NATIONAL QUALITY FORUM

Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the submitting standards web page.

NQF #: 0572 **NQF Project:** Cancer Project

(for Endorsement Maintenance Review)
Original Endorsement Date: Dec 04, 2009 **Most Recent Endorsement Date:** Dec 04, 2009

BRIEF MEASURE INFORMATION

De.1 **Measure Title:** Follow-up after initial diagnosis and treatment of colorectal cancer: colonoscopy

Co.1.1 **Measure Steward:** Health Benchmarks-IMS Health

De.2 **Brief Description of Measure:** To ensure that all eligible members who have been newly diagnosed and resected with colorectal cancer receive a follow-up colonoscopy within 15 months of resection.

2a1.1 **Numerator Statement:** Members receiving a colonoscopy, sigmoidoscopy, or protoscopy as appropriate during the 15 months after the index date.

Note: Index date is defined as the first instance of denominator criterion A or B.

Time Window: The 15 months after the index date.

2a1.4 **Denominator Statement:** Continuously enrolled members who are status post resection of colorectal cancer during the year ending 15 months prior to the measurement year.

Time Window: The one year period ending 15 months prior to the measurement year.

2a1.8 **Denominator Exclusions:** Members who are status post resection of colon cancer any time prior to the index date, or members who were in hospice care 0 to 15 months after the index date.

Note: Index date is defined as the first instance of denominator criterion A or B.

1.1 **Measure Type:** Process
2a1. 25-26 **Data Source:** Administrative claims, Other
2a1.33 **Level of Analysis:** Clinician : Group/Practice, Clinician : Individual, Health Plan, Population : County or City

1.2-1.4 **Is this measure paired with another measure?** No

De.3 **If included in a composite, please identify the composite measure** (*title and NQF number if endorsed*)**:**

STAFF NOTES (*issues or questions regarding any criteria*)

Comments on Conditions for Consideration:

Is the measure untested? Yes☐ No☐ If untested, explain how it meets criteria for consideration for time-limited endorsement:

1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (*check De.5*)**:**
5. Similar/related endorsed or submitted measures (*check 5.1*)**:**
Other Criteria:

Staff Reviewer Name(s):

1. IMPACT, OPPORTUITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See guidance on evidence.
Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.
(evaluation criteria)

1a. High Impact: H☐ M☐ L☐ I ☐
(*The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.*)

De.4 **Subject/Topic Areas** *(Check all the areas that apply)*: Cancer, Cancer : Colorectal
De.5 **Cross Cutting Areas** (*Check all the areas that apply*)**:**

1a.1 **Demonstrated High Impact Aspect of Healthcare:** Patient/societal consequences of poor quality

1a.2 **If "Other," please describe:**

1a.3 **Summary of Evidence of High Impact** *(Provide epidemiologic or resource use data)*:
Surveillance for recurrent colorectal cancer assists in the removal of pre-malignant polyps and early detection of malignancy.[1] In patients with locally recurrent or anastomotic disease, a limited number of metastases involving liver or lung, metachronous (second primary) malignancies, or polyps are potentially curable with further surgery. In addition, incidence of metachronous cancer is higher in colorectal cancer patients status post resection compared with the general population, and incidence is highest in the first 24 months after surgery.[2-4] Colonoscopy surveillance may not only potentially detect these metachronous cancers at a surgically curable stage, but also prevent metachronous lesions by providing an opportunity for removing adenomatous polyps.[4]

1a.4 **Citations for Evidence of High Impact cited in 1a.3:**
1. Jeffery, G.M., B.E. Hickey, and P. Hider, Follow-up strategies for patients treated for non-metastatic colorectal cancer. Cochrane Database Syst Rev, 2002(1): p. CD002200.
2. Green, et al., Surveillance for second primary colorectal cancer after adjuvant chemotherapy: an analysis of Intergroup 0089. Ann Intern Med, 2002. 136(4): p. 261-9.
3. Barillari, et al., Surveillance of colorectal cancer: effectiveness of early detection of intraluminal recurrences on prognosis and survival of patients treated for cure. Dis Colon Rectum, 1996. 39(4): p. 388-93.
4. Brady, et al., Surveillance colonoscopy after resection for colon carcinoma. South Med J, 1990. 83(7): p. 765-8.

