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## Episode-based Resource Use Measures

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### ***Episode-of-Care for Treatment of Localized Colon Cancer***

*This measure was developed by the American Board of Medical Specialties Research and Education Foundation for the High Value Health Care Project: Characterizing Episodes and Costs of Care—funded by the Robert Wood Johnson Foundation under grant 63609.*

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## ***Episode-of-Care for Treatment of Localized Colon Cancer***

### **Measure Description**

Resource use and costs associated with colon cancer treatment. Patients undergoing colectomy are identified and the resource use and costs associated with colon cancer care in the 30 days before the procedure and the 11 months following the procedure are measured.

### **Required Data Elements**

Administrative claims data

### **Calculation**

For patients meeting inclusion criteria, determine colon cancer-related resource use and costs in the 30 day period preceding the colectomy and the 11 months following their colectomy. Prices from a standard price list will be applied to the resource use to estimate the costs of the episode of care related to colon cancer treatment. Resources will be defined for nine categories: 1) inpatient facility; 2) evaluation and management; 3) procedures; 4) imaging; 5) tests; 6) DME; 7) other drugs and services; 8) medications; and 9) other. Population will be stratified based on receipt of chemotherapy during the follow-up period. For inpatient facility costs, the standard cost is based on a per diem cost for a DRG and will be multiplied by the length of stay for the index event. For each of the other resource use categories, standardized prices will be assigned to each type of utilization that is defined as colon cancer-related. For those not receiving chemotherapy, the overall resource use over the 12 month measurement period is attributed to the surgeon. Within the strata receiving chemotherapy, the resource use up through the first 6 weeks (42 days) following colectomy are attributed to the surgeon and resource use from day 43 through the end of the measurement period is attributed to the oncologist that has the most E&M codes.

### **Episode Definition**

Colon cancer-related costs

### **Rationale**

The Institute of Medicine and AQA (formerly known as the Ambulatory Care Quality Alliance) have identified colon cancer as one of 20 conditions that should be considered priority areas in need of quality improvement based on its relevance to a significant volume of patients, its impact on those patients, and the perception of opportunity to significantly improve the quality and efficiency of related care. In 2010 there were an

estimated 102,000 new cases of colon cancer diagnosed in the United States.<sup>1</sup> Colon cancer was responsible for the third leading number of new cancer cases in both men and women in 2010. In addition, it was estimated that more than 50,000 individuals died from colon cancer in the United States in 2010. Moreover, recent analyses have shown the average total colon cancer attributable healthcare costs for a Medicare patient were just under \$30,000 annually.<sup>2</sup> Thus, colon cancer is responsible for a large number of cases and a significant economic burden.

The measure includes resource use related to the treatment of new diagnoses of colon cancer in those with a colectomy over a 12 month period. The measure begins 30 days preceding the initial colectomy and follows patients for 11 months following the procedure. This period is intended to capture the initial resource use associated with an initial diagnosis and management of colon cancer that leads up to the colectomy. It intended to capture the typical course of chemotherapy that would follow the colectomy.

Treatment decisions related to colon cancer care may vary widely, at least in part due to variation in the stage of the cancer and patient preference. The potential range of resource use associated with these decisions may be quite wide. One of the important treatment options that can impact the relative resource use is treatment with chemotherapy. Therefore, to create more comparable groups of patients in the measure, the episode is stratified into those that do and do not receive chemotherapy.

The level of measurement and attribution is dependent upon the stratum of the patient. For those without chemotherapy, the totality of resource use is attributed to the surgeon that performs the colectomy. For patients in the chemotherapy strata, resource use through the first 6 weeks following colectomy is attributed to the surgeon. Resource use from day 43 following the colectomy to the end of the measurement period is attributed to the oncologist with the plurality of E&M codes for the patient. The time period for attributing care to the oncologist for those with chemotherapy was based on the period in which the risk for complications resulting from the colectomy has passed and the majority of the colon cancer care would be managed by the medical oncologist. In addition to examining resource use at this level and because of our inability to identify the stage of cancer at diagnosis, the measure will also be summarized at system and regional levels.

## Measures

- Colon cancer-related resource use / costs
  - Inpatient Facility
  - Evaluation and Management
  - Procedures

<sup>1</sup> American Cancer Society. *Cancer Facts & Figures 2010*. Atlanta: American Cancer Society; 2010.

<sup>2</sup> Lou Z, Bradley CJ, Dahman BA, Gardiner JC. *Health Care Financ Rev* 2009; 31(1): 35-50.

- Imaging
- Tests
- DME
- Other drugs and services
- Exceptions / Unclassified
- Other
- Pharmacy

## Eligible Population

|                            |   |
|----------------------------|---|
| <b>Age</b>                 | Ages 18-85 yrs  |
| <b>Enrollment Criteria</b> | Continuous medical and pharmacy benefit enrollment for at least one year preceding the measurement year and during the measurement year, with no more than one gap in enrollment of more than 45 days during each year of continuous enrollment.  |
| <b>Inclusion Criteria</b>  | Patients will be included in the measure if they have a procedure code for colectomy during the measurement period (see <b>Table CCTx-A</b> ) and an ICD-9 code for colon cancer (see <b>Table CCTx-B</b> ).  |
| <b>Exclusion</b>           | <p>Persons with any of the following diagnoses in the measurement year or the year prior to measurement are excluded (see <b>Tables CCTxI 1-4</b> for codes):</p> <ul style="list-style-type: none"> <li>active cancer (except colon cancer); end stage renal disease (ESRD); dialysis; renal failure; organ transplant; HIV/AIDS</li> </ul> <p>Persons with a prior colectomy within the previous 12 months (24 months preferable) are excluded.</p> |

**Table CCTx-A: Codes to identify colectomy**

| Description  | CPT   |
|--|-------|
| <b>Open Colectomy</b>  |       |
| Colectomy - Open - Partial; With Anastomosis   | 44140 |
| Colectomy - Open - Partial; With Skin Level Cecostomy Or Colostomy                         | 44141 |
| Colectomy - Open - Partial; With End Colostomy And Closure Of Distal Segment               | 44143 |
| Colectomy - Open - Partial; With Resection, With Colostomy Or Ileostomy And Mucous Fistula | 44144 |

|  |       |
|--|-------|
| Colectomy - Open - Partial; With Coloproctostomy   | 44145 |
| Colectomy - Open - Partial; With Coloproctostomy And Colostomy   | 44146 |
| Colectomy - Open - Partial; Abdominal And Transanal Approach   | 44147 |
| Colectomy - Open - Total; Without Proctectomy, With Ileostomy Or Ileoproctostomy   | 44150 |
| Colectomy - Open - Total; Without Proctectomy, With Continent Ileostomy  | 44151 |
| Colectomy - Open - Total ; Abdominal With Proctectomy, With Ileostomy  | 44155 |
| Colectomy - Open - Total; Abdominal With Continent Ileostomy   | 44156 |
| Colectomy - Open - Total; Abdominal With Ileoanal Anastomosis, Includes Loop Ileostomy   | 44157 |
| Colectomy - Open - Total; With Creation Of Ileal Reservoir, Includes Loop Ileostomy  | 44158 |
| Colectomy - Open - Partial; With Removal Of Terminal Ileum With Ileocecostomy  | 44160 |
| <b>Laparoscopic colectomy</b>  |       |
| Colectomy - Laparoscopic - Partial; With Anasomosis  | 44204 |
| Colectomy - Laparoscopic - Partial; With Removal Of Terminal Ileum, With Ileocolostomy   | 44205 |
| Colectomy - Laparoscopic - Partial; With End Colostomy And And Closure Of Distal Segment (Hartmann Type Procedure)                   | 44206 |
| Colectomy - Laparoscopic - Partial; With Anastomosis With Coloproctostomy  | 44207 |
| Colectomy - Laparoscopic - Partial; With Anastomosis With Coloproctostomy And Colostomy  | 44208 |
| Colectomy - Laparoscopic - Total; Abdominal Without Proctectomy, With Ileostomy Or Ileoproctostomy                                   | 44210 |
| Colectomy - Laparoscopic - Total; Abdominal With Proctectomy, With Ileoanal Anastomosis, Creation Of Ileal Reservoir, Loop Ileostomy | 44211 |
| Colectomy - Laparoscopic - Total; Abdominal With Proctectomy, Ileostomy  | 44212 |

These CPT, codes, present in any field, will be used to identify colectomy patients during the measurement period, along with a corresponding ICD-9 code for colon cancer (See **Table CCTx-B**).

**Table CCTx-B: Diagnosis codes to identify colon cancer**

| Description                 | ICD-9 |
|-----------------------------|-------|
| Malignant neoplasm of colon | 153.x |
| Carcinoma in situ of colon  | 230.3 |

These diagnosis codes must be present as *primary* diagnosis on colectomy claim for patients to be included in the episode. These codes will also identify colon cancer-related services during the measurement period if they are present in any field. See also **Table CCTx-H** for colon cancer-related DRGs

**Table CCTx-C: Diagnosis codes to identify colon cancer-related services**

| Description  | ICD-9                         |
|--|-------------------------------|
| Malignant neoplasm of colon  | 153.x                         |
| Carcinoma in situ of colon   | 230.3                         |
| Postoperative infection (abscess: intra-abdominal, stitch, wound)  | 998.51, 998.59                |
| Vomiting   | 787.0, 787.01, 787.03, 787.04 |
| Vomiting following gastrointestinal surgery <sup>a</sup>   | 564.3                         |
| Dehydration  | 276.51                        |
| Abdominal pain   | 789.x                         |
| Diarrhea   |                               |
| Other and unspecified gastroenteritis and colitis  | 558.9                         |
| Other postoperative functional disorders   | 564.4                         |
| Diarrhea, NOS  | 787.91                        |
| Fever  | 780.60, 780.61, 780.62        |
| Perforation of intestine <sup>a</sup>  | 569.83                        |
| Ileus  | 560.1, 560.31                 |
| Gastrointestinal hemorrhage <sup>a</sup>   | 578                           |
| Hematemesis  | 578.0                         |
| Blood in stool   | 578.1                         |
| Hemorrhage of gastrointestinal tract, unspecified  | 578.9                         |
| Disruption of wound, NEC   |                               |
| Disruption of wound, unspecified   | 998.30                        |
| Disruption of internal operation (surgical) wound  | 998.31                        |
| Disruption of external operation (surgical) wound  | 998.32                        |
| Digestive system complication, NEC   | 997.4                         |
| Complications of: NEC, intestinal (internal) anastomosis and bypass NEC except that involving urinary tract; {Hepatic failure} {Hepatorenal syndrome} {Intestinal obstruction NOS} specified as due to a procedure |                               |
| Decubitus ulcer  |                               |
| Pressure ulcer, unspecified site   | 707.00                        |
| Pressure ulcer, lower back   | 707.03                        |
| Pressure ulcer, hip  | 707.04                        |
| Pressure ulcer, buttock  | 707.05                        |

|  |  |
|--|--|
| Pressure ulcer, other site   | 707.09   |
| Cardiopulmonary complications <sup>a</sup>                                     |  |
| Myocardial infarction  | 410.x, except<br>410.x2  |
| Angina   | 413.x  |
| Acute coronary syndrome  | 411.1, 411.8x  |
| Cardiac dysrhythmias, arrhythmias  | 427.xx   |
| Congestive heart failure (CHF)   | 428.xx, 402.01,<br>402.11, 402.91,<br>404.01, 404.03,<br>404.11, 404.13,<br>404.91, 404.93 |
| Cardiac or respiratory arrest  | 427.5, 518.81,<br>518.84, 799.1, 997.1   |
| Syncope  | 780.2  |
| Hypotension  | 458.9  |
| Shock  | 518.5, 785.50,<br>785.51, 785.59,<br>998.0   |
| Stroke <sup>a</sup>  | 431.x-438.x  |
| Coagulation complications  |  |
| Pulmonary embolism   | 415.1x   |
| DVT  | 453.4x   |
| Intestinal infections due to other organisms                                   | 008.x  |
| Ill-defined intestinal infections  | 009.x  |
| Streptococcal sore throat and scarlet fever                                    | 034x   |
| Septicemia   | 038.x  |
| Bacterial infection in conditions classified elsewhere and of unspecified site | 041.x  |
| Iron deficiency anemia   | 280.x  |
| Anemia of chronic illness  | 285.2  |
| Anemia, unspecified  | 285.9  |
| Agranulocytosis  | 288.0  |

These ICD-9 codes, present in any field, will be used to identify related services during the measurement period.

