HEMOPERITONEUM (NONTRAUMATIC)
9582
CERTAIN EARLY COMPLICATIONS OF TRAUMA, SECONDARY AND RECURRENT HEMORRHAGE
99811
HEMORRHAGE COMPLICATING A PROCEDURE
ICD-9-CM Gastrointestinal (GI) Hemorrhage diagnosis codes:
4560
ESOPHAGEAL VARICES W/ BLEEDING
45620
ESOPHAGEAL VARICES IN DISEASES CLASSIFIED ELSEWHERE W/ BLEEDING
5307
GASTROESOPHAGEAL LACERATION – HEMORRHAGE SYNDROME
53082
ESOPHAGEAL HEMORRHAGE
53100
GASTRIC ULCER ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53101
GASTRIC ULCER ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53120
GASTRIC ULCER ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53121
GASTRIC ULCER ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53140

GASTRIC ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53141
GASTRIC ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/ OBSTRUCTION
53160
GASTRIC ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53161
GASTRIC ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53200
DUODENAL ULCER ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53201
DUODENAL ULCER ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53220
DUODENAL ULCER ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53221
DUODENAL ULCER ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53240
DUODENAL ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53241
DUODENAL ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/ OBSTRUCTION
53260
DUODENAL ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53261
DUODENAL ULCER CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53300
PEPTIC ULCER, SITE UNSPECIFIED, ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53301
PEPTIC ULCER, SITE UNSPECIFIED, ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53320
PEPTIC ULCER, SITE UNSPECIFIED, ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53321
PEPTIC ULCER, SITE UNSPECIFIED, ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53340
PEPTIC ULCER, SITE UNSPECIFIED, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53341
PEPTIC ULCER, SITE UNSPECIFIED, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/ OBSTRUCTION
53360
PEPTIC ULCER, SITE UNSPECIFIED, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53361
PEPTIC ULCER, SITE UNSPECIFIED, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53400
GASTROJEJUNAL ULCER, ACUTE W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53401
GASTROJEJUNAL ULCER, ACUTE W/ HEMORRHAGE – W/ OBSTRUCTION
53420
GASTROJEJUNAL ULCER, ACUTE W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53421
GASTROJEJUNAL ULCER, ACUTE W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53440
GASTROJEJUNAL ULCER, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/O MENTION OF OBSTRUCTION
53441
GASTROJEJUNAL ULCER, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE – W/ OBSTRUCTION
53460

GASTROJEJUNAL ULCER, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/O MENTION OF OBSTRUCTION
53461
GASTROJEJUNAL ULCER, CHRONIC OR UNSPECIFIED W/ HEMORRHAGE AND PERFORATION – W/ OBSTRUCTION
53501
GASTRITIS AND DUODENITIS, ACUTE GASTRITIS W/ HEMORRHAGE
53511
GASTRITIS AND DUODENITIS, ATROPHIC GASTRITIS W/ HEMORRHAGE
53521
GASTRITIS AND DUODENITIS, GASTRIC MUCOSAL HYPERTROPHY, W/ HEMORRHAGE
53531
GASTRITIS AND DUODENITIS, ALCOHOLIC GASTRITIS, W/ HEMORRHAGE
53541
GASTRITIS AND DUODENITIS, OTHER SPECIFIED GASTRITIS – W/ HEMORRHAGE
53551
GASTRITIS AND DUODENITIS, UNSPECIFIED GASTRITIS AND GASTRODUODENITIS – W/ HEMORRHAGE
53561
GASTRITIS AND DUODENITIS, DUODENITIS – W/ HEMORRHAGE
53783
OTHER SPECIFIED DISORDERS OF STOMACH AND DUODENUM, ANGIODYSPLASIA OF STOMACH AND DUODENUM – W/ HEMORRHAGE
53784
DIEULAFOY LESION (HEMORRHAGIC) OF STOMACH AND DUODENUM
56202
DIVERTICULOSIS OF SMALL INTESTINE – W/ HEMORRHAGE
56203
DIVERTICULITIS OF SMALL INTESTINE – W/ HEMORRHAGE
56212
DIVERTICULOSIS OF COLON – W/ HEMORRHAGE
56213
DIVERTICULITIS OF COLON – W/ HEMORRHAGE
5693
HEMORRHAGE OF RECTUM AND ANUS
56985
ANGIODYSPLASIA OF INTESTINE - W/ HEMORRHAGE
56986
DIEULAFOY LESION (HEMORRHAGIC) OF INTESTINE
5780
GASTROINTESTINAL HEMORRHAGE, HEMATEMESIS
5781
GASTROINTESTINAL HEMORRHAGE, BLOOD IN STOOL
5789
GASTROINTESTINAL HEMORRHAGE, HEMORRHAGE OF GASTROINTESTINAL TRACT, UNSPECIFIED
ICD-9-CM Abortion-related Shock diagnosis codes:
63450
SPONTANEOUS ABORTION W/ SHOCK - UNSPECIFIED
63451
SPONTANEOUS ABORTION W/ SHOCK - INCOMPLETE
63452
SPONTANEOUS ABORTION W/ SHOCK - COMPLETE
63550
LEGAL ABORTION W/ SHOCK - UNSPECIFIED
63551
LEGAL ABORTION W/ SHOCK - INCOMPLETE
63552
LEGAL ABORTION W/ SHOCK - COMPLETE
63650
ILLEGAL ABORTION W/ SHOCK - UNSPECIFIED