1b. Opportunity for Improvement: H☐ M☐ L☐ I ☐
(*There is a demonstrated performance gap - variability or overall less than optimal performance*)

1b.1 **Briefly explain the benefits (improvements in quality) envisioned by use of this measure:**

1b.2 **Summary of Data Demonstrating Performance Gap** *(Variation or overall less than optimal performance across providers)*:
[*For Maintenance* – *Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.*]**
Since 2000, colorectal cancer screening rates by colonoscopy have improved. Colonoscopy screening rates of the eligible population have increased from 20% in 2000 to 39.9% in 2005. However, current screening rates are far from optimal.[1, 2] Post-resection colonoscopy surveillance is recommended, but only 46% of patients undergo this surveillance within the first 14 months for recurrence.[3]

1b.3 **Citations for Data on Performance Gap: [*For Maintenance* –** *Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]**
1. Smith RA, Cokkinides V, Brawley O. Cancer Screening in the United States, 2008: A Review of Current American Cancer Society Guidelines and Cancer Screening Issues. CA Cancer J Clin 2008;58;161-179.
2. Sarfaty M, Wender R. How to increase colorectal cancer screening rates in practice. CA Cancer J Clin 2007;57:354–366.
3. Knopf KB, Warren JL, Feuer EJ, Brown ML. Bowel surveillance patterns after a diagnosis of colorectal cancer in Medicare

beneficiaries. Gastrointestinal Endoscopy. 2001: 54(5);563-571.

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance –Descriptive statistics for performance results for this measure by population group*]
Uninsured non-elderly adults are significantly less likely to be screened for colorectal cancer compared to older or insured adults. Furthermore, Hispanic persons were less likely to report colon cancer screening compared to non-Hispanic White or Black individuals.[1] However, there are no studies of racial ethnic disparity on post-resection colonoscopy surveillance.

1b.5 Citations for Data on Disparities Cited in 1b.4: [*For Maintenance – Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]
1. Smith RA, Cokkinides V, Brawley O. Cancer Screening in the United States, 2008: A Review of Current American Cancer Society Guidelines and Cancer Screening Issues. CA Cancer J Clin 2008;58;161-179.

1c. Evidence (*Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.*)
Is the measure focus a health outcome? Yes☐ No☐ If not a health outcome, rate the body of evidence.

Quantity: H☐ M☐ L☐ I☐ Quality: H☐ M☐ L☐ I☐ Consistency: H☐ M☐ L☐ I☐

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	**Yes**☐
L	M-H	M	**Yes**☐ IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise **No**☐
M-H	L	M-H	**Yes**☐ IF potential benefits to patients clearly outweigh potential harms: otherwise **No**☐
L-M-H	L-M-H	L	**No** ☐

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	**Does the measure pass subcriterion1c?** **Yes**☐ IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship *(Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome)*:

1c.2-3 Type of Evidence *(Check all that apply)*:
Clinical Practice Guideline

1c.4 Directness of Evidence to the Specified Measure *(State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population)*:
Although no study was identified that shows a positive correlation with survival from colonoscopy surveillance alone, studies have shown a statistically significant impact on survival with intensive follow-up that included yearly colonoscopy.[1, 2] In two meta-analyses, patients who received intensive surveillance (using multi-component surveillance strategies which included colonoscopy) were less likely to have a recurrent cancer after 5 years than those who received less intensive surveillance.[3, 4] A third meta-analysis of 7 clinical trials involving a total of 2,293 patients with colorectal cancer undergoing curative resection also found significant reduction in overall mortality in patients who underwent intensive follow-up using colonoscopy (p=0.04).[5] A review of evidence found both an incidence rate of 0.7% two years following cancer resection and that the use of surveillance colonoscopy followed by surgery resulted in a cure for 87% of cancers found.[6]

1c.5 Quantity of Studies in the Body of Evidence *(Total number of studies, not articles)*:

1c.6 Quality of Body of Evidence (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included*

in the evidence); and c) imprecision/wide confidence intervals due to few patients or events):

1c.7 Consistency of Results across Studies *(Summarize the consistency of the magnitude and direction of the effect):*

1c.8 Net Benefit *(Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms)*:
By recommending colonoscopy within 15 months of resection for colorectal cancer, patients with recurrent or metachronous disease will be identified and offered treatment. Given that the rate of this type of surveillance was less than 50% in 2001, there is much room for improvement. By detecting these cancers earlier, it is possible to not only save lives, as there is an 87% cure rate in cancers found by this type of surveillance, but also resources, as it is generally more cost-effective to treat an earlier disease than that which presents at a later stage.