<sup>a</sup> Vomiting following gastrointestinal surgery and perforation only included from day  $t_{-1}$  to day  $t_{+14}$ , where  $t$  is the date of the colectomy (event date)

**Table CCTx-D: E&M codes to identify colon cancer-related care**

| Description   | CPT   |
|---|-------|
| New Patient - Office Or Other Outpatient Visit - Focused          | 99201 |
| New Patient - Office Or Other Outpatient Visit - Expanded Focused | 99202 |
| New Patient - Office Or Other Outpatient Visit - Detailed         | 99203 |

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|  |       |
|--|-------|
| New Patient - Office Or Other Outpatient Visit - Comprehensive - Moderate Complexity | 99204 |
| New Patient - Office Or Other Outpatient Visit - Comprehensive - High Complexity     | 99205 |
|  |       |
| Established Patient - Office Or Other Outpatient Visit - Minimal                     | 99211 |
| Established Patient - Office Or Other Outpatient Visit - Focused                     | 99212 |
| Established Patient - Office Or Other Outpatient Visit - Expanded Focused            | 99213 |
| Established Patient - Office Or Other Outpatient Visit - Detailed                    | 99214 |
| Established Patient - Office Or Other Outpatient Visit - Comprehensive               | 99215 |
|  |       |
| Hospital Observation - Observation Care Discharge                                    | 99217 |
| Initial Observation Care - Detailed Or Comprehensive - Low Complexity                | 99218 |
| Initial Observation Care - Detailed Or Comprehensive - Moderate Complexity           | 99219 |
| Initial Observation Care - Detailed Or Comprehensive - High Complexity               | 99220 |
|  |       |
| Initial Hospital Care - Low Complexity   | 99221 |
| Initial Hospital Care - Moderate Complexity  | 99222 |
| Initial Hospital Care - High Complexity  | 99223 |
| Subsequent Hospital Care - Low Complexity  | 99231 |
| Subsequent Hospital Care - Moderate Complexity                                       | 99232 |
| Subsequent Hospital Care - High Complexity   | 99233 |
|  |       |
| Observation Or Inpatient Hospital Care - Low Complexity                              | 99234 |
| Observation Or Inpatient Hospital Care - Moderate Complexity                         | 99235 |
| Observation Or Inpatient Hospital Care - High Complexity                             | 99236 |
|  |       |
| Hospital Discharge Day Management - Less Than 30 Minutes                             | 99238 |
| Hospital Discharge Day Management - Greater Than 30 Minutes                          | 99239 |
|  |       |
| Office Consultation - Problem Focused - Straightforward                              | 99241 |
| Office Consultation - Expanded Problem Focused - Straightforward                     | 99242 |
| Office Consultation - Detailed History - Low Complexity                              | 99243 |
| Office Consultation - Comprehensive History - Moderate Complexity                    | 99244 |
| Office Consultation - Comprehensive History - High Complexity                        | 99245 |
|  |       |
| Inpatient Consultation - Problem Focused - Straightforward                           | 99251 |

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|   |       |
|---|-------|
| Inpatient Consultation - Expanded Problem Focused - Straightforward   | 99252 |
| Inpatient Consultation - Detailed History - Low Complexity  | 99253 |
| Inpatient Consultation - Comprehensive History - Moderate Complexity  | 99254 |
| Inpatient Consultation - Comprehensive History - High Complexity  | 99255 |
|   |       |
| Emergency Department Visit - Problem Focused - Straightforward  | 99281 |
| Emergency Department Visit - Expanded Problem Focused - Low Complexity  | 99282 |
| Emergency Department Visit - Expanded Problem Focused - Moderate Complexity                                   | 99283 |
| Emergency Department Visit - Detailed History - Moderate Complexity   | 99284 |
| Emergency Department Visit - Comprehensive History - High Complexity  | 99285 |
|   |       |
| Home Visit For An Established Patient - Comprehensive - Moderate To High Complexity                           | 99350 |
| Prolonged Physician Service - Outpatient - Direct Patient Contact   | 99354 |
| Prolonged Physician Service - Outpatient - Direct Patient Contact - Additional 30 Minutes                     | 99355 |
| Prolonged Physician Service - Inpatient - Direct Patient Contact  | 99356 |
| Prolonged Physician Service - Inpatient - Direct Patient Contact - Additional 30 Minutes                      | 99357 |
| Prolonged Evaluation And Management Service - Before And After Direct Patientcontact                          | 99358 |
| Prolonged Evaluation And Management Service - Before And After Direct Patient Contact - Additional 30 Minutes | 99359 |
| Physician Standby Service - Requiring Prolonged Attendance  | 99360 |
|   |       |
| Medical Team Conference - Interdisciplinary - Direct Patient Contact  | 99366 |
| Medical Team Conference - Interdisciplinary - Without Direct Patient Contact                                  | 99367 |
|   |       |
| Physician Supervision Of Patient Under Home Health Agency Care  | 99374 |
| Physician Supervision Of Patient Under Home Health Agency Care - More Than 30 Minutes                         | 99375 |
| Physician Supervision Of Hospice Patient  | 99377 |
| Physician Supervision Of Hospice Patient - More Than 30 Minutes   | 99378 |
| Physician Supervision Of Nursing Facility Patient - Complex   | 99379 |
| Physician Supervision Of Nursing Facility Patient - Complex - More Than 30 Minutes                            | 99380 |
|   |       |
| Telephone Evaluation And Management To An Established Patient - 5-  | 99441 |

|   |       |
|---|-------|
| 10 Minutes  |       |
| Telephone Evaluation And Management To An Established Patient - 11-20 Minutes | 99442 |
| Telephone Evaluation And Management To An Established Patient - 21-30 Minutes | 99443 |
| Online Evaluation And Management To An Established Patient                    | 99444 |

These codes must also contain an eligible ICD-9 code for colon cancer-related care to be included in the episode

**Table CCTx-E: Colon-related surgery codes to identify resource use for the colon cancer treatment episode**

| <b>Description</b>   | <b>CPT / HCPCS / ICD9</b> |
|--|---------------------------|
| <b>COLON - PRIMARY PROCEDURES (COLON RESECTIONS - OPEN OR LAPAROSCOPIC)</b>                |                           |
| Colectomy - Open - Partial; With Anastomosis   | 44140                     |
| Colectomy - Open - Partial; With Skin Level Cecostomy Or Colostomy                         | 44141                     |
| Colectomy - Open - Partial; With End Colostomy And Closure Of Distal Segment               | 44143                     |
| Colectomy - Open - Partial; With Resection, With Colostomy Or Ileostomy And Mucous Fistula | 44144                     |
| Colectomy - Open - Partial; With Coloproctostomy   | 44145                     |
| Colectomy - Open - Partial; With Coloproctostomy And Colostomy                             | 44146                     |
| Colectomy - Open - Partial; Abdominal And Transanal Approach                               | 44147                     |
| Colectomy - Open - Total; Without Proctectomy, With Ileostomy Or Ileoproctostomy           | 44150                     |
| Colectomy - Open - Total; Without Proctectomy, With Continent Ileostomy                    | 44151                     |
| Colectomy - Open - Total ; Abdominal With Proctectomy, With Ileostomy                      | 44155                     |
| Colectomy - Open - Total; Abdominal With Continent Ileostomy                               | 44156                     |
| Colectomy - Open - Total; Abdominal With Ileoanal Anastomosis, Includes Loop Ileostomy     | 44157                     |
| Colectomy - Open - Total; With Creation Of Ileal Reservoir, Includes Loop Ileostomy        | 44158                     |
| Colectomy - Open - Partial; With Removal Of Terminal Ileum With Ileocecostomy              | 44160                     |
|  |                           |
| Colectomy - Laparoscopic - Partial; With Anasomosis  | 44204                     |
| Colectomy - Laparoscopic - Partial; With Removal Of Terminal Ileum, With Ileocolostomy     | 44205                     |
| Colectomy - Laparoscopic - Partial; With End Colostomy And And                             | 44206                     |

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|  |       |
|--|-------|
| Closure Of Distal Segment (Hartmann Type Procedure)  |       |
| Colectomy - Laparoscopic - Partial; With Anastomosis With Coloproctostomy  | 44207 |
| Colectomy - Laparoscopic - Partial; With Anastomosis With Coloproctostomy And Colostomy  | 44208 |
| Colectomy - Laparoscopic - Total; Abdominal Without Proctectomy, With Ileostomy Or Ileoproctostomy                                   | 44210 |
| Colectomy - Laparoscopic - Total; Abdominal With Proctectomy, With Ileoanal Anastomosis, Creation Of Ileal Reservoir, Loop Ileostomy | 44211 |
| Colectomy - Laparoscopic - Total; Abdominal With Proctectomy, Ileostomy  | 44212 |
|  |       |
| <b>COLON - ASSOCIATED SMALL AND LARGE INTESTINAL PROCEDURES</b>  |       |
| Enterolysis - Open - (Lysis Of Adhesions) - Separate Procedure   | 44005 |
| Tube Or Needle Catheter Jejunostomy - Open - For Enteral Alimentation, Intraoperative, Any Method - Listed Separately                | 44015 |
| Enterectomy - Open - Resection Of Small Intestine, Single Resection And Anastomosis  | 44120 |
| Enterectomy - Open - Resection Of Small Intestine, Each Additional Resection And Anastomosis   | 44121 |
| Enterectomy - Open - Resection Of Small Intestine, With Enterostomy  | 44125 |
| Mobilization Of Splenic Flexure - Open - In Conjunction With With Partial Colectomy - Listed Separately                              | 44139 |
|  |       |
| Enterolysis - Laparoscopic - (Lysis Of Adhesions) - Separate Procedure   | 44180 |
| Jejunostomy - Laparoscopic - For Enteral Alimentation, Decompression   | 44186 |
| Ileostomy Or Jejunostomy - Laparoscopic - Non-Tube   | 44187 |
| Colostomy Or Cecostomy - Laparoscopic  | 44188 |
| Enterectomy - Laparoscopic - Resection Of Small Intestine, Single Resection And Anastomosis  | 44202 |
| Enterectomy - Laparoscopic - Resection Of Small Intestine, Each Additional Resection And Anastomosis                                 | 44203 |
| Mobilization Of Splenic Flexure - Laparoscopic - In Conjunction With Partial Colectomy - Listed Separately                           | 44213 |
| Closure Of Enterostomy - Laparoscopic - Large Or Small Intestine, With Resection And Anastomosis                                     | 44227 |
| Unlisted Procedure - Laparoscopic - Intestine (Except Rectum)  | 44238 |
|  |       |
| Enterostomy Or Cecostomy - Open - Tube Placement, For Feeding Or Decompression - Separate Procedure                                  | 44300 |

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|   |       |
|---|-------|
| Ileostomy Or Jejunostomy - Open - Non-Tube  | 44310 |
| Ileostomy Revision - Open - Simple - Separate Procedure   | 44312 |
| Ileostomy Revision - Open - Complicated - Separate Procedure  | 44214 |
| Continent Ileostomy - Open - Separate Procedure   | 44316 |
| Colostomy Or Skin Level Cecostomy - Open  | 44320 |
| Colostomy Revision - Open - Simple - Separate Procedure   | 44340 |
| Colostomy Revision - Open - Complicated - Separate Procedure  | 44345 |
| Colostomy Revision - Open - With Repair Of Paracolostomy Hernia - Separate Procedure                                | 44346 |
|   |       |
| Colonoscopy - Through Stoma, Diagnostic, With Or Without Collection Of Specimens - Separate Procedure               | 44388 |
| Colonoscopy - Through Stoma, Diagnostic, With Biopsy, Single Or Multiple - Separate Procedure                       | 44389 |
| Colonoscopy - Through Stoma, Diagnostic, With Control Of Bleeding   | 44391 |
| Colonoscopy - Through Stoma, Diagnostic, With Removal Of Tumors, Polyps Or Other Lesions                            | 44392 |
| Colonoscopy - Through Stoma, Diagnostic, With Ablation Of Lesions Not Amenable To Removal, By Hot Biopsy Forceps    | 44393 |
| Colonoscopy - Through Stoma, Diagnostic, With Ablation Of Lesions Not Amenable To Removal, By Snare Technique       | 44394 |
| Colonoscopy - Through Stoma, Diagnostic, With Transendoscopic Stent Placement                                       | 44397 |
|   |       |
| Enterorrhaphy - Open - (Suture Of Small Intestine) - For Perforation Or Injury, Single                              | 44602 |
| Enterorrhaphy - Open - (Suture Of Small Intestine) - For Perforation Or Injury, Multiple                            | 44603 |
| Colorrhaphy - Open - (Suture Of Large Intestine) - For Perforation Or Injury, Single Or Multiple, Without Colostomy | 44604 |
| Colorrhaphy - Open - (Suture Of Large Intestine) - For Perforation Or Injury, Single Or Multiple, With Colostomy    | 44605 |
| Enterostomy Or Colostomy Closure - Open   | 44620 |
| Enterostomy Or Colostomy Closure - Open - With Resection And Anastomosis Other Than Colorectal                      | 44625 |
| Enterostomy Or Colostomy Closure - Open - With Resection And Colorectal Anastomosis                                 | 44626 |
| Closure Of Intestinal Cutaneous Fistula - Open  | 44640 |
| Closure Of Enteroenteric Or Enterocolic Fistula - Open  | 44650 |
| Closure Of Enterovesicle Fistula - Open - Without Intestinal Or Bladder Resection                                   | 44660 |
| Closure Of Enterovesicle Fistula - Open - With Intestinal And/Or Bladder Resection                                  | 44661 |
|   |       |
| Intraoperative Colonic Lavage - Listed Separately   | 44701 |

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|  |       |
|--|-------|
| Unlisted Procedure, Intestine  | 44799 |
|  |       |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Or Without Collection Of Specimens - Separate Procedure  | 45300 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Or Without Collection Of Specimens, With Dilatation - Separate Procedure                           | 45303 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Or Without Collection Of Specimens, With Biopsy, Single Or Multiple - Separate Procedure           | 45305 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Removal Of Single Tumor Or Polyp By Hot Biopsy Forceps - Separate Procedure                        | 45308 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Removal Of Single Tumor Or Polyp By Snare Technique - Separate Procedure                           | 45309 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Removal Of Multiple Tumors Or Polyps By Hot Biopsy Forceps Or Snare Technique - Separate Procedure | 45315 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Control Of Bleeding - Separate Procedure   | 45317 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Ablation Of Tumors Not Amenable To Removal - Separate Procedure                                    | 45320 |
| Proctosigmoidoscopy - Rigid, Diagnostic, With Transendoscopic Stent Placement  | 45327 |
|  |       |
| Sigmoidoscopy - Flexible, Diagnostic, With Or Without Collection Of Specimens - Separate Procedure   | 45330 |
| Sigmoidoscopy - Flexible, Diagnostic, With Biopsy, Single Or Multiple - Separate Procedure   | 45331 |
| Sigmoidoscopy - Flexible, Diagnostic, With Removal Of Tumors Or Polyps By Hot Biopsy Forceps - Separate Procedure                                | 45333 |
| Sigmoidoscopy - Flexible, Diagnostic, With Control Of Bleeding - Separate Procedure  | 45334 |
| Sigmoidoscopy - Flexible, Diagnostic, With Directed Submucosal Injections, Any Substance - Separate Procedure                                    | 45335 |
| Sigmoidoscopy - Flexible, Diagnostic, With Removal Of Tumors Or Polyps By Snare Technique - Separate Procedure                                   | 45388 |
| Sigmoidoscopy - Flexible, Diagnostic, With Ablation Of Tumors Not Amenable To Removal - Separate Procedure                                       | 45339 |
| Sigmoidoscopy - Flexible, Diagnostic, With Dilation By Balloon, One Or More Strictures - Separate Procedure                                      | 45340 |
| Sigmoidoscopy - Flexible, Diagnostic, With Endoscopic Ultrasound Examination   | 45341 |
| Sigmoidoscopy - Flexible, Diagnostic, With Transendoscopic Ultrasound Guided Intramural Or Transmural Needle Aspiration/Biopsy                   | 45342 |
| Sigmoidoscopy - Flexible, Diagnostic, With Transendoscopic Stent   | 45345 |

Episode-based Resource Use Measures: Colon Cancer

|  |       |
|--|-------|
| Placement  |       |
| Colonoscopy - Rigid Or Flexible, Transabdominal Via Colotomy, Single Or Multiple   | 45355 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Or Without Collection Of Specimens, With Or Without Decompression - Separate Procedure | 45378 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Biopsy, Single Or Multiple - Separate Procedure  | 45380 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Directed Submucosal Injections, Any Substance - Separate Procedure                     | 45381 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Control Of Bleeding - Separate Procedure   | 45382 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Ablation Of Tumors Not Amenable To Removal - Separate Procedure                        | 45383 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Removal Of Tumors By Hot Biopsy Forceps - Separate Procedure                           | 45384 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Removal Of Tumors By Snare Technique- Separate Procedure                               | 45385 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Dilation By Balloon, One Or More Strictures - Separate Procedure                       | 45386 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Transendoscopic Stent Placement  | 45387 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Endoscopic Ultrasound Examination  | 45391 |
| Colonoscopy - Flexible, Proximal To Splenic Flexure, Diagnostic, With Transendoscopic Ultrasound Guided Intramural Or Transmural Needle Aspiration/Biopsy    | 45392 |
|  |       |
| Colorectal cancer screening; colonoscopy on individual at high risk  | G0105 |
| Colorectal cancer screening; alternative to G0105, screening colonoscopy, barium enema   | G0120 |
| Colorectal cancer screening; colonoscopy on individual not meeting criteria for high risk  | G0121 |
| Colonoscopy  | 45.23 |
| Endoscopic polypectomy of large intestine  | 45.42 |

These codes identify colon cancer related resource use regardless of ICD-9 code on the claim.

