

**2019 Metabolic and Bariatric Surgery Accreditation and Quality Improvement
Program (MBSAQIP) Qualified Clinical Data Registry (QCDR)
Non-MIPS and MIPS Measures Specifications**

1. QCDR Measure # MBSAQIP10

Risk standardized rate of patients who experienced a postoperative escalation in care event following a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy operation

National Quality Strategy (NQS) Domain: Effective Clinical Care

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Admissions and Readmissions to Hospitals

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Overall risk standardized escalation in care rate. This risk standardized rate is constructed as a composite so that the eligible patient must have none of the 4 escalation in care events to be considered "Performance Not Met" (inverse).

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who experienced a postoperative escalation in care event

DENOMINATOR:

All patients undergoing a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy

DENOMINATOR EXCLUSIONS: None

NUMERATOR:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who meet any of the following 4 criteria:

- (1) Readmission within 30 days of surgery
- (2) Reoperation within 30 days of surgery
- (3) Intervention within 30 days of surgery
- (4) Admission to ICU within 30 days of surgery

NUMERATOR EXCLUSIONS: None

RATIONALE:

Unplanned readmissions, reoperations, interventions, and return of patients to an ICU setting are direct predictors of quality and safety for a multidisciplinary bariatric surgery program. In a study conducted including 18, 296 patients, it was found that 40.6% of the patients who were readmitted also experienced a complication (1). Additionally, a study analyzing the ACS NSQIP data evaluated over 18,186 patients who underwent bariatric surgery procedures found while overall, bariatric surgery was found to be a low-risk procedure, the complexity of the operation, the ASA class, prolonged operative time, and major post-operative complications were important determinants of high risk for readmission. This analysis included an estimated probability of mortality as well (2).

References:

1. Garg, T., Rosas, U., Rivas, H., Azagury, D., & Morton, J. M. (2016). National prevalence, causes, and risk factors for bariatric surgery readmissions. *The American Journal of Surgery*, 212(1), 76-80. doi:10.1016/j.amjsurg.2016.01.023
2. Abraham, C. R., Werter, C. R., Ata, A., Hazimeh, Y. M., Shah, U. S., Bhakta, A., . . . Stain, S. C. (2015). Predictors of Hospital Readmission after Bariatric Surgery. *Journal of the American College of Surgeons*, 221(1), 220-227. doi:10.1016/j.jamcollsurg.2015.02.018

2. QCDR Measure # MBSAQIP11

Risk standardized rate of patients who experienced a pulmonary complication following a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy

National Quality Strategy (NQS) Domain: Effective Clinical Care

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Preventable Healthcare Harm

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Overall risk standardized pulmonary complication rate. This risk standardized rate is constructed as a composite so that the eligible patient must have none of the 4 pulmonary complications to be considered "Performance Not Met" (inverse).

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who experienced a pulmonary complication

DENOMINATOR:

All patients undergoing a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy

DENOMINATOR EXCLUSIONS: None

NUMERATOR:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who meet any of the following 4 criteria:

- (1) Pneumonia within 30 days of surgery
- (2) Unplanned Intubation within 30 days of surgery
- (3) Pulmonary Embolism within 30 days of surgery
- (4) On Ventilator > 48 Hours within 30 days of surgery

NUMERATOR EXCLUSIONS:

Patients will be excluded from the numerator if only numerator criteria (1) or (4) are met and they have PATOS (Present at Time of Surgery) modifiers for each pneumonia or ventilator > 48 hours occurrences

RATIONALE:

Pneumonia is the second most common type of infection acquired in the hospital, behind urinary tract infections, with 50% of all pneumonia cases being post-operative (1). Clinical variables which are associated with an increased risk of pneumonia include patient age, ASA Class, COPD, dependent functional status, preoperative sepsis, smoking before the operation, and type of operation (1). It is well-known that many patients who suffer from obesity-related illnesses are dependent in their functional status thereby placing obese (bariatric) surgery patients at inherent risk of developing post-operative pneumonia. Prevention of pneumonia using a standardized pneumonia prevention program can demonstrate reduction in pneumonia on both mechanically and non-mechanically ventilated patients (2). Both deep vein thrombosis as well as pulmonary emboli account for the second leading

cause of death in gastric surgery patients, with a calculated incidence of 2% and a mortality rate of 20-30%, so analysis of VTE outcomes in bariatric surgery to drive patient safety efforts is of utmost importance (3).