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded? Yes

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.11 System Used for Grading the Body of Evidence: USPSTF

1c.12 If other, identify and describe the grading scale with definitions:

1c.13 Grade Assigned to the Body of Evidence: B

1c.14 Summary of Controversy/Contradictory Evidence: Although there is little controversy regarding the value and efficacy of colonoscopy screening after colon resection, colonoscopy screening can result in serious side effects. Out of every 10,000 colonoscopies, there are 34 perforations and 6.7 serious bleeds, even in well-equipped centers where procedures are performed by experts.[1]

1. Ladouceur R. Why does this controversy still exist? Can Fam Physician 2008;54(4):493.

1c.15 Citations for Evidence other than Guidelines*(Guidelines addressed below)*:
1. Cancer Facts and Figures 2006. [cited 2007 August 27].
2. Desch, et al., Recommended colorectal cancer surveillance guidelines by the American Society of Clinical Oncology. J Clin Oncol, 1999. 17(4): p. 1312.
3. Jeffery, G.M., B.E. Hickey, and P. Hider, Follow-up strategies for patients treated for non-metastatic colorectal cancer. Cochrane Database Syst Rev, 2002(1): p. CD002200.
4. Renehan, A.G., et al., Impact on survival of intensive follow up after curative resection for colorectal cancer: systematic review and meta-analysis of randomised trials. Bmj, 2002. 324(7341): p. 813.
5. Tjandra, J.J. and M.K. Chan, Follow-up after curative resection of colorectal cancer: a meta-analysis. Dis Colon Rectum, 2007. 50(11): p. 1783-99.
6. Rex, D.K., et al., Guidelines for Colonoscopy Surveillance after Cancer Resection: A Consensus Update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer. CA Cancer J Clin, 2006. 56(3): p. 160-167.

1c.16 Quote verbatim, <u>the specific guideline recommendation</u> *(Including guideline # and/or page #)*:
• In 2005, The American Society of Clinical Oncology (ASCO), citing an older 2003 American Gastroenterology Association (AGA) surveillance guideline, recommended that patients with resection for colorectal cancer should have a repeat colonoscopy 3 years after operative treatment and that patients with rectal cancer who had not been treated with pelvic radiation should have flexible proctosigmoidoscopy every 6 months for 5 years.[1] Of note, subsequently, AGA updated their guideline to recommend repeat colonoscopy for colorectal patients after resection in 1 year post resection.
• In 2006, the American Society of Colon and Rectal Surgeons recommended that colonoscopy should be performed 3 years after resection, and if normal, followed by colonoscopy every 5 years. [2] Of note, this guideline was referencing an old 2003 guideline published by US Multi-Society Task Force on Colorectal Cancer, which updated its recommendation in 2006 to colonoscopy within 1 year for colorectal patients after resection.

• The National Comprehensive Cancer Network (NCCN) recommends that all patients with non-metastatic colon cancer, or colon cancer with resectable synchronous liver or lung metastases should have a colonoscopy 1 year after their initial resection. If the results are normal, NCCN recommends a repeat colonoscopy in 3 years and then every 5 years thereafter. If the colonoscopy at 1 year is abnormal, then NCCN recommends a repeat colonoscopy in 1 year.[3]
• In 2006, in a consensus guideline endorsed by the AGA, the American Society for Gastrointestinal Endoscopy, the American Cancer Society (ACS) and the US Multi-Society Task Force on Colorectal Cancer together recommended that patients undergoing curative resection for colorectal cancer should undergo a colonoscopy 1 year after the resection and if normal, then repeat colonoscopy can be performed every 3 to 5 years.[4]
• In 2006 the American Society for Gastrointestinal Endoscopy recommended that surveillance colonoscopy be performed 1 year after surgical resection of colon cancer, and if normal, again in 3 years. If the repeat colonoscopy is normal, then the patient should undergo repeat colonoscopy in 5 years.[5]