63651
ILLEGAL ABORTION W/ SHOCK - INCOMPLETE
63652
ILLEGAL ABORTION W/ SHOCK - COMPLETE
63750
ABORTION NOS W/ SHOCK - UNSPECIFIED
63751
ABORTION NOS W/ SHOCK - INCOMPLETE
63752
ABORTION NOS W/ SHOCK - COMPLETE
6385
ATTEMPTED ABORTION W/ SHOCK

FTR 6 - GI Hemorrhage/Acute Ulcer: Exclusions
• with a primary diagnosis of hemorrhage or acute ulcer (Defined in 2a.8)
• with a primary diagnosis of trauma
• with a primary diagnosis of alcoholism
• with a primary diagnosis of anemia
• MDC 6 (diseases and disorders of the digestive system)
• MDC 7 (diseases and disorders of the hepatobiliary system and pancreas)

See Patient Safety Indicators Appendices:
• Appendix G – Trauma Diagnosis Codes
PSI appendices at:
http://www.qualityindicators.ahrq.gov/downloads/psi/TechSpecs42/PSI%20Appendices.pdf:

ICD-9-CM Alcoholism diagnosis codes:
2910
ALCOHOL WITHDRAWAL DELIRIUM
2911
ALCOHOL AMNESTIC SYNDROME
2912
OTHER ALCOHOLIC DEMENTIA
2913
ALCOHOL WITHDRAWAL HALLUCINOSIS
2914
IDIOSYNCRATIC ALCOHOL INTOXICATION
2915
ALCOHOLIC JEALOUSY
29181
OTHER SPECIFIED ALCOHOLIC PSYCHOSES, ALCOHOL WITHDRAWAL
29182
ALCOHOL INDUCED SLEEP DISORDERS OCT05-
29189
OTHER SPECIFIED ALCOHOLIC PSYCHOSES, OTHER
2919
UNSPECIFIED ALCOHOLIC PSYCHOSIS
30300
ACUTE ALCOHOLIC INTOXICATION - UNSPECIFIED
30301
ACUTE ALCOHOLIC INTOXICATION - CONTINUOUS
30302
ACUTE ALCOHOLIC INTOXICATION - EPISODIC
30303
ACUTE ALCOHOLIC INTOXICATION - IN REMISSION
30390
OTHER AND UNSPECIFIED ALCOHOL DEPENDENCE - UNSPECIFIED
30391

