Quality Improvement Implementation, Option E: Colorectal Cancer Surgical Quality Measures
Project Time Period: 1/1/2025-12/31/2025

Project Goal and Summary: In collaboration with the colorectal surgeon lead, hospital multidisciplinary team, and MSQC, this project focuses on improving the performance of evidence-based quality measures for patients undergoing colorectal cancer surgery. We anticipate this project will promote high-quality treatment to improve short- and long-term outcomes.

QI Implementation Goals and Requirements: (45 points total)

1. **Data collection:** For colorectal cancer surgeries, participating hospitals will contribute to the mandatory colorectal tab data collection that will allow the measurement of colorectal cancer surgical quality. In addition, participating hospitals will capture supplemental data collection.

2. **Colorectal Surgeon Lead:** Each site will designate a surgeon lead who performs colorectal cancer surgery. The expectations are that the surgeon lead will help the SCQR disseminate information at the hospital, be active in developing and implementing a multidisciplinary engagement, and be engaged with MSQC for the Colorectal Cancer Surgery QII project.

3. Multidisciplinary team and Meetings: (9 points)
   - Participants: Participating hospitals will form a multidisciplinary team to review baseline data, guide quality improvement plans, disseminate information at the hospital, and be actively engaged in meeting project goals. The multidisciplinary team must include providers from: General or Colorectal Surgery, Medical Oncology, Pathology, Radiology, and nursing or a cancer patient navigator. Other suggested specialties that may be included are: Radiation Oncology, Gastroenterology, Primary Care, or others as relevant to the particular hospital.
   - Frequency: Hold four (4) total multidisciplinary meetings with all of the above members of the team. Submit minutes and attendees to the coordinating center with your 2025 QII Project Report for each meeting.
   - Content: Each meeting should address at least the following:
     - Kickoff meeting before March 29, 2025, to review project requirements and preliminary data. (3 points)
     - At least three (3) additional quarterly multidisciplinary meetings before December 31, 2025, which include a review of colorectal cancer data including the results of colorectal-specific patient-reported outcomes (PROs), progress and plans to reach Process Improvement goals, and multidisciplinary checklist review of all positive flagged margin cases for the prior quarter. (2 points for each meeting)

4. **Perform Multidisciplinary Checklist Review of** the following flagged cases: a) positive margins, b) inadequate lymph node examination (< 12 lymph nodes), c) mismatch repair (MMR) protein or microsatellite instability (MSI) status not performed, and d) rectal cancer not discussed in a Tumor Board. **(10 points)**
   - Perform an internal quality review of each colorectal cancer case that results in any of the flagged cases from 1/1/2025 to 12/1/2025 OR dates.
   - In each quarterly multidisciplinary meeting (required participants described above), any flagged case during the prior quarter must be reviewed and the checklist must be filled out in RedCap. An example of the checklist for a case with a positive margin is included at the end of this document. The multidisciplinary team should identify any underlying trends among cases, and apply that knowledge toward process improvement efforts. The checklist filled out by the multidisciplinary team should be reviewed with the operating surgeon (if they are not part of the initial review).
   - All checklists and the overall findings summary (trends identified, action plans implemented) should be submitted with your 2025 QII Project Report. The number of checklists will be confirmed against the number of flagged cases collected at the participating hospital.

5. **Process Improvement Goals (16 points):** Implement the following processes to meet the goals for colorectal cancer surgical patients. Measurement Period is 4/1/2025 – 12/31/2025 OR dates.
   a. Preoperative imaging within 90 days before surgery for cancer staging for ≥ 80% of elective colorectal cancer surgical patients **(4 points)**
      a1. For elective colon resections, this includes (1) CT of the Chest with or without IV contrast and (2) CT with IV contrast of the Abdomen and Pelvis or MRI of the abdomen and pelvis with or without IV contrast.
      a2. For elective rectal resections, this includes (1) CT of the Chest with or without contrast and (2) CT with IV contrast of the Abdomen and Pelvis or MRI of the abdomen with or without IV contrast, and (3) MRI of the pelvis or endorectal ultrasound.
   b. Examination of ≥ 12 lymph nodes on the surgical specimen for ≥ 95% elective colon cancer patients. Excludes rectal cancer cases with CPT codes 0184T, 45171, 45172. **(4 points)**
   c. MMR or MSI testing performed on the colon or rectal specimen either before (on biopsy) or after (on surgical specimen) surgery for ≥ 95% of all colorectal cancer surgical patients. **(4 points)**
   d. Increase or maintain the rate of PRO responses to the colorectal-specific questions from Q1 2025 compared to Q2 & Q3 2025 of all colorectal cancer surgical patients. **(4 points)**

6. **Participate in the Colorectal Cancer Tumor Board Project (10 points)**
   - The MSQC team is conducting site visits and focus groups with multidisciplinary providers who participate in colorectal cancer tumor boards to understand the opportunities for quality improvement through multidisciplinary tumor board discussion.
   - The surgeon lead and SCQR will work with the MSQC Coordinating Center to facilitate contact with the Tumor Board coordinator for observation of three (3) tumor board sessions **(2 points each)** and conduct a focus group with at least 5 multidisciplinary providers from your hospital **(4 points)**. If the participating hospital does not have an independent Tumor Board, then this can include observation

of the Tumor Board of another hospital at which the participating hospital's patients may be presented if needed. The focus group should include multidisciplinary providers at the participating hospital.