1c.17 Clinical Practice Guideline Citation: 1. Desch, C.E., et al., Colorectal cancer surveillance: 2005 update of an American Society of Clinical Oncology practice guideline. J Clin Oncol, 2005. 23(33): p. 8512-9.
2. Ko, C. and N.H. Hyman, Practice parameter for the detection of colorectal neoplasms: an interim report (revised). Dis Colon Rectum, 2006. 49(3): p. 299-301.
3. NCCN. Clinical Practice Guidelines in Oncology: Colon Cancer. 2005 [cited 2005 June 16]; Available from: http://www.nccn.org/professionals/physician_gls/PDF/colon.pdf.
4. Rex, D.K., et al., Guidelines for Colonoscopy Surveillance after Cancer Resection: A Consensus Update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer. CA Cancer J Clin, 2006. 56(3): p. 160-167.
5. Davila, et al., ASGE guideline: colorectal cancer screening and surveillance. Gastrointest Endosc, 2006. 63(4): p. 546-57.

1c.18 National Guideline Clearinghouse or other URL:

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded? No

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.21 System Used for Grading the Strength of Guideline Recommendation: Other

1c.22 If other, identify and describe the grading scale with definitions: N/A

1c.23 Grade Assigned to the Recommendation:

1c.24 Rationale for Using this Guideline Over Others: Societies contributing to the guidelines cited above are highly regarded organizations whose guidelines are well respected within the medical community.

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?
1c.25 Quantity: Moderate **1c.26** Quality: Moderate**1c.27** Consistency**:** Moderate

Was the threshold criterion, *Importance to Measure and Report*, met?
(*1a & 1b must be rated moderate or high and 1c yes*) Yes☐ No☐
Provide rationale based on specific subcriteria:

For a new measure if the Committee votes NO, then STOP.
For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for improvement), it may be considered for continued endorsement and all criteria need to be evaluated.

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **(evaluation criteria)**
Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be

conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See guidance on measure testing.

S.1 Measure Web Page *(In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? No

S.2 If yes, provide web page URL:

2a. RELIABILITY. Precise Specifications and Reliability Testing: H☐ M☐ L☐ I ☐

2a1. Precise Measure Specifications. (*The measure specifications precise and unambiguous.*)

2a1.1 Numerator Statement *(Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome)*:
Members receiving a colonoscopy, sigmoidoscopy, or protoscopy as appropriate during the 15 months after the index date.

Note: Index date is defined as the first instance of denominator criterion A or B.

Time Window: The 15 months after the index date.

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion)*:
Time Window: The 15 months after the index date.

2a1.3 Numerator Details *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, codes with descriptors, and/or specific data collection items/responses*:
Numerator logic: A or B or C

Note: Members who qualified for the denominator by meeting denominator criterion [A] can only be considered a numerator hit by meeting numerator criterion [A]. However, members who qualified for the denominator by meeting denominator criterion [B] may be considered a numerator hit by meeting either numerator criterion [A] or [B] or [C].

[A] Members who received a colonoscopy during the 0-15 months after the index date.

Colonoscopy:
CPT-4 code(s): 3017F,44388-44394, 44397, 45378-45387, 45391, 45392
HCPCS code(s): G0105, G0121
ICD-9 surgical proc code(s): 45.22, 45.23, 45.25,45.42, 45.43

[B] Members who received a sigmoidoscopy during the 0-15 months after the index date.

Sigmoidoscopy:
CPT-4 code(s): 45330-45335, 45337, 45338-45342, 45345
HCPCS code(s): G0104
ICD-9 surgical proc code(s): 45.24

[C] Members who received a proctoscopy during the 0-15 months after the index date.

Proctoscopy:
CPT-4 code(s): S0601

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured)*:
Continuously enrolled members who are status post resection of colorectal cancer during the year ending 15 months prior to the measurement year.

Time Window: The one year period ending 15 months prior to the measurement year.