OTHER AND UNSPECIFIED ALCOHOL DEPENDENCE - CONTINUOUS
30392
OTHER AND UNSPECIFIED ALCOHOL DEPENDENCE - EPISODIC
30393
OTHER AND UNSPECIFIED ALCOHOL DEPENDENCE - IN REMISSION
30500
NONDEPENDENT ABUSE OF DRUGS, ALCOHOL ABUSE - UNSPECIFIED
30501
NONDEPENDENT ABUSE OF DRUGS, ALCOHOL ABUSE - CONTINUOUS
30502
NONDEPENDENT ABUSE OF DRUGS, ALCOHOL ABUSE - EPISODIC
30503
NONDEPENDENT ABUSE OF DRUGS, ALCOHOL ABUSE – IN REMISSION
4255
ALCOHOLIC CARDIOMYOPATHY
53530
ALCOHOLIC GASTRITIS, W/O MENTION OF HEMORRHAGE
53531
ALCOHOLIC GASTRITIS, W/ HEMORRHAGE
5710
ALCOHOLIC FATTY LIVER
5711
ACUTE ALCOHOLIC HEPATITIS
5712
ALCOHOLIC CIRRHOSIS OF LIVER
5713
ALCOHOLIC LIVER DAMAGE, UNSPECIFIED
9800
TOXIC EFFECT OF ALCOHOL, ETHYL ALCOHOL
9809
TOXIC EFFECT OF ALCOHOL, UNSPECIFIED ALCOHOL

ICD-9-CM Anemia diagnosis codes:
2800
SECONDARY TO BLOOD LOSS [CHRONIC]
2851
ACUTE POSTHEMORRHAGIC ANEMIA

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
User has an option to stratify by Gender, age (5-year age groups), race / ethnicity, primary payer, and custom stratifiers.

2a.12-13 Risk Adjustment Type: Risk adjustment method widely or commercially available

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, age in years (in 5-year age groups), modified CMS DRG and AHRQ Comorbidities. The reference population used in the model is the universe of discharges for states that participate in the HCUP State Inpatient Databases (SID) for the year 2007 (updated annually), a database consisting of 43 states and approximately 30 million adult discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital, state, and region). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.

2a.15-17 Detailed risk model available Web page URL or attachment: URL None
http://qualityindicators.ahrq.gov/downloads/psi/PSI_Risk_Adjustment_Tables_(Version_4_2).pdf

2a.18-19 Type of Score: Rate/proportion

2a.20 Interpretation of Score: Better quality = Lower score

2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
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) the population at risk. For provider indicators, the population at risk is also 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 http://qualityindicators.ahrq.gov/PSI_download.htm

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
Significance testing is not prescribed by the software. Users may calculate a confidence interval for the risk-adjusted rates and a posterior probability interval for the smoothed rates at a 95% or 99% level. Users may define the relevant benchmark and the methods of discriminating performance according to their application.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
Not applicable

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Administrative claims

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
The data source is hospital discharge data such as the HCUP State Inpatient Databases (SID) or equivalent using UB-04 coding standards. The data collection instrument is public-use AHRQ QI software available in SAS or Windows versions.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL None
http://www.qualityindicators.ahrq.gov/software.htm

2a.29-31 Data dictionary/code table web page URL or attachment: URL None
http://www.qualityindicators.ahrq.gov/downloads/winqi/AHRQ_QI_Windows_Software_Documentation_V41a.pdf

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Facility

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Hospital/Acute Care Facility

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Physicians (MD/DO)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million discharges

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Literature review, expert panels and empirical analysis

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test*

2b
C☐
P☐
M☐
N☐

conducted):
PSI 4 A higher risk-adjusted mortality rate for death among surgical inpatients with serious treatable complications is associated with significantly higher costs. The AHRQ QIs have the advantage of taking the multidimensional nature of hospital quality into account. As the coefficients on the AHRQ QIs show, measures of hospital quality can have conflicting effects on hospital costs. A single measure that combines these effects into one variable offers less insight into hospital performance than the outcomes for each measure. [1]