**Table CCTx-F: Chemotherapy related codes for colon cancer-related care**

| <b>Description</b>  | <b>CPT</b> |
|---|------------|
| Chemotherapy administration, subcutaneous or intramuscular; non-hormonal anti-neoplastic  | 96401      |
| Chemotherapy administration, subcutaneous or intramuscular; hormonal anti-neoplastic  | 96402      |
| Chemotherapy administration; intralesional, up to and including 7 lesions   | 96405      |
| Chemotherapy administration; intralesional, more than 7 lesions   | 96406      |
| Chemotherapy administration; intravenous, push technique, single or initial substance/drug  | 96409      |
| Chemotherapy administration; intravenous, push technique, each additional substance/drug (List separately in addition to code for primary procedure)  | 96411      |
| Chemotherapy administration, intravenous infusion technique; up to 1 hour, single or initial substance/drug   | 96413      |
| Chemotherapy administration, intravenous infusion technique; each additional hour (List separately in addition to code for primary procedure)   | 96415      |
| Chemotherapy administration, intravenous infusion technique; initiation of prolonged chemotherapy infusion (more than 8 hours), requiring use of a portable or implantable pump                       | 96416      |
| Chemotherapy administration, intravenous infusion technique; each additional sequential infusion (different substance/drug), up to 1 hour (List separately in addition to code for primary procedure) | 96417      |
| Chemotherapy administration, intra-arterial; push technique   | 96420      |
| Chemotherapy administration, intra-arterial; infusion technique, up to one hour   | 96422      |
| Chemotherapy administration, intra-arterial; infusion technique, each additional hour (List separately in addition to code for primary procedure)   | 96423      |
| Chemotherapy administration, intra-arterial; infusion technique, initiation of prolonged infusion (more than 8 hours), requiring the use of a portable or implantable pump                            | 96425      |
| Chemotherapy administration into pleural cavity, requiring and including thoracentesis  | 96440      |
| Chemotherapy administration into peritoneal cavity, requiring and including peritoneocentesis   | 96445      |
| Chemotherapy administration, into CNS (eg, intrathecal), requiring and including spinal puncture  | 96450      |
| Refilling and maintenance of portable pump  | 96521      |
| Refilling and maintenance of implantable pump or reservoir for drug delivery, systemic (eg, intravenous, intra-arterial)  | 96522      |
| Irrigation of implanted venous access device for drug delivery systems  | 96523      |
| Chemotherapy injection, subarachnoid or intraventricular via  | 96542      |

|   |       |
|---|-------|
| subcutaneous reservoir, single or multiple agents |       |
| Unlisted chemotherapy procedure                   | 96549 |

OR

| Description  | HCPCS |
|--|-------|
| <b>Other treatments</b>                                      |       |
| INJECTION, AMIFOSTINE, 500 MG                                | J0207 |
| INJECTION, AMOBARBITAL, UP TO 125 MG                         | J0300 |
| INJECTION, BUSULFAN, 1 MG                                    | J0594 |
| INJECTION, LEUCOVORIN CALCIUM, PER 50 MG                     | J0640 |
| INJECTION, LEVOLEUCOVORIN CALCIUM, 0.5 MG                    | J0641 |
| INJECTION, PROCHLORPERAZINE, UP TO 10 MG                     | J0780 |
| INJECTION, DECITABINE, 1 MG                                  | J0894 |
| INJECTION, BROMPHENIRAMINE MALEATE, PER 10 MG                | J0945 |
| INJECTION, DIMENHYDRINATE, UP TO 50 MG                       | J1240 |
| INJECTION, DOLASETRON MESYLATE, 10 MG                        | J1260 |
| INJECTION, FILGRASTIM (G-CSF), 300 MCG                       | J1440 |
| INJECTION, FILGRASTIM (G-CSF), 480 MCG                       | J1441 |
| INJECTION, FOSAPREPITANT, 1 MG                               | J1453 |
| INJECTION, GRANISETRON HYDROCHLORIDE, 100 MCG                | J1626 |
| INJECTION, OPRELVEKIN, 5 MG                                  | J2355 |
| INJECTION, ONDANSETRON HYDROCHLORIDE, PER 1 MG               | J2405 |
| INJECTION, PALIFERMIN, 50 MICROGRAMS                         | J2425 |
| INJECTION, PALONOSETRON HCL, 25 MCG                          | J2469 |
| INJECTION, PEGFILGRASTIM, 6 MG                               | J2505 |
| INJECTION, PROMETHAZINE HCL, UP TO 50 MG                     | J2550 |
| INJECTION, METOCLOPRAMIDE HCL, UP TO 10 MG                   | J2765 |
| INJECTION, RASBURICASE, 0.5 MG                               | J2783 |
| INJECTION, SARGRAMOSTIM (GM-CSF), 50 MCG                     | J2820 |
| INJECTION, CHLORPROMAZINE HCL, UP TO 50 MG                   | J3230 |
| INJECTION, TRIMETHOBENZAMIDE HCL, UP TO 200 MG               | J3250 |
| INJECTION, THIETHYLPERAZINE MALEATE, UP TO 10 MG             | J3280 |
| INJECTION, PERPHENAZINE, UP TO 5 MG                          | J3310 |
| INJECTION, TRIPTORELIN PAMOATE, 3.75 MG                      | J3315 |
| ANTIEMETIC DRUG, RECTAL/SUPPOSITORY, NOT OTHERWISE SPECIFIED | J8498 |
| INFUSION, NORMAL SALINE SOLUTION , 1000 CC                   | J7030 |
| INFUSION, NORMAL SALINE SOLUTION, STERILE (500 ML=1 UNIT)    | J7040 |
| 5% DEXTROSE/NORMAL SALINE (500 ML = 1 UNIT)                  | J7042 |
| INFUSION, NORMAL SALINE SOLUTION , 250 CC                    | J7050 |
| STERILE SALINE OR WATER, UP TO 5 CC                          | J7051 |
| 5% DEXTROSE/WATER (500 ML = 1 UNIT)                          | J7060 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| INFUSION, D5W, 1000 CC  | J7070 |
| INFUSION, DEXTRAN 40, 500 ML  | J7100 |
| INFUSION, DEXTRAN 75, 500 ML  | J7110 |
| RINGERS LACTATE INFUSION, UP TO 1000 CC                             | J7120 |
| HYPERTONIC SALINE SOLUTION, 50 OR 100 MEQ, 20 CC VIAL               | J7130 |
| <b>Chemotherapeutic Agents</b>                                      |       |
| APREPITANT, ORAL, 5 MG  | J8501 |
| BUSULFAN; ORAL, 2 MG  | J8510 |
| CABERGOLINE, ORAL, 0.25 MG  | J8515 |
| CAPECITABINE, ORAL, 150 MG  | J8520 |
| CAPECITABINE, ORAL, 500 MG  | J8521 |
| CYCLOPHOSPHAMIDE; ORAL, 25 MG                                       | J8530 |
| DEXAMETHASONE, ORAL, 0.25 MG  | J8540 |
| ETOPOSIDE; ORAL, 50 MG  | J8560 |
| GEFITINIB, ORAL, 250 MG   | J8565 |
| ANTIEMETIC DRUG, ORAL, NOT OTHERWISE SPECIFIED                      | J8597 |
| MELPHALAN; ORAL, 2 MG   | J8600 |
| METHOTREXATE; ORAL, 2.5 MG  | J8610 |
| NABILONE, ORAL, 1 MG  | J8650 |
| TEMOZOLOMIDE, ORAL, 5 MG  | J8700 |
| TOPOTECAN, ORAL, 0.25 MG  | J8705 |
| PRESCRIPTION DRUG, ORAL, CHEMOTHERAPEUTIC, NOS                      | J8999 |
| INJECTION, DOXORUBICIN HYDROCHLORIDE, 10 MG                         | J9000 |
| INJECTION, DOXORUBICIN HYDROCHLORIDE, ALL LIPID FORMULATIONS, 10 MG | J9001 |
| INJECTION, ALEMTUZUMAB, 10 MG                                       | J9010 |
| INJECTION, ALDESLEUKIN, PER SINGLE USE VIAL                         | J9015 |
| INJECTION, ARSENIC TRIOXIDE, 1 MG                                   | J9017 |
| INJECTION, ASPARAGINASE, 10,000 UNITS                               | J9020 |
| INJECTION, AZACITIDINE, 1 MG  | J9025 |
| INJECTION, CLOFARABINE, 1 MG  | J9027 |
| BCG (INTRAVESICAL) PER INSTILLATION                                 | J9031 |
| INJECTION, BENDAMUSTINE HCL, 1 MG                                   | J9033 |
| INJECTION, BEVACIZUMAB, 10 MG                                       | J9035 |
| INJECTION, BLEOMYCIN SULFATE, 15 UNITS                              | J9040 |
| INJECTION, BORTEZOMIB, 0.1 MG                                       | J9041 |
| INJECTION, CARBOPLATIN, 50 MG                                       | J9045 |
| INJECTION, CARMUSTINE, 100 MG                                       | J9050 |
| INJECTION, CETUXIMAB, 10 MG   | J9055 |
| CISPLATIN, POWDER OR SOLUTION, PER 10 MG                            | J9060 |
| CISPLATIN, 50 MG  | J9062 |
| INJECTION, CLADRIBINE, PER 1 MG                                     | J9065 |
| CYCLOPHOSPHAMIDE, 100 MG  | J9070 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| CYCLOPHOSPHAMIDE, 200 MG  | J9080 |
| CYCLOPHOSPHAMIDE, 500 MG  | J9090 |
| CYCLOPHOSPHAMIDE, 1.0 GRAM  | J9091 |
| CYCLOPHOSPHAMIDE, 2.0 GRAM  | J9092 |
| CYCLOPHOSPHAMIDE, LYOPHILIZED, 100 MG                                 | J9093 |
| CYCLOPHOSPHAMIDE, LYOPHILIZED, 200 MG                                 | J9094 |
| CYCLOPHOSPHAMIDE, LYOPHILIZED, 500 MG                                 | J9095 |
| CYCLOPHOSPHAMIDE, LYOPHILIZED, 1.0 GRAM                               | J9096 |
| CYCLOPHOSPHAMIDE, LYOPHILIZED, 2.0 GRAM                               | J9097 |
| INJECTION, CYTARABINE LIPOSOME, 10 MG                                 | J9098 |
| INJECTION, CYTARABINE, 100 MG   | J9100 |
| INJECTION, CYTARABINE, 500 MG   | J9110 |
| INJECTION, DACTINOMYCIN, 0.5 MG                                       | J9120 |
| DACARBAZINE, 100 MG   | J9130 |
| DACARBAZINE, 200 MG   | J9140 |
| INJECTION, DAUNORUBICIN, 10 MG  | J9150 |
| INJECTION, DAUNORUBICIN CITRATE, LIPOSOMAL FORMULATION, 10 MG         | J9151 |
| INJECTION, DENILEUKIN DIFTITOX, 300 MICROGRAMS                        | J9160 |
| INJECTION, DIETHYLSTILBESTROL DIPHOSPHATE, 250 MG                     | J9165 |
| INJECTION, DOCETAXEL, 20 MG   | J9170 |
| INJECTION, EPIRUBICIN HCL, 2 MG                                       | J9178 |
| INJECTION, ETOPOSIDE, 10 MG   | J9181 |
| ETOPOSIDE, 100 MG   | J9182 |
| INJECTION, FLUDARABINE PHOSPHATE, 50 MG                               | J9185 |
| INJECTION, FLUOROURACIL, 500 MG                                       | J9190 |
| INJECTION, FLOXURIDINE, 500 MG  | J9200 |
| INJECTION, GEMCITABINE HYDROCHLORIDE, 200 MG                          | J9201 |
| GOSERELIN ACETATE IMPLANT, PER 3.6 MG                                 | J9202 |
| INJECTION, IRINOTECAN, 20 MG  | J9206 |
| INJECTION, IXABEPILONE, 1 MG  | J9207 |
| INJECTION, IFOSFAMIDE, 1 GRAM   | J9208 |
| INJECTION, MESNA, 200 MG  | J9209 |
| INJECTION, IDARUBICIN HYDROCHLORIDE, 5 MG                             | J9211 |
| INJECTION, INTERFERON ALFACON-1, RECOMBINANT, 1 MICROGRAM             | J9212 |
| INJECTION, INTERFERON, ALFA-2A, RECOMBINANT, 3 MILLION UNITS          | J9213 |
| INJECTION, INTERFERON, ALFA-2B, RECOMBINANT, 1 MILLION UNITS          | J9214 |
| INJECTION, INTERFERON, ALFA-N3, (HUMAN LEUKOCYTE DERIVED), 250,000 IU | J9215 |
| INJECTION, INTERFERON, GAMMA 1-B, 3 MILLION UNITS                     | J9216 |
| LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), 7.5 MG                     | J9217 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| LEUPROLIDE ACETATE, PER 1 MG  | J9218 |
| LEUPROLIDE ACETATE IMPLANT, 65 MG   | J9219 |
| HISTRELIN IMPLANT (VANTAS), 50 MG   | J9225 |
| HISTRELIN IMPLANT (SUPPRELIN LA), 50 MG   | J9226 |
| INJECTION, MECHLORETHAMINE HYDROCHLORIDE, (NITROGEN MUSTARD), 10 MG   | J9230 |
| INJECTION, MELPHALAN HYDROCHLORIDE, 50 MG   | J9245 |
| METHOTREXATE SODIUM, 5 MG   | J9250 |
| METHOTREXATE SODIUM, 50 MG  | J9260 |
| INJECTION, NELARABINE, 50 MG  | J9261 |
| INJECTION, OXALIPLATIN, 0.5 MG  | J9263 |
| INJECTION, PACLITAXEL PROTEIN-BOUND PARTICLES, 1 MG   | J9264 |
| INJECTION, PACLITAXEL, 30 MG  | J9265 |
| INJECTION, PEGASPARGASE, PER SINGLE DOSE VIAL   | J9266 |
| INJECTION, PENTOSTATIN, 10 MG   | J9268 |
| INJECTION, PLICAMYCIN, 2.5 MG   | J9270 |
| MITOMYCIN, 5 MG   | J9280 |
| MITOMYCIN, 20 MG  | J9290 |
| MITOMYCIN, 40 MG  | J9291 |
| INJECTION, MITOXANTRONE HYDROCHLORIDE, PER 5 MG   | J9293 |
| INJECTION, GEMTUZUMAB OZOGAMICIN, 5 MG  | J9300 |
| INJECTION, PANITUMUMAB, 10 MG   | J9303 |
| INJECTION, PEMETREXED, 10 MG  | J9305 |
| INJECTION, RITUXIMAB, 100 MG  | J9310 |
| INJECTION, STREPTOZOCIN, 1 GRAM   | J9320 |
| INJECTION, TEMSIROLIMUS, 1 MG   | J9330 |
| INJECTION, THIOTEPA, 15 MG  | J9340 |
| INJECTION, TOPOTECAN, 4 MG  | J9350 |
| INJECTION, TRASTUZUMAB, 10 MG   | J9355 |
| INJECTION, VALRUBICIN, INTRAVESICAL, 200 MG   | J9357 |
| INJECTION, VINBLASTINE SULFATE, 1 MG  | J9360 |
| VINCRISTINE SULFATE, 1 MG   | J9370 |
| VINCRISTINE SULFATE, 2 MG   | J9375 |
| VINCRISTINE SULFATE, 5 MG   | J9380 |
| INJECTION, VINOURELBINE TARTRATE, 10 MG   | J9390 |
| INJECTION, FULVESTRANT, 25 MG   | J9395 |
| INJECTION, PORFIMER SODIUM, 75 MG   | J9600 |
| NOT OTHERWISE CLASSIFIED, ANTINEOPLASTIC DRUGS  | J9999 |
| CHEMOTHERAPY ADMINISTRATION BY OTHER THAN INFUSION TECHNIQUE ONLY (EG SUBCUTANEOUS, INTRAMUSCULAR, PUSH), PER VISIT | Q0083 |
| CHEMOTHERAPY ADMINISTRATION BY INFUSION TECHNIQUE ONLY, PER VISIT   | Q0084 |
| CHEMOTHERAPY ADMINISTRATION BY BOTH INFUSION TECHNIQUE AND OTHER TECHNIQUE(S) (EG SUBCUTANEOUS,                     | Q0085 |