7. Submit the **2025 QII Project Report** on or before **January 15, 2026,** which includes multidisciplinary meeting notes and attendees, Process Improvement Goals activity tracking, checklist(s) for flagged cases, successes and barriers, and analysis and next steps (a template is available on the MSQC website).
   - An additional **0 - 5** implementation points may be granted based on the detail of the project narrative, activity tracking log, successes and barriers, and analysis and next steps, to be added to achieve the maximum of 45 project points.
   - An additional **5 points** may be granted if all colorectal cancer cases are abstracted which includes oversampling of all eligible cases (including those that were Not Sampled), to be added to achieve the maximum of 45 project points. Oversampled cases will be included in the Process Improvement Goals.

Colorectal Cancer Case Eligibility

- All surgical priority except for Process Improvement Goals measures a and b
- Adenocarcinoma is 'Yes-diagnosis & resected'
- ICD-10 Diagnosis Codes (listed below)
- CPT Codes (listed below)

ICD Code	Colorectal Cancer Surgery ICD-10-CM Description (* denotes rectal cancer code)
C18.0	Malignant neoplasm of cecum
C18.2	Malignant neoplasm of ascending colon
C18.3	Malignant neoplasm of hepatic flexure
C18.4	Malignant neoplasm of transverse colon
C18.5	Malignant neoplasm of splenic flexure
C18.6	Malignant neoplasm of descending colon

ICD Code	Colorectal Cancer Surgery ICD-10-CM Description (* denotes rectal cancer code)
C18.7	Malignant neoplasm of sigmoid colon
C18.8	Malignant neoplasm of overlapping sites of colon
C18.9	Malignant neoplasm of colon, unspecified
C19	Malignant neoplasm of rectosigmoid junction
C20*	Malignant neoplasm of rectum

CPT Code	Colorectal Cancer Surgery CPT Description
0184T	Excision of rectal tumor, transanal endoscopic microsurgical approach (ie, TEMS), including muscularis propria (ie, full thickness)
44140	44140: Colectomy, partial; with anastomosis
44141	44141: Colectomy, partial; with skin level cecostomy or colostomy
44143	44143: Colectomy, partial; with end colostomy and closure of distal segment (Hartmann type procedure)
44144	44144: Colectomy, partial; with resection, with colostomy or ileostomy and creation of mucofistula
44145	44145: Colectomy, partial; with coloproctostomy (low pelvic anastomosis)
44146	44146: Colectomy, partial; with coloproctostomy (low pelvic anastomosis), with colostomy
44150	44150: Colectomy, total, abdominal, without proctectomy; with ileostomy or ileoproctostomy
44155	44155: Colectomy, total, abdominal, with proctectomy; with ileostomy
44158	44158: Colectomy, total, abdominal, with proctectomy; with ileoanal anastomosis, creation of ileal reservoir (S or J), includes loop ileostomy, and rectal mucosectomy, when performed
44160	44160: Colectomy, partial, with removal of terminal ileum with ileocolostomy

CPT Code	Colorectal Cancer Surgery CPT Description
44204	44204: Laparoscopy, surgical; colectomy, partial, with anastomosis
44205	44205: Laparoscopy, surgical; colectomy, partial, with removal of terminal ileum with ileocolostomy
44206	44206: Laparoscopy, surgical; colectomy, partial, with end colostomy and closure of distal segment (Hartmann type procedure)
44207	44207: Laparoscopy, surgical; colectomy, partial, with anastomosis, with coloproctostomy (low pelvic anastomosis)
44208	44208: Laparoscopy, surgical; colectomy, partial, with anastomosis, with coloproctostomy (low pelvic anastomosis) with colostomy
44210	44210: Laparoscopy, surgical; colectomy, total, abdominal, without proctectomy, with ileostomy or ileoproctostomy
44211	44211: Laparoscopy, surgical; colectomy, total, abdominal, with proctectomy, with ileoanal anastomosis, creation of ileal reservoir (S or J), with loop ileostomy, includes rectal mucosectomy, when performed
44212	44212: Laparoscopy, surgical; colectomy, total, abdominal, with proctectomy, with ileostomy
45110	45110: Proctectomy; complete, combined abdominoperineal, with colostomy
45111	45111: Proctectomy; partial resection of rectum, transabdominal approach
45113	45113: Proctectomy, partial, with rectal mucosectomy, ileoanal anastomosis, creation of ileal reservoir (S or J), with or without loop ileostomy
45119	45119: Proctectomy, combined abdominoperineal pull-through procedure (eg, colo-anal anastomosis), with creation of colonic reservoir (eg, J-pouch), with diverting enterostomy when performed
45171	45171: Excision of rectal tumor, transanal approach; not including muscularis propria (ie, partial thickness) (=”local excision”)
45172	45172: Excision of rectal tumor, transanal approach; including muscularis propria (ie, full thickness) (=”local excision”)
45395	45395: Laparoscopy, surgical; proctectomy, complete, combined abdominoperineal, with colostomy
45397	45397: Laparoscopy, surgical; proctectomy, combined abdominoperineal pull-through procedure (eg, colo-anal anastomosis), with creation of colonic reservoir (eg, J-pouch), with diverting enterostomy, when performed