References:

1. Gupta, H., Gupta, P. K., Schuller, D., Fang, X., Miller, W. J., Modrykamien, A., . . . Morrow, L. E. (2013). Development and Validation of a Risk Calculator for Predicting Postoperative Pneumonia. *Mayo Clinic Proceedings*, 88(11), 1241-1249. doi:10.1016/j.mayocp.2013.06.027
2. Kazaure, H. S., Martin, M., Yoon, J. K., & Wren, S. M. (2014). Long-term Results of a Postoperative Pneumonia Prevention Program for the Inpatient Surgical Ward. *JAMA Surgery*, 149(9), 914. doi:10.1001/jamasurg.2014.1216
3. Peer review report 1 on "Complications of bariatric surgery: Presentation and emergency management". (2016). *International Journal of Surgery*, 25, 101. doi:10.1016/j.ijvsu.2016.01.095

3. QCDR Measure # MBSAQIP8

Risk standardized rate of patients who experienced an extended length of stay (> 3 days) following a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy operation

National Quality Strategy (NQS) Domain: Efficiency and Cost Reduction

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Patient-Focused Episode of Care

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Risk standardized extended length of stay rate

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who experienced an extended length of stay (> 3 days)

DENOMINATOR:

All patients undergoing a primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy

DENOMINATOR EXCLUSIONS: None

NUMERATOR:

Primary Laparoscopic Roux-en-Y Gastric Bypass or Laparoscopic Sleeve Gastrectomy patients who experienced an extended length of stay (> 3 days)

NUMERATOR EXCLUSIONS: None

RATIONALE:

Length of stay is a focus of many hospitals to reduce the overall cost of care per patient episode. A retrospective review conducted on over 500 patients who had primary bariatric surgery over the years of 2013-2015 showed that institution of a Bariatric Care Coaching Program driving positive impact on patient outcomes including reduction of post-operative nausea/vomiting and patient satisfaction (1). Additionally, it has been studied that the amount of intravenous fluids administered during laparoscopic bariatric surgery plays a significant role on the hospital length of stay and delay in wound healing, so practitioners through enhanced recovery techniques in bariatric surgery are becoming astute in the careful management of IV fluids intraoperatively, as the lower rates of intraoperative fluid administration were significantly associated with higher lengths of stay (2).

References:

1. Jalilvand, A., Suzo, A., Hornor, M., Layton, K., Abdel-Rasoul, M., Macadam, L., . . . Noria, S. (2016). Impact of care coaching on hospital length of stay, readmission rates, postdischarge phone calls, and patient satisfaction after bariatric surgery. *Surgery for Obesity and Related Diseases*, 12(9), 1737-1745. doi:10.1016/j.soard.2016.02.020
2. Nossaman, V. E., Richardson, W. S., Wooldridge, J. B., & Nossaman, B. D. (2014). Role of intraoperative fluids on hospital length of stay in laparoscopic bariatric surgery: A retrospective study in 224 consecutive patients. *Surgical Endoscopy*, 29(10), 2960-2969. doi:10.1007/s00464-014-4029-1

**4. Quality ID # 354
Anastomotic Leak Intervention***

National Quality Strategy (NQS) Domain: Patient Safety

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Preventable Healthcare Harm

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Risk standardized anastomotic leak rate

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Percentage of patients aged 18 years and older who required an anastomotic leak intervention following primary gastric bypass surgery

DENOMINATOR:

Patients aged 18 years and older undergoing primary gastric bypass or sleeve gastrectomy surgery

NUMERATOR:

Intervention (via return to operating room, interventional radiology, or interventional gastroenterology) for presence of leak of endoluminal contents (such as air, fluid, GI contents, or contrast material) through an anastomosis. The presence of an infection/abscess thought to be related to an anastomosis, even if the leak cannot be definitively identified as visualized during an operation, or by contrast extravasation would also be considered an anastomotic leak.

RATIONALE:

This is an adverse surgical outcome, which is often a preventable cause of harm, thus it is important to measure and report. It is feasible to collect the data and produces reliable and valid results about the quality of care. It is useful and understandable to stakeholders. As highlighted earlier, this measure was developed in a collaborative effort by the American College of Surgeons and the American Board of Surgery. This measure addresses the National Quality Strategy Priorities, and was identified by an expert panel of physician providers to be a critical outcome for this procedure. This measure addresses a high-impact condition as it is one of the most common procedures performed in the U.S. The measure aligns well with the intended use. The care settings include Acute Care Facilities/Hospitals. Data are being collected in a clinical registry that has been in existence for over 5 years, with over 4000 current users. Thus, we are requesting consideration of this measure in the “Registry Reporting” option. The level of analysis is the clinician/individual. All populations are included, except children. The measure allows measurement across the person-centered episode of care out to 30 days after the procedure whether an inpatient, outpatient, or readmitted. The measure addresses disparities in care. The risk adjustment is performed with a parsimonious dataset and aims to allow efficient data collection resources and data reporting. Measures have been harmonized when possible.

CLINICAL RECOMMENDATION STATEMENTS:

A modified-Delphi methodology using an expert panel of surgeons who are Directors of the American Board of Surgery identified this to be a critical outcome for this surgical procedure (Surgeon Specific Registry Report on Project for ABS MOC Part IV. Unpublished study by the American College of Surgeons in conjunction with the American Board of Surgery, 2011).