|   |       |
|---|-------|
| INTRAMUSCULAR, PUSH), PER VISIT   |       |
|   |       |
| <b>Antibiotics / Antifungals</b>  |       |
| INJECTION, DAPTOMYCIN, 1 MG   | J0878 |
| INJECTION, DORIPENEM, 10 MG   | J1267 |
| INJECTION, ERTAPENEM SODIUM, 500 MG   | J1335 |
| INJECTION, GARAMYCIN, GENTAMICIN, UP TO 80 MG                                   | J1580 |
| INJECTION, GATIFLOXACIN, 10MG   | J1590 |
| INJECTION, KANAMYCIN SULFATE, UP TO 500 MG                                      | J1840 |
| INJECTION, KANAMYCIN SULFATE, UP TO 75 MG                                       | J1850 |
| INJECTION, CEPHALOTHIN SODIUM, UP TO 1 GRAM                                     | J1890 |
| INJECTION, LEVOFLOXACIN, 250 MG   | J1956 |
| INJECTION, LINCOMYCIN HCL, UP TO 300 MG   | J2010 |
| INJECTION, LINEZOLID, 200MG   | J2020 |
| INJECTION, MEROPENEM, 100 MG  | J2185 |
| INJECTION, MOXIFLOXACIN, 100 MG   | J2280 |
| INJECTION, OXYTETRACYCLINE HCL, UP TO 50 MG                                     | J2460 |
| INJECTION, PENICILLIN G PROCAINE, AQUEOUS, UP TO 600,000 UNITS                  | J2510 |
| INJECTION, PENICILLIN G POTASSIUM, UP TO 600,000 UNITS                          | J2540 |
| INJECTION, PIPERACILLIN SODIUM/TAZOBACTAM SODIUM, 1 GRAM/0.125 GRAMS (1.125     | J2543 |
| INJECTION, OXACILLIN SODIUM, UP TO 250 MG                                       | J2700 |
| INJECTION, QUINUPRISTIN/DALFOPRISTIN, 500 MG (150/350)                          | J2770 |
| INJECTION, STREPTOMYCIN, UP TO 1 GM   | J3000 |
| INJECTION, TIGECYCLINE, 1 MG  | J3243 |
| INJECTION, TOBRAMYCIN SULFATE, UP TO 80 MG                                      | J3260 |
| INJECTION, SPECTINOMYCIN DIHYDROCHLORIDE, UP TO 2 GM                            | J3320 |
| INJECTION, VANCOMYCIN HCL, 500 MG   | J3370 |
|   |       |
| INJECTION FLUCONAZOLE, 200 MG   | J1450 |
| INJECTION, ITRACONAZOLE, 50 MG  | J1835 |
| INJECTION, MICA FUNGIN SODIUM, 1 MG   | J2248 |
| INJECTION, VORICONAZOLE, 10 MG  | J3465 |
|   |       |
| INJECTION, EPOETIN ALPHA, (FOR NON ESRD USE), PER 1000 UNITS                    | Q0136 |
| INJECTION, DARBEPOETIN ALFA, 1 MCG (NON-ESRD USE)                               | Q0137 |
| AZITHROMYCIN DIHYDRATE, ORAL, CAPSULES/POWDER, 1 GRAM                           | Q0144 |
| DIPHENHYDRAMINE HYDROCHLORIDE, 50 MG, ORAL, FDA APPROVED PRESCRIPTION           | Q0163 |
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0163 |
| AT TIME OF CHEMOTHERAPY TREATMENT NOT TO EXCEED A                               | Q0163 |

|   |       |
|---|-------|
| 48 HOUR DOSAGE REGIMEN  |       |
| PROCHLORPERAZINE MALEATE, 5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,    | Q0164 |
| FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME  | Q0164 |
| OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN               | Q0164 |
| PROCHLORPERAZINE MALEATE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,   | Q0165 |
| FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME  | Q0165 |
| OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN               | Q0165 |
| GRANISETRON HYDROCHLORIDE, 1 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,   | Q0166 |
| FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME  | Q0166 |
| OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 24 HOUR DOSAGE REGIMEN               | Q0166 |
| DRONABINOL, 2.5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A   | Q0167 |
| COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF            | Q0167 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0167 |
| DRONABINOL, 5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A     | Q0168 |
| COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF            | Q0168 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0168 |
| PROMETHAZINE HYDROCHLORIDE, 12.5 MG, ORAL, FDA APPROVED PRESCRIPTION            | Q0169 |
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0169 |
| AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN   | Q0169 |
| PROMETHAZINE HYDROCHLORIDE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION              | Q0170 |
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0170 |
| AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN   | Q0170 |
| CHLORPROMAZINE HYDROCHLORIDE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION            | Q0171 |

|   |       |
|---|-------|
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0171 |
| AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN   | Q0171 |
| CHLORPROMAZINE HYDROCHLORIDE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION            | Q0172 |
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0172 |
| AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN   | Q0172 |
| TRIMETHOBENZAMIDE HYDROCHLORIDE, 250 MG, ORAL, FDA APPROVED PRESCRIPTION        | Q0173 |
| ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC | Q0173 |
| AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN   | Q0173 |
| THIETHYLPERAZINE MALEATE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,   | Q0174 |
| FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME  | Q0174 |
| OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN               | Q0174 |
| PERPHENAZINE, 4 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A   | Q0175 |
| COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF            | Q0175 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0175 |
| PERPHENAZINE, 8MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A    | Q0176 |
| COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF            | Q0176 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0176 |
| HYDROXYZINE PAMOATE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR    | Q0177 |
| USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF   | Q0177 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0177 |
| HYDROXYZINE PAMOATE, 50 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR    | Q0178 |
| USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF   | Q0178 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR                                 | Q0178 |

|   |       |
|---|-------|
| DOSAGE REGIMEN  |       |
| ONDANSETRON HYDROCHLORIDE 8 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,    | Q0179 |
| FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME  | Q0179 |
| OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN               | Q0179 |
| DOLASETRON MESYLATE, 100 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR   | Q0180 |
| USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF   | Q0180 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 24 HOUR DOSAGE REGIMEN                  | Q0180 |
| UNSPECIFIED ORAL DOSAGE FORM, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS | Q0181 |
| A COMPLETE THERAPEUTIC SUBSTITUTE FOR A IV ANTI-EMETIC AT THE TIME OF           | Q0181 |
| CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN                  | Q0181 |

**OR**

| <b>Class</b>                 | <b>Medications</b>  |
|------------------------------|---|
| Benzodiazepines              | alprazolam, bromazepam, chlordiazepoxide, clonazepam, clorazepate, diazepam, lorazepam, medazepam, nordazepam, oxazepam, prazepam<br>(THERCLS = 64)   |
| Antineoplastic Agents, NEC   | THERCLS = 21  |
| Antiemetics, NEC             | THERCLS = 160   |
| Hematopoietic, Agents, NEC   | THERCLS = 42  |
| Antidepressants              | THERCLS = 69  |
| Pain medications             | THERCLS = 57, 58, 59, 60, 61, 62  |
| Colonoscopy Prep Medications | Product Names: Tridate, Colyte Flavored, Oral Colonic Lavage, Trilyte w/Flavor Packs, Fleet Prep Kit (1-6), PEF 35550 & Electrolytes, Evac-Q-Kwik, Nulytely, Co-Lav, Go-Evac, Colyte, PEG-Lyte, Golytely, Lax Prepare, Moviprep |

These codes will be used to identify colon cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table CCTx-G: Other HCPCs codes for colon cancer-related care**

| <b>Description</b>  | <b>HCPCs</b> |
|---|--------------|
| <b>Ostomy Supplies</b>  |              |
| Ostomy faceplate each   | A4361        |
| Skin barrier; solid 4 x 4 or equivalent; each   | A4362        |
| Ostomy clamp any type replacement only each   | A4363        |
| Adhesive liquid or equal any type per oz  | A4364        |
| Adhesive remover wipes any type per 50  | A4365        |
| Ostomy vent any type each   | A4366        |
| Ostomy belt each  | A4367        |
| Ostomy filter any type each   | A4368        |
| Ostomy skin barrier liquid (spray brush etc) per oz   | A4369        |
| Code deleted for 2003.<br>Ostomy skin barrier paste per oz  | A4370        |
| Ostomy skin barrier powder per oz   | A4371        |
| Ostomy skin barrier solid 4x4 or equivalent with built-in convexity each                            | A4372        |
| Ostomy skin barrier with flange (solid flexible or accordion) with built-in convexity any size each | A4373        |
| Ostomy pouch drainable with faceplate attached plastic each   | A4375        |
| Ostomy pouch drainable with faceplate attached rubber each  | A4376        |
| Ostomy pouch drainable for use on faceplate plastic each  | A4377        |
| Ostomy pouch drainable for use on faceplate rubber each   | A4378        |
| Ostomy pouch urinary with faceplate attached plastic each   | A4379        |
| Ostomy pouch urinary with faceplate attached rubber each  | A4380        |
| Ostomy pouch urinary for use on faceplate plastic each  | A4381        |
| Ostomy pouch urinary for use on faceplate heavy plastic each  | A4382        |
| Ostomy pouch urinary for use on faceplate rubber each   | A4383        |
| Ostomy faceplate equivalent silicone ring each  | A4384        |
| Ostomy skin barrier solid 4x4 or equivalent extended wear without built-in convexity each           | A4385        |
| Ostomy pouch closed with barrier attached with built-in convexity (1 piece) each                    | A4387        |
| Ostomy pouch drainable with extended wear barrier attached (1 piece) each                           | A4388        |
| Ostomy pouch drainable with barrier attached with built-in convexity (1 piece) each                 | A4389        |
| Ostomy pouch drainable with extended wear barrier attached with built-in convexity (1 piece) each   | A4390        |
| Ostomy pouch urinary with extended wear barrier attached (1 piece) each                             | A4391        |
| Ostomy pouch urinary with standard wear barrier attached with built-in convexity (1 piece) each     | A4392        |
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity (1 piece) each     | A4393        |