Resources

- Gutsche N, et. al. Toward 0% Positive Margins for Colorectal Cancer Surgery in Michigan. Pre-recorded session for the MSQC Collaborative Meeting December 10, 2021.
- Operative Standards in Cancer Surgery- Defining the Critical Elements for Surgical Success; Kelly Hunt, MD, FACS, FSSO Presentation at December 4, 2020 MSQC Collaborative Meeting
    - Video Slides
- Presentations at December 10, 2021 MSQC Collaborative Meeting (video)
    - The CRM as a Quality Improvement Target for Rectal Cancer Treatment (11:32-57:10) George Chang, MD, MS
    - Panel Discussion- Best Practices for Low Positive Margins (1:28:43-2:11:29)
- Dr. Harbaugh’s video about the why behind this project: https://vimeo.com/1036020570

See Checklist on next page

Multidisciplinary Case Review Checklist:

A group (tumor board or other) should discuss every case with: a) positive margins, b) inadequate lymph node examination (< 12 lymph nodes), c) mismatch repair (MMR) protein or microsatellite instability (MSI) status not performed, and d) rectal cancer not discussed in a Tumor Board to see what might have been improved to prevent it. There will be some cases for which everyone will agree "nothing was done wrong", but for most there will be room for improvement. These checklists will help the MSQC to identify high-yield opportunities to identify and share best practices and to eliminate redundant or unnecessary practices. The checklist will be tailored to the reason the case was flagged and data will be entered into a secure online form.

MSQC Case # _____

- ☐ Was preoperative imaging performed within 90 days that showed risk of a positive margin?
  - Did this include:
    - Abdomen/pelvis CT or MRI?
    - Chest CT?
    - Pelvic MRI or endorectal ultrasound (if rectal or rectosigmoid cancer)?
  - Were these performed at the same facility or another facility?
  - Did there appear to be:
    - Local invasion of another structure? If so, which structure?
    - Bulky lymphadenopathy?
    - Metastatic disease? If so, where?
    - Perforation?
    - Obstruction?
- ☐ Was this thought to be a colon, rectosigmoid, or rectal cancer preoperatively?
  - For colon cancers, was a tattoo performed preoperatively to mark the location of the cancer?
  - For rectal or rectosigmoid cancers, did the operating surgeon repeat a flexible sigmoidoscopy or a rigid proctoscopy prior to surgery (for a rectal or rectosigmoid tumor)? Why or why not?
  - Was a diagnosis of colon cancer changed to rectal cancer intraoperatively?
- ☐ Was the patient reviewed in a multidisciplinary tumor board pre-operatively?
  - If not, then why?
  - Did the review include:
    - Pathology (with review of physical slides)?
    - Imaging (with review of actual images)?
  - Did the diagnosis change in the tumor board?
  - Did the treatment plan change in the tumor board?
- ☐ Were biopsies performed before surgery?
  - Was MMR or MSI testing performed? Preoperatively on biopsy or postoperatively on the surgical specimen? At your facility or at another location? If MMR testing was not performed, please explain why.
  - Were there any other high-risk features identified:
    - LVI/EMVI?
    - PNI?
    - Tumor budding?
- ☐ Was chemotherapy, radiation, or immunotherapy given preop? If so, what therapy and how much?

- In the operating room, was a positive margin suspected?
  - Did it seem avoidable? Why or why not?
  - Were frozen specimens obtained?
  - If positive margin, was the specimen grossly reviewed by the surgeon with a pathologist to indicate margins of concern?
  - If inadequate lymph nodes (<12), did a discussion take place between the surgeon and the pathologist to determine if additional nodes could be identified in the specimen?
  - Was a second surgeon of the same specialty (general or colorectal) planned to be in the operating room? Were they consulted intraoperatively?
  - Was another surgeon of a different specialty planned to be in the operating room? Were they consulted intraoperatively?
  - Was the site of suspected positive margin marked by clips or other modality?
  - Was bowel diversion in lieu of resection considered? Why or why not?
- What patient factors contributed to the flagged case?
  - Intended non-curative resection for palliative intent?
  - Body habitus?
  - Social factors such as financial constraints or limited access to healthcare?
  - Comorbidities?
  - Other?
- What institutional factors contributed to the positive margin (e.g., cancer volume, surgeon experience, available expertise, etc)?