2a1.5 Target Population Category *(Check all the populations for which the measure is specified and tested if any)*:

2a1.6 Denominator Time Window *(The time period in which cases are eligible for inclusion)*:

2a1.7 Denominator Details (*All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
Denominator logic: (A or B) and C and CE

[A] Partial colectomy or proctectomy during the year ending 15 months prior to the end of the measurement year.

Partial Colectomy or Proctectomy
CPT-4 code(s): 44139-44141, 44143-44147, 44160, 44204-44208, 44213, 45110-45114, 45116, 45119, 45123, 45126, 45160, 45170, 45395, 45397
ICD-9 surgical proc code(s): 45.4x, 45.7x, 48.35, 48.36, 48.4x, 48.5, 48.6x, 48.8x

[B] Total abdominal colectomy without protectomy during the year ending 15 months prior to the end of the measurement year.

Total Colectomy
CPT-4 code(s): 44150, 44151, 44210
ICD-9 surgical proc code(s): 45.8

[C] Diagnosis of colorectal cancer on the same date of service as the index date.

Colorectal Cancer
ICD-9 diagnosis code(s): 153.0-153.4, 153.6-153.9 154.0, 154.1, 154.8

[CE] Members continuously enrolled during the 0-15 months after the index date.

Note: Index date is defined as the first instance of denominator criterion A or B.

Note: Denominator criteria([A] or [B]) are required to occur on the same date of service as denominator criterion [C].

2a1.8 Denominator Exclusions *(Brief narrative description of exclusions from the target population)*:
Members who are status post resection of colon cancer any time prior to the index date, or members who were in hospice care 0 to 15 months after the index date.

Note: Index date is defined as the first instance of denominator criterion A or B.

2a1.9 Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
Denominator exclusion criteria: (A and B) or C

[A] Members with a diagnosis of colorectal cancer any time prior to the index date.

Colorectal Cancer:
ICD-9 diagnosis code(s): 153.0-153.4, 153.6-153.9 154.0, 154.1, 154.8

[B] Members who had prior resection of colon prior to the index date.

Resection of Colon or Rectum:
CPT-4 code(s): 44139-44141, 44143-44147, 44150, 44151, 44160, 44204-44208, 44210, 45110-45114, 45116, 45119, 45123, 45126, 45160, 45170, 45395, 45397

ICD-9 surgical proc code(s): 45.4x, 45.7x, 45.8, 48.35, 48.36, 48.4x, 48.5, 48.6x, 48.8x

[C] Members who were in hospice care 0 to 15 months after the index date.

Hospice Care:
ICD-9 diagnosis code(s): V66.7
CPT-4 code(s): 99376*, 99377, 99378
HCPCS code(s): G0065*, G0182, G0337, Q5001-Q5009, S0255, S0271, S9126, T2042-T2046
UB revenue code(s): 0115, 0125, 0135, 0145, 0155, 0235, 0650-0652, 0655-0659
UB type of bill code(s): 81x, 82x
Place of service code(s): 34

*Code range expired, but still appropriate for retrospective analysis

2a1.10 Stratification Details/Variables *(All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses)*:

2a1.11 Risk Adjustment Type *(Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13)*: No risk adjustment or risk stratification **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables *(Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.)*:

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

2a1.17-18. Type of Score: Rate/proportion

2a1.19 Interpretation of Score *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*: Better quality = Higher score

2a1.20 Calculation Algorithm/Measure Logic*(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)*:

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:

2a1.24 Sampling (Survey) Methodology. If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate):

2a1.25 Data Source *(Check all the sources for which the measure is specified and tested*). If other, please describe:
Administrative claims, Other

2a1.26 Data Source/Data Collection Instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.*)**:**

2a1.27-29 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.30-32 Data Dictionary/Code Table Web Page URL or Attachment:

2a1.33 Level of Analysis (*Check the levels of analysis for which the measure is specified and tested)***:** Clinician : Group/Practice, Clinician : Individual, Health Plan, Population : County or City

2a1.34-35 Care Setting *(Check all the settings for which the measure is specified and tested)***:** Ambulatory Care : Clinician Office, Other:Health Plan

2a2. Reliability Testing. (*Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability*.)

2a2.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
Data from commercial health plans were used to generate rates of colonoscopy follow-up, according to the algorithm specified above. Included health plans range from 500,000 members to 1.7 million members.