**5. Quality ID # 355
Unplanned Hospital Reoperation within 30 Days of the Principal Procedure***

National Quality Strategy (NQS) Domain: Efficiency and Cost Reduction

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Preventable Healthcare Harm

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Risk standardized reoperation rate

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Percentage of patients aged 18 years and older who had an unplanned hospital reoperation within 30 days of principal procedure

DENOMINATOR:

Patients aged 18 years and older undergoing primary gastric bypass or sleeve gastrectomy surgery

NUMERATOR:

Unplanned return to the operating room for a surgical procedure, for any reason, within 30 days of the principal operative procedure

RATIONALE:

This is an adverse surgical outcome, which is often a preventable cause of harm, thus it is important to measure and report. It is feasible to collect the data and produces reliable and valid results about the quality of care. It is useful and understandable to stakeholders. As highlighted earlier, this measure was developed in a collaborative effort by the American College of Surgeons and the American Board of Surgery. This measure addresses the National Quality Strategy Priorities, and was identified by an expert panel of physician providers to be a critical outcome for this procedure. This measure addresses a high-impact condition as it is one of the most common procedures performed in the U.S. The measure aligns well with the intended use. The care settings include Acute Care Facilities/Hospitals. Data are being collected in a clinical registry that has been in existence for over 5 years, with over 4000 current users. Thus, we are requesting consideration of this measure in the “Registry Reporting” option. The level of analysis is the clinician/individual. All populations are included, except children. The measure allows measurement across the person-centered episode of care out to 30 days after the procedure whether an inpatient, outpatient, or readmitted. The measure addresses disparities in care. The risk adjustment is performed with a parsimonious dataset and aims to allow efficient data collection resources and data reporting. Measures have been harmonized when possible.

CLINICAL RECOMMENDATION STATEMENTS:

A modified-Delphi methodology using an expert panel of surgeons who are Directors of the American Board of Surgery identified this to be a critical outcome for this surgical procedure (Surgeon Specific Registry Report on Project for ABS MOC Part IV. Unpublished study by the American College of Surgeons in conjunction with the American Board of Surgery, 2011).

6. Quality ID # 356

Unplanned Hospital Readmission within 30 Days of the Principal Procedure*

National Quality Strategy (NQS) Domain: Effective Clinical Care

Measure Type (Process/Outcome): Outcome

Meaningful Measure Area: Admissions and Readmissions to Hospitals

High Priority: Yes

Inverse Measure: Yes

Proportional Measure: Yes

Continuous Measure: No

Ratio Measure: No

Risk-Adjusted: Yes

Number of Performance Rates to be calculated: Risk standardized reoperation rate

Overall Performance Rate: 1st Performance Rate

DESCRIPTION:

Percentage of patients aged 18 years and older who had an unplanned hospital readmission within 30 days of principal procedure

DENOMINATOR:

Patients aged 18 years and older undergoing primary gastric bypass or sleeve gastrectomy surgery

NUMERATOR:

Inpatient readmission to the same hospital for any reason or an outside hospital (if known to the surgeon), within 30 days of the principal surgical procedure

RATIONALE:

This is an adverse surgical outcome, which is often a preventable cause of harm, thus it is important to measure and report. It is feasible to collect the data and produces reliable and valid results about the quality of care. It is useful and understandable to stakeholders. As highlighted earlier, this measure was developed in a collaborative effort by the American College of Surgeons and the American Board of Surgery. This measure addresses the National Quality Strategy Priorities, and was identified by an expert panel of physician providers to be a critical outcome for this procedure. This measure addresses a high-impact condition as it is one of the most common procedures performed in the U.S. The measure aligns well with the intended use. The care settings include Acute Care Facilities/Hospitals. Data are being collected in a clinical registry that has been in existence for over 5 years, with over 4000 current users. Thus, we are requesting consideration of this measure in the “Registry Reporting” option. The level of analysis is the clinician/individual. All populations are included, except children. The measure allows measurement across the person-centered episode of care out to 30 days after the procedure whether an inpatient, outpatient, or readmitted. The measure addresses disparities in care. The risk adjustment is performed with a parsimonious dataset and aims to allow efficient data collection resources and data reporting. Measures have been harmonized when possible.

CLINICAL RECOMMENDATION STATEMENTS:

A modified-Delphi methodology using an expert panel of surgeons who are Directors of the American Board of Surgery identified this to be a critical outcome for this surgical procedure (Surgeon Specific Registry Report on Project for ABS MOC Part IV. Unpublished study by the American College of Surgeons in conjunction with the American Board of Surgery, 2011).

* **Measure 5- CQM ID #354, Measure 6 – CQM ID # 355 and Measure 7 – CQM ID # 356** are 2019 MIPS Clinical Quality Measures (CQMs). For more information, please see here:

<https://qpp.cms.gov/about/resource-library>

Measures 1-3 are QCDR quality measures developed by the MBSAQIP and approved by CMS.