Episode-based Resource Use Measures: Colon Cancer

|  |       |
|--|-------|
| Ostomy deodorant with or without lubricant for use in ostomy pouch per fluid ounce   | A4394 |
| Ostomy deodorant for use in ostomy pouch solid per tablet  | A4395 |
| Ostomy belt with peristomal hernia support   | A4396 |
| Irrigation supply; sleeve each   | A4397 |
| Ostomy irrigation supply; bag each   | A4398 |
| Ostomy irrigation supply; cone/catheter including brush  | A4399 |
| Ostomy irrigation set  | A4400 |
| Lubricant per ounce  | A4402 |
| Ostomy ring each   | A4404 |
| Ostomy skin barrier non-pectin based paste per ounce   | A4405 |
| Ostomy skin barrier pectin-based paste per ounce   | A4406 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear with built-in convexity 4 x 4 inches or smaller each     | A4407 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear with built-in convexity larger than 4 x 4 inches each    | A4408 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear without built-in convexity 4 x 4 inches or smaller each  | A4409 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear without built-in convexity larger than 4 x 4 inches each | A4410 |
| Ostomy skin barrier solid 4x4 or equivalent extended wear with built-in convexity each   | A4411 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) without filter each                             | A4412 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) with filter each                                | A4413 |
| Ostomy skin barrier with flange (solid flexible or accordion) without built-in convexity 4 x 4 inches or smaller each                | A4414 |
| Ostomy skin barrier with flange (solid flexible or accordion) without built-in convexity larger than 4x4 inches each                 | A4415 |
| Ostomy pouch closed with barrier attached with filter (1 piece) each   | A4416 |
| Ostomy pouch closed with barrier attached with built-in convexity with filter (1 piece) each   | A4417 |
| Ostomy pouch closed; without barrier attached with filter (1 piece) each   | A4418 |
| Ostomy pouch closed; for use on barrier with non-locking flange with filter (2 piece) each   | A4419 |
| Ostomy pouch closed; for use on barrier with locking flange (2 piece) each   | A4420 |
| Ostomy supply; miscellaneous   | A4421 |
| Ostomy absorbent material (sheet/pad/crystal packet) for use in ostomy pouch to thicken liquid stomal output each                    | A4422 |
| Ostomy pouch closed; for use on barrier with locking flange with filter (2 piece) each   | A4423 |
| Ostomy pouch drainable with barrier attached with filter (1 piece)   | A4424 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| each  |       |
| Ostomy pouch drainable; for use on barrier with non-locking flange with filter (2 piece system) each                            | A4425 |
| Ostomy pouch drainable; for use on barrier with locking flange (2 piece system) each  | A4426 |
| Ostomy pouch drainable; for use on barrier with locking flange with filter (2 piece system) each                                | A4427 |
| Ostomy pouch urinary with extended wear barrier attached with faucet-type tap with valve (1 piece) each                         | A4428 |
| Ostomy pouch urinary with barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each               | A4429 |
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each | A4430 |
| Ostomy pouch urinary; with barrier attached with faucet-type tap with valve (1 piece) each                                      | A4431 |
| Ostomy pouch urinary; for use on barrier with non-locking flange with faucet-type tap with valve (2 piece) each                 | A4432 |
| Ostomy pouch urinary; for use on barrier with locking flange (2 piece) each   | A4433 |
| Ostomy pouch urinary; for use on barrier with locking flange with faucet-type tap with valve (2 piece) each                     | A4434 |
| Ostomy faceplate each   | A4361 |
| Skin barrier; solid 4 x 4 or equivalent; each   | A4362 |
| Ostomy clamp any type replacement only each   | A4363 |
| Adhesive liquid or equal any type per oz  | A4364 |
| Adhesive remover wipes any type per 50  | A4365 |
| Ostomy vent any type each   | A4366 |
| Ostomy belt each  | A4367 |
| Ostomy filter any type each   | A4368 |
| Ostomy skin barrier liquid (spray brush etc) per oz   | A4369 |
| Ostomy skin barrier powder per oz   | A4371 |
| Ostomy skin barrier solid 4x4 or equivalent with built-in convexity each  | A4372 |
| Ostomy skin barrier with flange (solid flexible or accordion) with built-in convexity any size each                             | A4373 |
| Ostomy pouch drainable with faceplate attached plastic each   | A4375 |
| Ostomy pouch drainable with faceplate attached rubber each  | A4376 |
| Ostomy pouch drainable for use on faceplate plastic each  | A4377 |
| Ostomy pouch drainable for use on faceplate rubber each   | A4378 |
| Ostomy pouch urinary with faceplate attached plastic each   | A4379 |
| Ostomy pouch urinary with faceplate attached rubber each  | A4380 |
| Ostomy pouch urinary for use on faceplate plastic each  | A4381 |
| Ostomy pouch urinary for use on faceplate heavy plastic each  | A4382 |
| Ostomy pouch urinary for use on faceplate rubber each   | A4383 |
| Ostomy faceplate equivalent silicone ring each  | A4384 |

|  |       |
|--|-------|
| Ostomy skin barrier solid 4x4 or equivalent extended wear without built-in convexity each  | A4385 |
| Ostomy pouch closed with barrier attached with built-in convexity (1 piece) each   | A4387 |
| Ostomy pouch drainable with extended wear barrier attached (1 piece) each  | A4388 |
| Ostomy pouch drainable with barrier attached with built-in convexity (1 piece) each  | A4389 |
| Ostomy pouch drainable with extended wear barrier attached with built-in convexity (1 piece) each                                    | A4390 |
| Ostomy pouch urinary with extended wear barrier attached (1 piece) each  | A4391 |
| Ostomy pouch urinary with standard wear barrier attached with built-in convexity (1 piece) each                                      | A4392 |
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity (1 piece) each                                      | A4393 |
| Ostomy deodorant with or without lubricant for use in ostomy pouch per fluid ounce   | A4394 |
| Ostomy deodorant for use in ostomy pouch solid per tablet  | A4395 |
| Ostomy belt with peristomal hernia support   | A4396 |
| Irrigation supply; sleeve each   | A4397 |
| Ostomy irrigation supply; bag each   | A4398 |
| Ostomy irrigation supply; cone/catheter including brush  | A4399 |
| Ostomy irrigation set  | A4400 |
| Lubricant per ounce  | A4402 |
| Ostomy ring each   | A4404 |
| Ostomy skin barrier non-pectin based paste per ounce   | A4405 |
| Ostomy skin barrier pectin-based paste per ounce   | A4406 |
| Ostomy skin barrier with flange (solid flexible or accordian) extended wear with built-in convexity 4 x 4 inches or smaller each     | A4407 |
| Ostomy skin barrier with flange (solid flexible or accordian) extended wear with built-in convexity larger than 4 x 4 inches each    | A4408 |
| Ostomy skin barrier with flange (solid flexible or accordian) extended wear without built-in convexity 4 x 4 inches or smaller each  | A4409 |
| Ostomy skin barrier with flange (solid flexible or accordian) extended wear without built-in convexity larger than 4 x 4 inches each | A4410 |
| Ostomy skin barrier solid 4x4 or equivalent extended wear with built-in convexity each   | A4411 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) without filter each                             | A4412 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) with filter each                                | A4413 |
| Ostomy skin barrier with flange (solid flexible or accordian) without built-in convexity 4 x 4 inches or smaller each                | A4414 |
| Ostomy skin barrier with flange (solid flexible or accordian) without  | A4415 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| built-in convexity larger than 4x4 inches each  |       |
| Ostomy pouch closed with barrier attached with filter (1 piece) each  | A4416 |
| Ostomy pouch closed with barrier attached with built-in convexity with filter (1 piece) each                                    | A4417 |
| Ostomy pouch closed; without barrier attached with filter (1 piece) each  | A4418 |
| Ostomy pouch closed; for use on barrier with non-locking flange with filter (2 piece) each                                      | A4419 |
| Ostomy pouch closed; for use on barrier with locking flange (2 piece) each  | A4420 |
| Ostomy supply; miscellaneous  | A4421 |
| Ostomy absorbent material (sheet/pad/crystal packet) for use in ostomy pouch to thicken liquid stomal output each               | A4422 |
| Ostomy pouch closed; for use on barrier with locking flange with filter (2 piece) each  | A4423 |
| Ostomy pouch drainable with barrier attached with filter (1 piece) each   | A4424 |
| Ostomy pouch drainable; for use on barrier with non-locking flange with filter (2 piece system) each                            | A4425 |
| Ostomy pouch drainable; for use on barrier with locking flange (2 piece system) each  | A4426 |
| Ostomy pouch drainable; for use on barrier with locking flange with filter (2 piece system) each                                | A4427 |
| Ostomy pouch urinary with extended wear barrier attached with faucet-type tap with valve (1 piece) each                         | A4428 |
| Ostomy pouch urinary with barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each               | A4429 |
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each | A4430 |
| Ostomy pouch urinary; with barrier attached with faucet-type tap with valve (1 piece) each                                      | A4431 |
| Ostomy pouch urinary; for use on barrier with non-locking flange with faucet-type tap with valve (2 piece) each                 | A4432 |
| Ostomy pouch urinary; for use on barrier with locking flange (2 piece) each   | A4433 |
| Ostomy pouch urinary; for use on barrier with locking flange with faucet-type tap with valve (2 piece) each                     | A4434 |
| Code deleted for 2003.<br>Adult incontinence garment (e.g. brief diaper) each   | A4360 |
| Ostomy faceplate each   | A4361 |
| Skin barrier; solid 4 x 4 or equivalent; each   | A4362 |
| Ostomy clamp any type replacement only each   | A4363 |
| Adhesive liquid or equal any type per oz  | A4364 |
| Adhesive remover wipes any type per 50  | A4365 |
| Ostomy vent any type each   | A4366 |

Episode-based Resource Use Measures: Colon Cancer

|   |       |
|---|-------|
| Ostomy belt each  | A4367 |
| Ostomy filter any type each   | A4368 |
| Ostomy skin barrier liquid (spray brush etc) per oz   | A4369 |
| Ostomy skin barrier powder per oz   | A4371 |
| Ostomy skin barrier solid 4x4 or equivalent with built-in convexity each                            | A4372 |
| Ostomy skin barrier with flange (solid flexible or accordion) with built-in convexity any size each | A4373 |
| Ostomy pouch drainable with faceplate attached plastic each   | A4375 |
| Ostomy pouch drainable with faceplate attached rubber each  | A4376 |
| Ostomy pouch drainable for use on faceplate plastic each  | A4377 |
| Ostomy pouch drainable for use on faceplate rubber each   | A4378 |
| Ostomy pouch urinary with faceplate attached plastic each   | A4379 |
| Ostomy pouch urinary with faceplate attached rubber each  | A4380 |
| Ostomy pouch urinary for use on faceplate plastic each  | A4381 |
| Ostomy pouch urinary for use on faceplate heavy plastic each  | A4382 |
| Ostomy pouch urinary for use on faceplate rubber each   | A4383 |
| Ostomy faceplate equivalent silicone ring each  | A4384 |
| Ostomy skin barrier solid 4x4 or equivalent extended wear without built-in convexity each           | A4385 |
| Ostomy pouch closed with barrier attached with built-in convexity (1 piece) each                    | A4387 |
| Ostomy pouch drainable with extended wear barrier attached (1 piece) each                           | A4388 |
| Ostomy pouch drainable with barrier attached with built-in convexity (1 piece) each                 | A4389 |
| Ostomy pouch drainable with extended wear barrier attached with built-in convexity (1 piece) each   | A4390 |
| Ostomy pouch urinary with extended wear barrier attached (1 piece) each                             | A4391 |
| Ostomy pouch urinary with standard wear barrier attached with built-in convexity (1 piece) each     | A4392 |
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity (1 piece) each     | A4393 |
| Ostomy deodorant with or without lubricant for use in ostomy pouch per fluid ounce                  | A4394 |
| Ostomy deodorant for use in ostomy pouch solid per tablet   | A4395 |
| Ostomy belt with peristomal hernia support  | A4396 |
| Irrigation supply; sleeve each  | A4397 |
| Ostomy irrigation supply; bag each  | A4398 |
| Ostomy irrigation supply; cone/catheter including brush   | A4399 |
| Ostomy irrigation set   | A4400 |
| Lubricant per ounce   | A4402 |
| Ostomy ring each  | A4404 |
| Ostomy skin barrier non-pectin based paste per ounce  | A4405 |

|  |       |
|--|-------|
| Ostomy skin barrier pectin-based paste per ounce   | A4406 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear with built-in convexity 4 x 4 inches or smaller each     | A4407 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear with built-in convexity larger than 4 x 4 inches each    | A4408 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear without built-in convexity 4 x 4 inches or smaller each  | A4409 |
| Ostomy skin barrier with flange (solid flexible or accordion) extended wear without built-in convexity larger than 4 x 4 inches each | A4410 |
| Ostomy skin barrier solid 4x4 or equivalent extended wear with built-in convexity each   | A4411 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) without filter each                             | A4412 |
| Ostomy pouch drainable high output for use on a barrier with flange (2 piece system) with filter each                                | A4413 |
| Ostomy skin barrier with flange (solid flexible or accordion) without built-in convexity 4 x 4 inches or smaller each                | A4414 |
| Ostomy skin barrier with flange (solid flexible or accordion) without built-in convexity larger than 4x4 inches each                 | A4415 |
| Ostomy pouch closed with barrier attached with filter (1 piece) each   | A4416 |
| Ostomy pouch closed with barrier attached with built-in convexity with filter (1 piece) each   | A4417 |
| Ostomy pouch closed; without barrier attached with filter (1 piece) each   | A4418 |
| Ostomy pouch closed; for use on barrier with non-locking flange with filter (2 piece) each   | A4419 |
| Ostomy pouch closed; for use on barrier with locking flange (2 piece) each   | A4420 |
| Ostomy supply; miscellaneous   | A4421 |
| Ostomy absorbent material (sheet/pad/crystal packet) for use in ostomy pouch to thicken liquid stomal output each                    | A4422 |
| Ostomy pouch closed; for use on barrier with locking flange with filter (2 piece) each   | A4423 |
| Ostomy pouch drainable with barrier attached with filter (1 piece) each  | A4424 |
| Ostomy pouch drainable; for use on barrier with non-locking flange with filter (2 piece system) each                                 | A4425 |
| Ostomy pouch drainable; for use on barrier with locking flange (2 piece system) each   | A4426 |
| Ostomy pouch drainable; for use on barrier with locking flange with filter (2 piece system) each                                     | A4427 |
| Ostomy pouch urinary with extended wear barrier attached with faucet-type tap with valve (1 piece) each                              | A4428 |
| Ostomy pouch urinary with barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each                    | A4429 |