Patient Safety Events Are Common at U.S. Hospitals: Between 2005 and 2007 there were 913,215 total patient safety events among Medicare beneficiaries. Common Patient Safety Events are Very Costly: Between 2005 and 2007 these patient safety events were associated with over $6.9 billion of wasted healthcare cost. Less Improvement Seen Among Most Common Events: Eight patient safety indicators showed improvement while seven indicators worsened in 2007 compared to 2005. Some of the most common and most serious indicators worsened, including decubitus ulcer (bed sores), sepsis, respiratory failure, deep vein thrombosis (blood clots in the legs), and pulmonary embolism (potentially fatal blood clots forming in the lungs). Approximately One-in-Ten Medicare Patients with Patient Safety Events Died: Between 2005 and 2007 there were 97,755 actual inhospital deaths that occurred among patients who experienced one or more of the 15 patient safety events. [2]

PSI 4: death among surgical inpatients with serious treatable complications was not included because many procedure codes are required. [3]

The initial translation (electronic mapping, review and revision by expert coder, programming of codes and testing on data from 1996-1998 [ICD 9-CM] to 1998-2006 [ICD-10-AM, through 4 editions]) found that differences between ICD-9-CM and ICD-10-AM datasets presented some challenges. After this phase, which was faithful to AHRQ´s case definitions, the indicators were refined for use with the condition onset flag, resulting in the AusPSIs. [4]

Principal Findings. Excess 90-day expenditures likely attributable to PSIs ranged from $646 for technical problems (accidental laceration, pneumothorax, etc.) to $28,218 for acute respiratory failure, with up to 20 percent of these costs incurred postdischarge. With a third of all 90-day deaths occurring postdischarge, the excess death rate associated with PSIs ranged from 0 to 7 percent. The excess 90-day readmission rate associated with PSIs ranged from 0 to 8 percent. Overall, 11 percent of all deaths, 2 percent of readmissions, and 2 percent of expenditures were likely due to these 14 PSIs. Conclusions. The effects of medical errors continue long after the patient leaves the hospital. Medical error studies that focus only on the inpatient stay can underestimate the impact of patient safety events by up to 20-30 percent. [5]

References
[1] Laditka JN, Laditka SB, Cornman CB. Evaluating hospital care for individuals with Alzheimer´s disease using inpatient quality indicators. Am J Alzheimers Dis Other Demen. 2005 Jan-Feb;20(1):27-36. PMID: 15751451.
[2] HealthGrades. Every 1.7 Minutes a Medicare Beneficiary Experiences a Patient Safety Event. Business Wire. Available on-line: http://www.allbusiness.com/government/government-bodies-offices/12279340-1.html. Accessed 1/11/2011.
[3] Hude Quan, MD, PhD; Saskia Drösler, MD; Vijaya Sundararajan, et al. Adaptation of AHRQ Patient Safety Indicators for Use in ICD-10 Administrative Data by an International Consortium. In Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 1: Assessment). Henriksen K, Battles JB, Keyes MA, et al., editors. Rockville (MD): Agency for Healthcare Research and Quality; 2008 Aug. Bookshelf ID: NBK43634.
[4] McConchie S, Shepheard J, Waters S, McMillan AJ, Sundararajan V. The AusPSIs: the Australian version of the Agency of Healthcare Research and Quality patient safety indicators. Aust Health Rev. 2009 May;33(2):334-41. PMID: 19563325.
[5] Encinosa WE, Hellinger FJ. The impact of medical errors on ninety-day costs and outcomes: an examination of surgical patients. Health Serv Res. 2008 Dec;43(6):2067-85. Epub 2008 Jul 25. PMID: 18662169; DOI: 10.1111/j.1475-6773.2008.00882.x

2c. Validity testing

2c
C☐
P☐
M☐

2c.1 Data/sample *(description of data/sample and size)*: We restricted our analysis to 20 states (4) for which HCUP State Inpatient Databases (SID) were available. There were 1,601 nonfederal, urban, general hospitals

in those 20 states. Over 300 hospitals were eliminated from the sample because of key missing variables in the American Hospital Association (AHA) Annual Survey of Hospital data, which was also used for this study, or because they had missing observations for some of the OIs that we used. Thus, our sample consisted of 1,290 urban, acute-care hospitals for which complete data were available for 2001. [1]

