CBE ID

0706

Title

Risk Adjusted Colon Surgery Outcome Measure

Project

Surgery

Endorsement Status

Endorsement Removed

Is Under Review

No

Previous Endorsement Cycle

Full Year 2015

Removal Date

Thu, 07/14/2022 - 07:03

Initial Endorsement

Sun, 01/16/2011 - 19:00

Steward

American College of Surgeons

1.0 New or Maintenance

Maintenance

1.1 Measure Structure

Single Measure

1.3 Electronic Clinical Quality Measure (eCQM)

No

1.6 Measure Description

This is a hospital based, risk adjusted, case mix adjusted morbidity and mortality aggregate outcome measure of adults 18+ years undergoing colon surgery.

1.7 Measure Type

Outcome

1.8 Level of Analysis

Facility, Other

1.9 Care Setting

Inpatient/Hospital, Outpatient Services

1.14 Numerator

The outcome of interest is 30-day, hospital-specific risk-adjusted (all cause) mortality, unplanned reoperation, or any of the following morbidities as defined by American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP): cardiac arrest requiring CPR, myocardial Infarction, sepsis, septic shock, deep incisional surgical site infection (SSI), organ space SSI, wound disruption, unplanned reintubation without prior ventilator dependence, pneumonia without pre-operative pneumonia, progressive renal insufficiency or acute renal failure without pre-operative renal failure or dialysis, or urinary tract infection (UTI). All outcomes are definitively resolved within 30 days of any ACS NSQIP listed (CPT) surgical procedure. All variables (fields) are explicitly defined in the tradition of the ACS NSQIP and definitions are also submitted in these materials. The original endorsed measure included venous thromboembolism (VTE) as eligible morbidity events, including deep venous thrombosis requiring therapy and pulmonary embolism.The current set of mortality and major complications for this measure was chosen based on prior work revealing that these complications are related to other important criteria such as large contributions to excess length of stay, large complication burdens, or correlations with mortality. (Merkow et al. 2013) In addition, the desire to limit the outcomes to significant events (ie- some degree of severity according to certain criteria) is the reason that superficial wound infection is excluded from the measure. The current submission removes VTE from the measure as recent publications have demonstrated it is highly subject to surveillance bias. A recent study of 2,838 hospitals found that increased VTE prophylaxis adherence was associated with worse risk-adjusted VTE event rates. (Bilimoria 2013 JAMA) Paradoxically hospitals with higher quality, identified by number of accreditations and quality initiatives, had worse VTE rates. The explanation for this paradoxical relationship is suggested by the association of higher rates of VTE imaging studies among these hospitals with higher rates of VTE detection. (Bilimoria, Chung et al. 2013, Ju, Chung et al. 2014, Chung, Ju et al. 2015)Bilimoria, K. Y., J. Chung, M. H. Ju, E. R. Haut, D. J. Bentrem, C. Y. Ko and D. W. Baker (2013). "Evaluation of surveillance bias and the validity of the venous thromboembolism quality measure." Jama 310(14): 1482-1489.Chung, J. W., M. H. Ju, C. V. Kinnier, M. W. Sohn and K. Y. Bilimoria (2015). "Postoperative venous thromboembolism outcomes measure: analytic exploration of potential misclassification of hospital quality due to surveillance bias." Ann Surg 261(3): 443-444.Ju, M. H., J. W. Chung, C. V. Kinnier, D. J. Bentrem, D. M. Mahvi, C. Y. Ko and K. Y. Bilimoria (2014). "Association between hospital imaging use and venous thromboembolism events rates based on clinical data." Ann Surg 260(3): 558-564; discussion 564-556.Merkow RP, Hall BL, Cohen ME, et al. Validity and feasibility of the american college of surgeons colectomy composite outcome quality measure. Ann Surg. 2013;257(3):483-489.

1.15 Denominator

Patients undergoing any ACS NSQIP listed (primary CPT) colon procedure. (44140, 44141, 44143, 44144, 44145, 44146, 44147, 44150, 44151, 44160, 44204, 44205, 44206, 44207, 44208, 44210)

1.20 Types of Data Sources

Electronic Health Data, Electronic Health Records: Electronic Health Records, Management Data,

Other, Paper Patient Medical Records, Registry data

6.1.2 Current or Planned Use(s)

Public Reporting, Quality Improvement (Internal to the specific organization), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

6.1.3 Current Use(s)

Public Reporting, Quality Improvement (Internal to the specific organization), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

Exclusions

As noted above, cases are collected so as to match ACS NSQIP inclusion and exclusion criteria, thereby permitting valid application of ACS NSQIP model-based risk adjustment. Therefore, trauma and transplant surgeries are excluded as are surgeries not on the ACS NSQIP CPT list as eligible for selection (see details in next item). Patients who are ASA 6 (brain-death organ donor) are not eligible surgical cases. Of note, the measure excludes patients identified as having had prior surgical procedures within 30 days of a potential index procedure, since this measure is based on 30 day outcomes. A patient who is identified as having had a prior surgical procedure within 30 days of the index case being considered is excluded from accrual. A patient who has a second surgical procedure performed within 30 days after an index procedure has the second procedure recorded as a "Return to the operating room within 30 days" (one of the outcomes defined), but the second procedure cannot be accrued into the program as a new index procedure.

Risk Adjustment

Statistical risk model

Steward Organization

American College of Surgeons

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