|  |       |
|--|-------|
| Ostomy pouch urinary with extended wear barrier attached with built-in convexity with faucet-type tap with valve (1 piece) each  | A4430 |
| Ostomy pouch urinary; with barrier attached with faucet-type tap with valve (1 piece) each   | A4431 |
| Ostomy pouch urinary; for use on barrier with non-locking flange with faucet-type tap with valve (2 piece) each  | A4432 |
| Ostomy pouch urinary; for use on barrier with locking flange (2 piece) each  | A4433 |
| Ostomy pouch urinary; for use on barrier with locking flange with faucet-type tap with valve (2 piece) each  | A4434 |
|  |       |
| <b>Wig</b>   |       |
| Wig, Any Type, Each  | A9282 |
|  |       |
| <b>Chemotherapy administration and lab tests</b>   |       |
| Chemotherapy Administration, Intravenous; Push Technique   | C8953 |
| Chemotherapy Administration, Intravenous; Infusion Technique, Up To One Hour   | C8954 |
| Chemotherapy Administration, Intravenous; Infusion Technique, Each Additional Hour (List Separately In Addition To C8954)  | C8955 |
| Complete Cbc, Automated (Hgb, Hct, Rbc, Wbc, Without Platelet Count) And Automated Wbc Differential Count  | G0306 |
| Complete (Cbc), Automated (Hgb, Hct, Rbc, Wbc; Without Platelet Count)   | G0307 |
| Chemotherapy Assessment For Nausea And/Or Vomiting, Patient Reported, Performedat The Time Of Chemotherapy Administration; Assessment Level One: Not At All(For Use In A Medicare-Approved Demonstration Project)    | G9021 |
| Chemotherapy Assessment For Nausea And/Or Vomiting, Patient Reported, Performedat The Time Of Chemotherapy Administration; Assessment Level Two: A Little (Foruse In A Medicare-Approved Demonstration Project)      | G9022 |
| Chemotherapy Assessment For Nausea And/Or Vomiting, Patient Reported, Performedat The Time Of Chemotherapy Administration; Assessment Level Three: Quite A Bit(For Use In A Medicare-Approved Demonstration Project) | G9023 |
| Chemotherapy Assessment For Nausea And/Or Vomiting, Patient Reported, Performedat The Time Of Chemotherapy Administration; Assessment Level Four: Very Much(For Use In A Medicare-Approved Demonstration Project)    | G9024 |
| Chemotherapy Assessment For Pain, Patient Reported, Performed At The Time Ofchemotherapy Administration, Assessment Level One: Not At All (For Use In Amedicare-Approved Demonstration Project)                      | G9025 |
| Chemotherapy Assessment For Pain, Patient Reported, Performed At The Time Ofchemotherapy Administration, Assessment Level Two: A   | G9026 |

|   |       |
|---|-------|
| Little (For Use In Amedicare-Approved Demonstration Project)  |       |
| Chemotherapy Assessment For Pain, Patient Reported, Performed At The Time Ofchemotherapy Administration, Assessment Level Three: Quite A Bit (For Use In Amedicare-Approved Demonstration Project)  | G9027 |
| Chemotherapy Assessment For Pain, Patient Reported, Performed At The Time Ofchemotherapy Administration, Assessment Level Four: Very Much (For Use In Amedicare-Approved Demonstration Project)   | G9028 |
| Chemotherapy Assessment For Lack Of Energy (Fatigue), Patient Reported,Performed At The Time Of Chemotherapy Administration, Assessment Level One: Notat All (For Use In A Medicare-Approved Demonstration Project)   | G9029 |
| Chemotherapy Assessment For Lack Of Energy (Fatigue), Patient Reported,Performed At The Time Of Chemotherapy Administration, Assessment Level Two: Alittle (For Use In A Medicare-Approved Demonstration Project)   | G9030 |
| Chemotherapy Assessment For Lack Of Energy (Fatigue), Patient Reported,Performed At The Time Of Chemotherapy Administration, Assessment Level Three:Quite A Bit (For Use In A Medicare-Approved Demonstration Project)  | G9031 |
| Chemotherapy Assessment For Lack Of Energy (Fatigue), Patient Reported,Performed At The Time Of Chemotherapy Administration, Assessment Level Four:Very Much (For Use In A Medicare-Approved Demonstration Project) Performed At The Time Of Chemotherapy Administration, Assessment Level Four: Very Much (For Use In A Medicare-Approved Demonstration Project) | G9032 |
| Oncology; Primary Focus Of Visit; Work-Up, Evaluation, Or Staging At The Timeof Cancer Diagnosis Or Recurrence (For Use In A Medicare-Approved Demonstrationproject)  | G9050 |
| Oncology; Primary Focus Of Visit; Treatment Decision-Making After Disease Isstaged Or Restaged, Discussion Of Treatment Options, Supervising/Coordinatingactive Cancer Directed Therapy Or Managing Consequences Of Cancer Directedtherapy (For Use In A Medicare-Approved Demonstration Project)   | G9051 |
| Oncology; Primary Focus Of Visit; Surveillance For Disease Recurrence Forpatient Who Has Completed Definitive Cancer-Directed Therapy And Currentlylacks Evidence Of Recurrent Disease; Cancer Directed Therapy Might Beconsidered In The Future (For Use In A Medicare-Approved Demonstration Project)   | G9052 |
| Oncology; Primary Focus Of Visit; Expectant Management Of Patient With Evidenceof Cancer For Whom No Cancer Directed Therapy Is Being Administered Or Arrangedat Present; Cancer Directed Therapy Might Be Considered In The Future (For Usein A Medicare-Approved Demonstration Project)   | G9053 |
| Oncology; Primary Focus Of Visit; Supervising, Coordinating Or Managing Care Ofpatient With Terminal Cancer Or For Whom Other Medical Illness Prevents Furthercancer Treatment; Includes Symptom  | G9054 |

|   |       |
|---|-------|
| Management, End-Of-Life Care Planning, Management Of Palliative Therapies (For Use In A Medicare-Approved demonstration Project)  |       |
| Oncology; Primary Focus Of Visit; Other, Unspecified Service Not Otherwiselisted (For Use In A Medicare-Approved Demonstration Project)   | G9055 |
| Oncology; Practice Guidelines; Management Adheres To Guidelines (For Use In A Medicare-Approved Demonstration Project)  | G9056 |
| Oncology; Practice Guidelines; Management Differs From Guidelines As A Result of Patient Enrollment In An Institutional Review Board Approved Clinical Trial (For Use In A Medicare-Approved Demonstration Project)   | G9057 |
| Oncology; Practice Guidelines; Management Differs From Guidelines Because The treating Physician Disagrees With Guideline Recommendations (For Use In A Medicare-Approved Demonstration Project)  | G9058 |
| Oncology; Practice Guidelines; Management Differs From Guidelines Because The patient, After Being Offered Treatment Consistent With Guidelines, Has Opted for Alternative Treatment Or Management, Including No Treatment (For Use In A Medicare-Approved Demonstration Project) | G9059 |
| Oncology; Practice Guidelines; Management Differs From Guidelines For Reason(S) Associated With Patient Comorbid Illness Or Performance Status Not Factored into Guidelines (For Use In A Medicare-Approved Demonstration Project)  | G9060 |
| Oncology; Practice Guidelines; Patient'S Condition Not Addressed By Available guidelines (For Use In A Medicare-Approved Demonstration Project)   | G9061 |
| Oncology; Practice Guidelines; Management Differs From Guidelines For Other reason(S) Not Listed (For Use In A Medicare-Approved Demonstration Project)   | G9062 |
| Complete Cbc, Automated (Hgb, Hct, Rbc, Wbc, Without Platelet Count) And Automated Wbc Differential Count   | G0306 |
| Complete (Cbc), Automated (Hgb, Hct, Rbc, Wbc; Without Platelet Count)  | G0307 |
|   |       |
| <b>Antiemetic Medication</b>  |       |
| Prescription Antiemetic Drug, Oral, Per 1 Mg, For Use In Conjunction With Oral anti-Cancer Drug, Not Otherwise Specified  | K0415 |
| Prescription Antiemetic Drug, Rectal, Per 1 Mg, For Use In Conjunction With oral Anti-Cancer Drug, Not Otherwise Specified  | K0416 |
|   |       |
| <b>Hospice, counseling services, home care</b>  |       |
| Hospice Referral Visit (Advising Patient And Family Of Care Options) Performed by Nurse, Social Worker, Or Other Designated Staff   | S0255 |
| Counseling And Discussion Regarding Advance Directives Or End Of  | S0257 |

|   |       |
|---|-------|
| Life Careplanning And Decisions, With Patient And/Or Surrogate (List Separately In addition To Code For Appropriate Evaluation And Management Service)            |       |
| History And Physical (Outpatient Or Office) Related To Surgical Procedure (List separately In Addition To Code For Appropriate Evaluation And Management service) | S0260 |
| Genetic Counseling, Under Physician Supervision, Each 15 Minutes  | S0265 |
| Physician Management Of Patient Home Care, Standard Monthly Case Rate (Per 30Days)  | S0270 |
| Physician Management Of Patient Home Care, Hospice Monthly Case Rate (Per 30Days)   | S0271 |
| Home Health Aide Or Certified Nurse Assistant, Providing Care In The Home; Per Hour   | S9122 |
| Nursing Care, In The Home; By Registered Nurse, Per Hour (Use For General Nursing Care Only, Not To Be Used When Cpt Codes 99500-99602 Can Be Used)               | S9123 |
| Nursing Care, In The Home; By Licensed Practical Nurse, Per Hour  | S9124 |
| Respite Care, In The Home, Per Diem   | S9125 |
| Hospice Care, In The Home, Per Diem   | S9126 |
| Social Work Visit, In The Home, Per Diem  | S9127 |

These codes will be used to identify colon cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table CCTx-H: Codes to identify colon cancer-related hospitalizations**

| Description   | DRG (v24) | MS-DRG (v25) |
|---|-----------|--------------|
| Rectal resection w CC                                     | 146       | 332, 333     |
| Rectal resection w/o CC                                   | 147       | 334          |
| Major small & large bowel procedures w/o CC               | 149       | 331          |
| Major small & large bowel procedures w CC Major GI Dx     | 569       | 329, 330     |
| Major small & large bowel procedures w CC w/o Major GI Dx | 570       |              |

These codes can be used in addition to ICD-9 codes to identify colon cancer-related hospitalizations

**Tables CCTx-I: Exclusion codes**

The following codes will be used to identify exclusions during the identification period or the measurement period.

**Table CCTx-I-1: Codes to Identify Active Cancer Treatment**

| Description | ICD-9-CM Diagnosis  |
|-------------|---|
| Cancer      | 140-152, 154-208, 230.1, 230.2, 230.4, 230.5, 230.6, 230.7, 230.8, 230.9, 231-239 |

WITH

| Description | CPT   | ICD-9-CM Procedure | UB Revenue                   |
|-------------|---|--------------------|------------------------------|
| Treatment   | 38230, 38240-38242, 77261-77799, 79000-79999, 96400-96549 | 41.0, 41.91, 92.2  | 028x, 033x, 0342, 0344, 0973 |

**Table CCTx-I-2: Codes to Identify ESRD**

| Description                     | CPT  | HCPCS   | ICD-9-CM Diagnosis              | ICD-9-CM Procedure  | UB Revenue            | UB Type of Bill | POS |
|---------------------------------|--|---|---------------------------------|---|-----------------------|-----------------|-----|
| ESRD (including renal dialysis) | 36145, 36800-36821, 36831-36833, 90919-90921, 90923-90925, 90935, 90937, 90939, 90940, 90945, 90947, 90989, 90993, 90997, 90999, 99512 | G0257, G0311-G0319, G0321-G0323, G0325-G0327, G0392, G0393, S9339 | 585.5, 585.6, V42.0, V45.1, V56 | 38.95, 39.27, 39.42, 39.43, 39.53, 39.93, 39.94, 39.95, 54.98 | 080x, 082x-085x, 088x | 72x             | 65  |

**Table CCTx-I-3: Codes to Identify Organ Transplant**

| Description      | CPT  | HCPCS                                   | ICD-9-CM Procedure                               | UB Revenue                  |
|------------------|--|---|--|-----------------------------|
| Organ transplant | 32850-32856, 33930-33945, 44132-44137, 44715-44721, 47133-47147, 48160, 48550-48556, 50300-50380 | S2152, S2053-S2055, S2060, S2061, S2065 | 33.5, 33.6, 37.5, 41.94, 46.97, 50.5, 52.8, 55.6 | 0362, 0367, 0810-0813, 0819 |

**Table CCTx-I-4: Codes to Identify HIV**

| Description | ICD-9-CM Diagnosis |
|-------------|--------------------|
| HIV         | 042                |

**Risk Adjustment Method**

Comorbid conditions identified as HCCs in 12 months preceding event date using inpatient and outpatient ICD-9 codes.

### **Episode Severity / Disease Staging**

Patients included in the measure will be stratified by receipt of chemotherapy during the 11 month post-colectomy measurement period. Patients will be divided into those that do and do not receive chemotherapy.

### **Outlier Methodology**

All patients are included in the analysis with costs winsorized at the 2<sup>nd</sup> and 98<sup>th</sup> percentile.

### **Level of Measurement/Analysis**

The level of measurement and attribution is dependent upon the stratum of the patient. For those without chemotherapy, resource use is attributed to the surgeon. For patients in the chemotherapy strata, resource use through the first 6 weeks following colectomy is attributed to the surgeon. Resource use from day 43 following colectomy to the end of the measurement period is attributed to the oncologist with the plurality of E&M codes for the patient (see **Table CCT-D**) Measure will also be summarized at system and regional levels.

## Technical Appendix

### *Episode-of-Care for Treatment of Localized Colon Cancer*

#### Appendix Overview

The following document provides step-by-step methods for implementing the Episode-of-Care for Treatment of Localized Colon Cancer measure using an administrative, claims, or healthcare encounter database.