The Agency for Healthcare Research and Quality Patient Safety Indicators (PSIs) were used to identify 14 PSIs among 161,004 surgeries. [5]

2c.2 Analytic Method *(type of validity & rationale, method for testing)*:
A likelihood ratio test of the hypothesis that the coefficients on all of these variables were equal to 0 (lambda) = 35.3, p< .01). [1]

We used propensity score matching and multivariate regression analyses to predict expenditures and outcomes attributable to the 14 PSIs. [5]

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:
PSI 4 A higher risk-adjusted mortality rate for death among surgical inpatients with serious treatable complications is associated with significantly higher costs. The AHRQ QIs have the advantage of taking the multidimensional nature of hospital quality into account. As the coefficients on the AHRQ QIs show, measures of hospital quality can have conflicting effects on hospital costs. A single measure that combines these effects into one variable offers less insight into hospital performance than the outcomes for each measure.[1]

Principal Findings. Excess 90-day expenditures likely attributable to PSIs ranged from $646 for technical problems (accidental laceration, pneumothorax, etc.) to $28,218 for acute respiratory failure, with up to 20 percent of these costs incurred postdischarge. With a third of all 90-day deaths occurring postdischarge, the excess death rate associated with PSIs ranged from 0 to 7 percent. The excess 90-day readmission rate associated with PSIs ranged from 0 to 8 percent. Overall, 11 percent of all deaths, 2 percent of readmissions, and 2 percent of expenditures were likely due to these 14 PSIs. Conclusions. The effects of medical errors continue long after the patient leaves the hospital. Medical error studies that focus only on the inpatient stay can underestimate the impact of patient safety events by up to 20-30 percent. [5]

References
[1] Laditka JN, Laditka SB, Cornman CB. Evaluating hospital care for individuals with Alzheimer´s disease using inpatient quality indicators. Am J Alzheimers Dis Other Demen. 2005 Jan-Feb;20(1):27-36. PMID: 15751451.
[5] Encinosa WE, Hellinger FJ. The impact of medical errors on ninety-day costs and outcomes: an examination of surgical patients. Health Serv Res. 2008 Dec;43(6):2067-85. Epub 2008 Jul 25. PMID: 18662169; DOI: 10.1111/j.1475-6773.2008.00882.

N☐

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
Exclusions remove cases where the outcome of interest is less likely to be preventable or more likely to be present on admission or with no or very low risk

2d.2 Citations for Evidence:
Updated citations will be presented in the May Steering Committee meeting

Measures of Patient Safety Based on Hospital Administrative Data -
The Patient Safety Indicators, August 2002
http://qualityindicators.ahrq.gov/downloads/technical/psi_technical_review.zip

2d.3 Data/sample *(description of data/sample and size)*: AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million adult discharges

2d.4 Analytic Method *(type analysis & rationale)*:
Expert panel and descriptive analyses stratified by exclusion categories

2d
C☐
P☐
M☐
N☐
NA☐

2d.5 Testing Results *(e.g., frequency, variability, sensitivity analyses)*:
Measures of Patient Safety Based on Hospital Administrative Data -
The Patient Safety Indicators, August 2002
http://qualityindicators.ahrq.gov/downloads/technical/psi_technical_review.zip

2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 Data/sample *(description of data/sample and size)*: AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million adult discharges

2e.2 Analytic Method *(type of risk adjustment, analysis, & rationale)*:
Risk-adjustment models use a standard set of categories based on readily available classification systems for demographics, severity of illness and comorbidities. Within each category, covariates are initially selected based on a minimum of 30 cases in the outcome of interest. Then a stepwise regression process on a development sample is used to select a parsimonious set of covariates where p<.05. Model is then tested on a validation sample

2e.3 Testing Results *(risk model performance metrics)*:
c 0.738

2e.4 If outcome or resource use measure is not risk adjusted, provide rationale: Not applicable