There are 9 sections for calculating person-level episode costs:

1. Eligible population identification
2. Identification of related resources
3. Assignment of standardized prices
4. Create episode specific strata
5. Calculation of individual episode costs
6. Calculation of risk-adjusted costs
7. Determination of attributable provider
8. Creation of provider summaries
9. Reporting

#### Measure Description

Resource use and costs associated with colon cancer treatment. Patients undergoing colectomy are identified and the resource use and costs associated with colon cancer care in the 30 days before the procedure and the 11 months following the procedure are measured. Episode-related resource use for patients in the episode is identified and standardized costs are applied. Total colon cancer-related costs are calculated for each patient and summarized at the attributable provider level. Observed costs are compared to risk-adjusted expected costs at the provider level. The population is stratified by receipt of chemotherapy during the follow-up period.

#### Required Data Elements

Eligibility and/or enrollment information (both medical and pharmacy)

Administrative claims:

- Inpatient
- Outpatient
- Pharmacy

## Required Data Duration and Timeframe

A minimum of 24 months of continuous data is necessary to calculate the measure. The 24-month period is divided into a 12-month measurement period where eligible events are identified and a 12-month period preceding the measurement period (identification year) so that each individual has 12 months of data prior to identification of their eligible event.

## Definitions

|   |   |
|---|---|
| <b>Measurement year</b>                 | 12-month period used to identify patients with eligible events and their subsequent resource use  |
| <b>Identification year</b>              | 12-month period immediately preceding the measurement year over which patient comorbidities are measured  |
| <b>Measure population</b>               | The collection of patients who meet all measure inclusion criteria and do not meet any measure exclusion criteria. Their resource use will be calculated and included in provider summary reports.  |
| <b>Age</b>                              | Patient age at the time of the colectomy  |
| <b>Colon cancer-related<sup>1</sup></b> | Healthcare encounters defined as being related to colon cancer  |
| <b>Continuous enrollment</b>            | As identified in eligibility or enrollment information, full medical and pharmacy benefit enrollment during both the identification year and the measurement year, with at least 320 total days of coverage during each year <sup>2</sup> |
| <b>Medication dispensing event</b>      | Medication dispensing with a positive, non-zero cost.   |
| <b>Inpatient Hospital Event</b>         | An acute care overnight hospital stay of $\geq 1$ day with positive associated charges  |

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<sup>1</sup> May refer to services both appropriately and inappropriately rendered in the treatment or management of a patient with colon cancer

<sup>2</sup> This method was derived using HEDIS methods for determining coverage eligibility. HEDIS rules require that each eligible person have no more than 1 gap in coverage of up to 45 days in each year.

## **Section I – Eligible Population Identification**

The process of identifying patients to be included in the measure is divided into three separate steps, each with multiple sub-steps. The following steps are used for identifying the included population:

Step 1: Identify patients that meet the episode definition inclusion criteria

Step 2: Identify patients that meet eligibility and continuous enrollment criteria

Step 3: Identify patients with exclusion criteria

Step 4: Combine prior steps to identify measure population

### **Step 1: Identify patients that meet episode inclusion criteria**

1. Identify patients 18-85 years during the measurement period
2. Patients will be included in the measure if they have a procedure code present in any field for colectomy during the measurement period (see **Table CCTx-A**) and an ICD-9 code for colon cancer (see **Table CCTx-B**).

### **Step 2: Identify patients that meet eligibility and continuous enrollment criteria**

1. Eligibility
  - a. Identify benefits during both the measurement year and the identification year
  - b. To be included persons must have both of the following benefits in both years
    - i. Medical benefit
    - ii. Pharmacy benefit
2. Continuous enrollment
  - a. Determine enrollment during both the identification and measurement years
  - b. Identify (or estimate<sup>3</sup>) total days of coverage in each year
  - c. To be eligible, persons must have at least 320 total days of coverage during each year

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<sup>3</sup> If precise information regarding persons' total days of coverage is not available, it is recommended that measure implementers estimate this information to the best of their ability using available data elements (e.g., monthly enrollment indicators).  
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### Step 3: Identify patients with exclusion criteria

- I. Identify patients that meet one or more exclusion criteria during either the identification year OR the measurement year
  - a. Standard Exclusion Criteria (**Tables CCTx-I 1-4**):
    - i. Active cancer (except colon cancer)
    - ii. End stage renal disease (ESRD)
    - iii. HIV/AIDS
    - iv. Organ transplant
  - b. Persons with a prior colectomy (see **Table CCTx-A**) within the previous 12 months are excluded.

### Step 4: Combine prior steps to identify measure population

1. Identify stable colon cancer eligible population
2. Exclude those patients not meeting general inclusion criteria (e.g., continuous eligibility)
3. Exclude those patients meeting one or more measure exclusion criteria
4. The resulting collection of patients is the measure population

## Section 2 – Eligible Event Identification

For each individual in the measure population, identify the following paid claims for services rendered during the measurement period. Claims / encounters will be identified based on the presence of colon cancer-related diagnosis codes or procedure codes. These events will be used to determine the colon cancer-related resource use.

### ***Inpatient hospitalization events***

Identify all inpatient hospitalization events with one of the following diagnosis codes appearing in the **primary** diagnosis field (see **Table CCTx-C**) or hospitalizations with an eligible colon cancer code (see **Tables CCTx-A, CCTx-B, CCTxH**).

### ***Outpatient events***

Identify all outpatient claims / encounters with a colon cancer-related diagnostic code appearing in **any** position (see **Tables CCTx-A, CCTx-B, CCTx-C**).

### ***Procedures , laboratory and other services***

Identify all claims / encounters with one of the following CPT, HCPCs, or ICD-9 procedure codes (see **Tables CCTxE and CCTx-G**).

### **Prescription drugs**

Identify colon cancer related medications or medication-related services during the measurement period (**See Table CCTxF**). These codes will be used to identify colon cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

## **Section 3 – Assignment of standardized prices**

Standardized prices are calculated for all of the components of care used to treat or manage the patient's condition to ensure that comparisons can be made solely on the basis of differential practice patterns and resource use. Three separate methodologies are used to derive these standardized prices: for inpatient facility charges, for ambulatory pharmacy charges (i.e., prescriptions dispensed outside the inpatient hospital setting), and for all other charges. These standardized prices are then applied to the claims identified as colon cancer-related.

### **Standard Cost Calculation**

**Step 1** Identify all claims paid for services rendered during the measurement year and with positive non-zero paid amounts for all patients, regardless as to whether they have been included in the measure population. Categorize these claims as follows (in accordance with the BETOS classification process followed in Step 3 above):

- *Inpatient Facility* (services provided by a facility during an acute inpatient hospital stay, standard price includes room and board and ancillary services)
- *Ambulatory Pharmacy* (ambulatory prescriptions included in a member's pharmacy benefit)
- *All other* (E&M, procedures, imaging, tests, DME, other, and exceptions/unclassified)

- Step 2** For each category identified, compute standardized prices. Refer to each service category’s instructions (i.e., *Calculating Standard Units of Service and Total Standard Cost*) below.
- Step 3** Combine standardized prices with eligible events (e.g., through a file merge as specified in each service category’s instructions).
- Step 4** For each individual claim, multiple standardized price by the number of service units identified on the claim to determine the full cost of the service, hospitalization, or prescription.

**Calculating Standard Units of Service and Total Standard Cost: *Inpatient Facility***

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For inpatient facility costs, standardized prices are developed at the diagnosis-related group (DRG) level and – for those hospitalizations where DRG-level information is unavailable – at the ADSC level. Each is adjusted for length-of-stay (LOS) so as to more closely mirror the payment systems typically applied among commercial health plans. Both approaches use RRU HEDIS standardized daily price tables developed by NCQA. All inpatient facility costs are considered “acute” for this analysis.

- Step 1** Identify all inpatient stays that occurred during the measurement year. Include stays that may have started before the measurement year or ended after the close of the measurement year. Define a single, unique record describing the member’s inpatient stay.
- Step 2.** Identify the primary discharge DRG. Also identify the DRG version (e.g., CMS-DRG vs. MS-DRG). Care must be taken in using the standardized price tables (specified below) to insure the data and the tables use the same DRG version.
- Step 3** Compute the stay’s total LOS in days, using paid or expected-to-be-paid days only. Include all paid days in the LOS calculation, whether or not they fall outside the measurement year. Also identify the stay’s LOS group based on the stay’s LOS and the information contained in **Table CCTx-J** below.

**Table CCTx-J: Length of Stay Group**

| LOS (Days) | LOS GRP |
|------------|---------|
| 1          | A       |
| 2          | B       |
| 3-4        | C       |
| 5-6        | D       |
| 7-8        | E       |
| 9-15       | F       |
| 16 or more | G       |

- Step 4** Compute the LOS per diem multiplier. If the inpatient stay falls completely within the measurement year, use the total number of paid days as the per diem multiplier. If the inpatient stay does not fall completely inside the measurement year, count only the days within the measurement year (including the last day of the year) to compute the per diem multiplier.
- Step 5** Download the HEDIS RRU standardized daily price tables from the NCQA website ([www.ncqa.org](http://www.ncqa.org)) for the corresponding measurement years. Note that there is a one year lag in the file and data years (i.e. files designated 2007 are based on 2006 data). Some years may have two sets of tables if there is a significant change in DRG versions.<sup>4</sup>
- Step 6** Calculate the DRG-specific per-diem payment rate by adjusting the standard daily prices for inflation to a reference year using the medical care component of the Consumer Price Index (CPI).
- Step 7** Combine DRG-specific per-diem payment rates with the dataset containing eligible inpatient hospital events for the measure. For each event, multiply the per-diem payment rate by the event's LOS per diem multiplier to determine the event's total standard cost.

Total standard costs will not be computed using this approach for stays that have not been assigned a DRG, and for DRGs that are not assigned a standard price by HEDIS. These stays will be assigned a standard price using the ADSC method described below.

**Example**<sup>5</sup> Assume the calculated DRG-specific per-diem payment rate for DRG XXX for FY 2007 is \$900.17. An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis with an eligible ICD-9 code
- A DRG of XXX (DRG associated with an eligible inpatient stay for the episode)
- Date of admission of February 2, 2007 and date of discharge of February 9, 2007 (fiscal year 2007)
- A LOS of 8 days, and therefore a LOS per diem multiplier of 8 days

This event has a calculated total standard cost of  $\$900.17 \times 8 = \$7,201.36$ .

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<sup>4</sup> The project staff worked in collaboration with NCQA in development of this methodology for purposes of testing the initial set of measures. Users of the measures may need to implement their own methodology that does not rely on a price list from NCQA.

<sup>5</sup> Figures presented in this example are arbitrary and do not reflect any particular dataset or patient. Additionally, the DRG XXX is intended to be used as an illustrative example for calculating inpatient costs. Only DRGs for eligible events for the episode should be included in this calculation.

**Example** Again assume the calculated DRG-specific per-diem payment rate for DRG XXX for FY 2007 is \$900.17. An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis with an eligible ICD-9 code
- A DRG of XXX (DRG associated with an eligible inpatient stay for the episode)
- Date of admission of December 28, 2006 and date of discharge of January 2, 2007 (fiscal year 2007)
- A LOS of 6 days, and a LOS per diem multiplier of 2 days (January 1-2).

This event has a calculated total standard cost of  $\$900.17 \times 2 = \$1,800.34$ .

**Step 8** If DRG information is not available for a given inpatient hospitalization a method must be used that assigns prices to those hospitalizations. The methodology used in testing the initial development of the measures was to assign an Aggregate Diagnostic Service Category (ADSC) for the stay using the principal discharge diagnosis. To assign ADSC, download the ADSC Table (Table SPT-INP-ADSC) from the NCQA Web site ([www.ncqa.org](http://www.ncqa.org)) and match the principal ICD-9-CM Diagnosis code from the discharge claim to an ADSC. If the claim does not contain a DRG and the primary ICD-9-CM Diagnosis code is invalid or missing, map the inpatient stay to the ADSC Table's MISA category.<sup>6</sup> An alternative would be to create average prices from the dataset the measures are being implemented for each of the ADSC categories and discharge ICD-9-CM codes and assign those prices to missing hospitalizations.

**Step 9** Determine if the member underwent major surgery during the inpatient stay. If this information is not available within the dataset, this may be determined using the list of codes included in a table from the NCQA Web site (Maj-Surg Table). Flag eligible members if one procedure code in the Maj-Surg-Table is present from any provider during the time period defined by the admission and discharge dates.

**Step 10** Match each ADSC, LOS per diem multiplier, and major surgery flag assignment for the stay to a value in the Table SPT-INP-ADSC to obtain the assigned standard price. For each event, multiply the per-diem payment rate by the event's LOS per diem multiplier to determine the event's total standard cost. As with the DRG method, the ADSC standard prices must be adjusted for inflation to a reference year using the CPI. Between this ADSC methodology and the previously described DRG-based methodology, each inpatient hospital stay should now have an associated standardized price.

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<sup>6</sup> The project staff worked in collaboration with NCQA in development of this methodology for purposes of testing the initial set of measures. Users of the measures may need to implement their own methodology that does not rely on a price list from NCQA. Copyright 2011 | American Board of Medical Specialties Research and Education Foundation. All Rights Reserved.

**Example** An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis for an eligible event assigned to ADSC category Respiratory-C (RESC)
- No available valid DRG information
- Date of admission of February 2, 2007 and date of discharge of February 9, 2007
- A LOS of 8 days, and therefore LOS group E
- A major surgery event during the stay

Using Sample Table SPT-INP-ADSC, we determine this event has a standard per-diem payment rate of \$1,474.00. Therefore, this event has a calculated total standard cost of  $\$1,474 \times 8 = \$11,792$ .

### **Calculating Standard Units of Service and Total Standard Cost: Ambulatory Pharmacy**

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For ambulatory pharmacy-related costs, standardized prices are developed at the NDC level, adjusted for days supply.

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**Step 1** Identify all pharmacy services that occurred during the measurement year. The following pharmacy services should also be included:

- Prescriptions that may have been dispensed before the measurement year and had days supply that extended into the measurement year (e.g., a prescription with a dispensed date of December 15, 2007 and 30 days supply would extend 13 days into the measurement year beginning January 1, 2008)
- Prescriptions that may have been dispensed during the measurement year and had days supply that extended into the following year (e.g., a prescription with a dispensed date of December 20, 2008)

Define a single, unique record describing the pharmacy service.