2e C☐ P☐ M☐ N☐ NA☐

2f. Identification of Meaningful Differences in Performance

2f.1 Data/sample from Testing or Current Use *(description of data/sample and size)*: AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million adult discharges

2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance *(type of analysis & rationale)*:
Posterior probability distribution parameterized using the Gamma distribution

2f.3 Provide Measure Scores from Testing or Current Use *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:

5th	25th	Median	75th	95th
0.079961	0.104593	0.124460	0.146701	0.183056

2f C☐ P☐ M☐ N☐

2g. Comparability of Multiple Data Sources/Methods

2g.1 Data/sample *(description of data/sample and size)*: Not applicable

2g.2 Analytic Method *(type of analysis & rationale)*:
Not applicable

2g.3 Testing Results *(e.g., correlation statistics, comparison of rankings)*:
Not applicable

2g C☐ P☐ M☐ N☐ NA☐

2h. Disparities in Care

2h.1 If measure is stratified, provide stratified results *(scores by stratified categories/cohorts)*: [1] Although we did find overall disparities in care, we found that indicators for blacks, Hispanics, and Asians were not statistically worse than corresponding quality indicators for whites in the same hospital. Only a few hospitals provide lower quality of care to minorities than to whites.

[1] Darrell J. Gaskin, Christine S. Spencer, Patrick Richard, Gerard F. Anderson, Neil R. Powe and Thomas A. LaVeist. Do Hospitals Provide Lower-Quality Care To Minorities Than To Whites? Health Affairs, 27, no. 2 (2008): 518-527 doi: 10.1377/hlthaff.27.2.518

2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:

2h C☐ P☐ M☐ N☐ NA☐

Not applicable	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, met? **Rationale:**	**2** **C** ☐ **P** ☐ **M** ☐ **N** ☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	**Eval Rating**
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** In use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** Arizona (NY QIO) Why Not the Best? http://www.http://whynotthebest.org/ Kentucky (Norton Healthcare, a hospital system) Norton Healthcare Quality Report http://www.nortonhealthcare.com/body.cfm?id=157 Kentucky (state hospital association) Kentucky Hospital Association Quality Data http://info.kyha.com/QualityData/IQISite/ Maine (state) Maine Health Data Organization http://gateway.maine.gov/mhdo2008Monahrq/home.html Minnesota (Minnesota Community Measurement) Minnesota Health Scores www.mnhealthscores.org Missouri (health care coalition) St Louis Area Business Health Coalition http://www.stlbhc.org/c_healthcare_4_3026553713.pdf Nevada (state hospital association) Nevada Hospital Association Hospital Performance http://www.nvhospitalquality.net/ New Hampshire (NY QIO) New York State Health Accountability Foundation http://nyshaf.org/juice/IPROSpikeChart.html New York (health care coalition) New York State Hospital Report Card	**3a** **C** ☐ **P** ☐ **M** ☐ **N** ☐

http://www.myhealthfinder.com/

Rhode Island (NY QIO)
Why Not the Best?
http://www.http://whynotthebest.org/

Washington (health care coalition)
Washington State Hospital Report Card
http://www.myhealthfinder.com/wa09/index.php

The measure is also reported on HCUPnet:
http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=EB57801381F71C41&Form=MAINSEL&JS=Y&Action=%3E%3ENext%3E%3E&_MAINSEL=AHRQ%20Quality%20Indicators

This measure is used in the MONAHRQ system that is provided for public reporting and quality improvement throughout the United States: http://monahrq.ahrq.gov/

3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):**
University Healthcare Consortium - An alliance of 103 academic medical centers and 219 of their affiliated hospitals. Reporting the AHRQ QIs to their member hospitals. (see www.uhc.edu. Note: measure results reported to hospitals; not reported on site).

Dallas Fort Worth Hospital Council – Reporting on measure results to over 70 hospitals in Texas (see www.dfwhc.ord. Note: measure results reported to hospitals; not reported on site).
Norton Healthcare - a multi-hospital system in Kentucky (see http://www.nortonhealthcare.com/about/Our_Performance/index.aspx)

Ministry Health Care - a multi-hospital system in Wisconsin (see http://ministryhealth.org/display/router.aspx. Note: measure results reported to hospitals; not reported on site).

Minnesota Hospital Association
http://www.mnhospitals.org/ Note: measure used in quality improvement. Not reported publicly by the association)

Premier - Premier´s "Quality Advisor" tool provides performance reports to approximately 650 hospitals for their use in monitoring and improving quality. Hospitals receive facility specific reports on this measure in Quality Advisor.

Testing of Interpretability (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*)
3a.4 **Data/sample** *(description of data/sample and size)***:** AHRQ 2007 State Inpatient Databases (SID) with 4,000 hospitals and 30 million adult discharges

3a.5 **Methods** *(e.g., focus group, survey, QI project)***:**
A research team from the School of Public Affairs, Baruch College, under contracts with the Department of Public Health, Weill Medical College and Battelle, Inc., has developed a pair of Hospital Quality Model Reports at the request of the Agency for Healthcare Research & Quality (AHRQ). These reports are designed specifically to report comparative information on hospital performance based on the AHRQ Quality Indicators (QIs). The work was done in close collaboration with AHRQ staff and the AHRQ Quality Indicators team.
The Model Reports (discussed immediately above) are based on:
• Extensive search and analysis of the literature on hospital quality measurement and reporting, as well as public reporting on health care quality more broadly;
• Interviews with quality measurement and reporting experts, purchasers, staff of purchasing coalitions, and executives of integrated health care delivery systems who are responsible for quality in their facilities;
• Two focus groups with chief medical officers of hospitals and/or systems and two focus groups with quality

managers from a broad mix of hospitals; • Four focus groups with members of the public who had recently experienced a hospital admission; and • Four rounds of cognitive interviews (a total of 62 interviews) to test draft versions of the two Model Reports with members of the public with recent hospital experience, basic computer literacy but widely varying levels of education. 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: Given the above review of the literature and original research that was conducted, a Model report was the result that could help sponsors use the best evidence on public reports so they are most likely to have the desired effects on quality.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA ☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), Describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐ NA ☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, met? **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐

4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA ☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Coding professionals follow detail guidelines, are subject to training and credentialing requirements, peer review and audit.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** None **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Administrative data are collected as part of the routine operations. Some staff time is required to download and execute the software from the AHRQ webs site, which is available at no cost. **4e.3 Evidence for costs:** Administrative data are collected as part of the routine operations. Some staff time is required to download and execute the software from the AHRQ webs site, which is available at no cost. **4e.4 Business case documentation:** Administrative data are collected as part of the routine operations. Some staff time is required to download and execute the software from the AHRQ webs site, which is available at no cost.	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, met? **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**
CONTACT INFORMATION	
Co.1 Measure Steward (Intellectual Property Owner) **Co.1 Organization** Agency for Healthcare Research and Quality, 540 Gaither Road, Rockville, Maryland, 20850 **Co.2 Point of Contact** John, Bott, MSSW, MBA, John.Bott@AHRQ.hhs.gov, 301-427-1317-	

Measure Developer If different from Measure Steward
Co.3 Organization
Agency for Healthcare Research and Quality, 540 Gaither Road, Rockville, Maryland, 20850

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Co.5 Submitter If different from Measure Steward POC
John, Bott, MSSW, MBA, John.Bott@AHRQ.hhs.gov, 301-427-1317-, Agency for Healthcare Research and Quality

Co.6 Additional organizations that sponsored/participated in measure development
UC Davis,
Stanford University,
Battelle Memorial Institute'

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
None

Ad.2 If adapted, provide name of original measure: None
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2003
Ad.7 Month and Year of most recent revision: 10, 2010
Ad.8 What is your frequency for review/update of this measure? Annual
Ad.9 When is the next scheduled review/update for this measure? 05, 2011

Ad.10 Copyright statement/disclaimers: The AHRQ QI software is publicly available; no copyright disclaimers

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 06/14/2011