**Step 2** Identify the NDC code and the days supply for each prescription, whether or not some days fall outside the measurement year.

If the days supply is not available for a given pharmacy claim, set the claim's standard cost to be equal to its listed payment amount.

**Step 3** Compute the days supply per diem multiplier. If the prescription's days supply fall completely within the measurement year, use the claim's listed days supply as the per diem multiplier. If the prescription's days supply do not fall completely inside the measurement year, count only the days within the measurement year (including the last day of the year) to compute the per diem multiplier.

- Step 4** For each NDC, calculate the total NDC-specific payments and the total days supply across all pharmacy claims within that NDC during the measurement year. Using these totals, calculate NDC-specific per-day-supply payment rates by dividing total NDC-specific payments by total days supply for each NDC.
- Step 5** Combine NDC-specific per-day-supply payment rates with the dataset containing eligible pharmacy events for the measure. For each event, multiply the per-day-supply payment rate by the event's days supply per diem multiplier to determine the event's total standard cost.

### **Calculating Standard Units of Service and Total Standard Cost: All Other**

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For all non-inpatient hospital, non-pharmacy costs, standardized prices are developed at the procedure code and modifier level.

- Step 1** Identify all non-inpatient hospital, non-pharmacy services that occurred during the measurement year.
- Step 2** Identify the primary procedure code (CPT, HCPCs, ICD-9, etc.) and the first modifier code for each service.
- Step 3** For each procedure-modifier combination, calculate the total procedure/modifier-specific payments across all non-inpatient-hospital, non-pharmacy claims with that procedure-modifier combination as well as the frequency of the procedure-modifier combination during the measurement year. Calculate procedure/modifier-specific payment rates by dividing total procedure/modifier-specific payments by the frequency for each procedure-modifier combination.
- Step 4** Combine procedure/modifier-specific payment rates with the dataset containing eligible non-inpatient-hospital, non-pharmacy events for the measure so that each procedure-modifier combination is paired with its corresponding payment rate. This payment rate is the event's total standard cost.

### **Section 4 – Create episode specific strata**

Assign patients to strata based on those that do and do not receive chemotherapy.

### **Section 5 – Calculation of total individual episode costs**

The resource use identified as colon cancer-related – and to which standardized prices have been applied (i.e., the collection of eligible events) – is used to calculate individual

level episode costs. The following steps are used in the calculation of total individual level costs.

**Step 1:** For each individual included in the episode, sum all of the total standard costs linked to colon cancer-related events occurring during the measurement year at the BETOS level. This will provide an estimate of the costs of each category of service over the measurement year.

**Step 2:** For each individual in the episode, sum ALL total standard costs linked to colon cancer-related events to calculate TOTAL episode costs.

## **Section 6 – Calculation of risk adjusted costs**

Our strategy for risk adjustment for each of the measures has been to use the Hierarchical Condition Categories (HCC) to identify comorbidities and create tailored risk adjustment models for each of the conditions. This reflects the risk adjustment methodology used by CMS and recently evaluated by NCQA for their Relative Resource Use (RRU) measures. However, there is an important distinction between the use of HCCs by CMS and the model evaluated by NCQA and the risk adjustment model used to estimate expected costs. The CMS and NCQA model use HCCs to adjust TOTAL costs of care, whereas this model focuses on episode-specific costs of care. As a result we created unique risk adjustment models for each of our episodes.

For colon cancer, we had insufficient sample size in which to conduct the risk adjustment analyses. Therefore, a key component of the continued testing and maintenance of the colon cancer treatment measure will be to create and refine the risk adjustment model. The following steps outline the process for creating our risk adjustment models. We have completed the first two steps of the process described below. Future work on this measure will need to complete steps 3 through 5 to complete the risk adjustment process.

The following process was used in developing our risk adjustment models:

1. Utilized quasi-Modified Delphi approach with the condition-specific workgroup to categorize HCCs into three groups:
  - Include in risk adjustment model;
  - Exclude in risk adjustment model; and
  - Test impact in risk adjustment model.
2. Identified HCCs in denominator population during the 12 months preceding the measurement year.
3. Test the 12 different model specifications shown in Table CCT-RA1, where the HCCs included in the model varied, and the distribution and link functions in the generalized linear models also varied. Models will be developed in a stepwise manner as

indicated. The first four models will use a gamma distribution and a log link function. The first model will include all HCCs identified by the condition-specific workgroup as “Include HCCs” with a prevalence in the population of  $\geq 1\%$ . The second model will be a reduction of the first model that only included HCCs where  $p < 0.1$ . The third model will extend the second model by including HCCs with prevalence  $\geq 1\%$  identified as “Test HCCs” by the condition-specific workgroup. The fourth model will reduce the third model and include only those HCCs where  $p < 0.1$ . The next set of four models (Models 5-8) repeat the process of the first four models but use a normal distribution and identity link function. Model 9 will use all of the HCCs, with the exception of the HCC for the episode being evaluated (e.g., colon cancer for the colon cancer episode), and a gamma distribution with log link function. Model 10 will be a reduction of Model 9 where only the HCCs with  $p < 0.1$  were included. The final two models (Models 11-12) used the same process as Models 9 and 10 with a normal distribution and identity link function.

**Table CCT-RAI. Risk Adjustment Model Specifications**

| Model # | Independent Variables |                                  |                        |                                     |          |                       | Distri-<br>bution | Link<br>function |
|---------|-----------------------|----------------------------------|------------------------|-------------------------------------|----------|-----------------------|-------------------|------------------|
|         | WG Specified (> 1%)   | WG specified (> 1%)<br>$p < 0.1$ | Test conditions (> 1%) | Test conditions (> 1%)<br>$p < 0.1$ | All HCCs | All HCCs<br>$p < 0.1$ |                   |                  |
| 1       | X                     |                                  |                        |                                     |          |                       | Gamma             | Log              |
| 2       |                       | X                                |                        |                                     |          |                       | Gamma             | Log              |
| 3       |                       | X                                | X                      |                                     |          |                       | Gamma             | Log              |
| 4       |                       | X                                |                        | X                                   |          |                       | Gamma             | Log              |
| 5       | X                     |                                  |                        |                                     |          |                       | Normal            | Identity         |
| 6       |                       | X                                |                        |                                     |          |                       | Normal            | Identity         |
| 7       |                       | X                                | X                      |                                     |          |                       | Normal            | Identity         |
| 8       |                       | X                                |                        | X                                   |          |                       | Normal            | Identity         |
| 9       |                       |                                  |                        |                                     | X        |                       | Gamma             | Log              |
| 10      |                       |                                  |                        |                                     |          | X                     | Gamma             | Log              |
| 11      |                       |                                  |                        |                                     | X        |                       | Normal            | Identity         |
| 12      |                       |                                  |                        |                                     |          | X                     | Normal            | Identity         |

4. Models will be developed in a split sample approach with 75% of the population randomly selected for model development and the remaining 25% used in model evaluation. Model performance will also be evaluated in the full cohort.

5. The performance of each model will be evaluated through comparisons of the observed and predicted distributions, comparisons of residuals, comparisons of absolute differences between observed and predicted, comparisons of observed-to-predicted ratios, and comparisons of mean squared errors across models. Summary information on model performance will be presented to the condition-specific workgroup for selection of a risk adjustment model for the condition. Final model selection was based on the best performing model across metrics. Where model performance was similar, models using the normal distribution were preferentially chosen over the gamma distribution models for ease of implementation. More parsimonious models were also preferentially chosen.

Generally, measure implementers have two choices when calculating risk adjusted costs. The first is to follow the process specified above to create risk adjustment models that are specific to their population and their dataset. The second option is to use the risk adjustment models created as part of this project. However, for colon cancer it will be necessary for risk adjustment models to be developed in future testing.

#### **Section 7 – Determination of attributable provider**

Resource use and costs for localized colon cancer episodes are attributed to the specific providers depending on the stratum of the patient. For those without chemotherapy, resource use is attributed to the surgeon performing the colectomy. For patients in the chemotherapy strata, resource use through the first 6 weeks following colectomy is attributed to the surgeon performing the colectomy. Resource use from day 43 following colectomy to the end of the measurement period is attributed to the oncologist with the plurality of E&M codes for the patient (**see Table CCTx-D**).

#### **Section 8 – Creation of provider summaries**

The provider summaries are a report of the resource use for an individual provider compared to their peer group, their non-peer group and all episodes in the dataset. In the case of colon cancer, there are no non-peer group comparisons. Creation of the provider summaries uses the summary episode costs combined with the attributable provider data and the risk adjusted episode costs.

Step 1: Create a dataset that includes the following information: patient ID, total episode cost, attributable provider ID, attributable provider specialty type and episode expected costs from the risk adjustment model.

Step 2: Calculate the observed-to-expected ratio for each of the episodes by dividing observed costs for the episode by expected (predicted) costs for the episode.

Step 3: Summarize the observed, expected and observed-to-expected ratio for the attributable provider.

Step 4: Summarize the observed, expected and observed-to-expected ratio for surgeons and oncologists.

Step 5: Summarize the observed, expected and observed-to-expected ratio for the all of the episodes.

Step 6: For each attributable provider, determine the proportion of observed-to-expected ratios above the 75% percentile of the peer group and calculate the 95% confidence interval

Step 7: Create provider summary reports for each attributable provider in the dataset (See CCTx-Provider Summary for example of a provider summary)

**Colon Cancer Episode  
Provider Summary  
Report for Physician  
#XXXXXXXX**

Provider type =

|                            | MD       | Peer Group | Non-Peer Group | National Avg |
|----------------------------|----------|------------|----------------|--------------|
| Episodes                   | 33       | 328,728    | 61,847         | 390,608      |
| Observed Costs*            |          |            |                |              |
| Average                    | \$ 1,267 | \$ 1,163   | \$ 1,081       | \$ 1,150     |
| Min                        | \$ 426   | \$ 426     | \$ 426         | \$ 426       |
| Median                     | \$ 877   | \$ 1,035   | \$ 924         | \$ 1,020     |
| Max                        | \$ 2,360 | \$ 3,365   | \$ 3,365       | \$ 3,365     |
| Predicted Costs            |          |            |                |              |
| Average                    | \$ 1,157 | \$ 1,150   | \$ 1,149       | \$ 1,150     |
| Min                        | \$ 1,109 | \$ 1,105   | \$ 1,105       | \$ 1,105     |
| Median                     | \$ 1,145 | \$ 1,141   | \$ 1,141       | \$ 1,141     |
| Max                        | \$ 1,268 | \$ 2,296   | \$ 1,918       | \$ 2,296     |
| Observed-to-Expected Ratio |          |            |                |              |
| Average                    | 1.10     | 1.01       | 0.94           | 1.00         |
| Min                        | 0.37     | 0.36       | 0.36           | 0.24         |
| Median                     | 0.78     | 0.90       | 0.81           | 0.89         |
| Max                        | 2.13     | 3.05       | 3.05           | 3.05         |

|                                       |       |                |      |      |
|---------------------------------------|-------|----------------|------|------|
| % ≥ 2.0                               | 3.0%  | 6.9%           | 6.1% | 6.8% |
| % ≥ 2.5                               | 0%    | 3.2%           | 2.9% | 3.2% |
| % ≥ 75 <sup>th</sup> percentile peers | 45.5% | (28.1%, 63.6%) |      |      |

\* Observed costs adjusted for outliers (winsorized)

## Section 9 – Reporting

The following section describes reports of unadjusted episode costs that were used to understand patterns of resource use associated with the episodes. Most of these reports are based on the classifications of related resource use by type-of-service category using the Berenson-Eggers Type of Services (BETOS) classification system. This system can be applied following the steps described below.

### **Reports by Categories of Service**

For each of the claims / encounters identified for the episode's colon cancer-related resource use calculations, BETOS codes will be applied to categorize services. BETOS codes and crosswalks to procedure codes are available through the Centers for Medicare & Medicaid Services website.<sup>7</sup>

Step 1: Obtain BETOS files for the relevant year from the CMS website.

Step 2: Combine BETOS codes with eligible events (e.g., through a file merge).

Step 3: Categorize data from outpatient pharmacy files as pharmacy-related costs – these claims will not have a BETOS code to combine with the eligible events data. Similarly, categorize data from inpatient hospital files as inpatient facility-related costs.

Step 4: Categorize BETOS codes into the 7 specified “major categories”:

1. Evaluation and Management (E&M)
2. Procedures
3. Imaging
4. Tests
5. Durable Medical Equipment (DME)
6. Other
7. Exceptions/Unclassified

These categories (along with categories for inpatient facility costs and pharmacy costs) will be used for reporting overall episode costs.

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<sup>7</sup> [https://www.cms.gov/HCPCSReleaseCodeSets/20\\_BETOS.asp](https://www.cms.gov/HCPCSReleaseCodeSets/20_BETOS.asp)

**Step 5:** Categorize any/all remaining services without corresponding BETOS codes as belonging to the Exceptions/Unclassified category.

**Step 6:** Create summary reports of the distribution of costs for each type of service category for all episodes.

The reports we completed to analyze this episode, relying on BETOS categories, included:

- Summaries of per-episode resource use by type of service, including mean, median, standard deviation and variance, other statistical variables: overall and for each episode stratum
- For each type-of-service category for non-inpatient, non-pharmacy claims, summaries of the 20 CPT and HCPCs codes among colon cancer-related services most commonly appearing in episodes and the 20 CPT and HCPCs codes that account for the largest proportions of the category's costs
- For each type-of-service category for non-inpatient, non-pharmacy claims, summaries of the 20 CPT and HCPCs codes among non-colon cancer-related services most commonly appearing during the measurement window and the 20 CPT and HCPCs codes that account for the largest proportions of the category's costs
- For inpatient hospitalization events, the 20 DRG codes and primary ICD-9 diagnosis codes most commonly appearing and accounting for the largest proportions of inpatient facility costs: both colon cancer-related and non-colon cancer-related
- For pharmacy claims, the 20 generic drug names and therapeutic classes most commonly appearing and accounting for the largest proportions of pharmacy costs: both colon cancer-related and non-colon cancer-related