2a2.2 Analytic Method *(Describe method of reliability testing & rationale)***:**
Testing rates for Plans A and B were compared for stability over the course of two years.

2a2.3 Testing Results *(Reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**

PLAN	2006 Rate	2007 Rate	2006 Denominator	2007 Denominator
Plan A	60.5%	59.8%	354	378
Plan B	68.3%	69.0%	277	274

2b. VALIDITY. Validity, Testing, including all Threats to Validity: H☐ M☐ L☐ I ☐

2b1.1 Describe how the measure specifications *(measure focus, target population, and exclusions)* **are consistent with the evidence cited in support of the measure focus (***criterion 1c)* **and identify any differences from the evidence:**

2b2. Validity Testing. (*Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.)*

2b2.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
2006 Data from five geographically diverse commercial health plans were used to generate rates of colonoscopy follow-up, according to the algorithm specified above. The size of the included health plans range from 180,000 members, to 2.4 million members.

2b2.2 Analytic Method *(Describe method of validity testing and rationale; if face validity, describe systematic assessment)***:**
PART 1: The algorithm for colonoscopy follow-up was run on 2006 data from all five plans. Denominator size and rate were calculated for each plan.
PART 2: Rates generated using this algorithm were compared to rates of colonoscopy follow-up found in the literature.

2b2.3 Testing Results *(Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment)***:**
PART 1:
PLAN RATE DENOMINATOR

Plan A 53.5% 406
Plan B 57.6% 278
Plan C 68.2% 277
Plan D 59.8% 378
Plan E 58.6% 418

Average Rate: 59.5% Standard Deviation: 5.4%
Average Denominator: 351

PART 2:

One follow-up study followed 62,882 medicaid benificiaries after diagnosis and resection of colorectal cancer. Colonoscopy was performed within within 18 months in 53.8% of patients, [1] a rate which is consistent with our findings.

Cooper, et al., Temporal trends in colorectal procedure use after colorectal cancer resection. Gastrointest Endosc, 2006. 64(6): p. 933-40. Other reported rates of testing are based on earlier guideline reccomendations for follow-up care which observed follow-up over a 3-year period.

POTENTIAL THREATS TO VALIDITY. (*All potential threats to validity were appropriately tested with adequate results.*)

2b3. Measure Exclusions. (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

2b3.1 Data/Sample for analysis of exclusions *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference)***:**

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*

2b4. Risk Adjustment Strategy. (*For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.*)

2b4.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
N/A

2b4.2 Analytic Method (*Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables)***:**
N/A

2b4.3 Testing Results *(Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata)***:**
N/A

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment: N/A

2b5. Identification of Meaningful Differences in Performance. (*The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.*)

2b5.1 **Data/Sample** *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**

2b5.2 **Analytic Method** *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)***:**

2b5.3 **Results** *(Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:

2b6. Comparability of Multiple Data Sources/Methods. (*If specified for more than one data source, the various approaches result in comparable scores.*)

2b6.1 **Data/Sample** *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
N/A

2b6.2 **Analytic Method** *(Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure)***:**
N/A

2b6.3 **Testing Results** *(Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted)***:**
N/A

2c. Disparities in Care: H☐ M☐ L☐ I ☐ NA☐ (*If applicable, the measure specifications allow identification of disparities.*)

2c.1 **If measure is stratified for disparities, provide stratified results** *(Scores by stratified categories/cohorts)***:** N/A

2c.2 **If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:**
N/A

2.1-2.3 **Supplemental Testing Methodology Information:**

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met?
(*Reliability and Validity must be rated moderate or high*) Yes☐ No☐
Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. **(evaluation criteria)**

C.1 **Intended Purpose/ Use** *(Check all the purposes and/or uses for which the measure is intended)***:** Public Reporting, Quality Improvement (Internal to the specific organization)

3.1 **Current Use** *(Check all that apply; for any that are checked, provide the specific program information in the following questions)*:

3a. Usefulness for Public Reporting: H☐ M☐ L☐ I ☐

(*The measure is meaningful, understandable and useful for public reporting.*)

3a.1. Use in Public Reporting - disclosure of performance results to the public at large *(If used in a public reporting program, provide name of program(s), locations, Web page URL(s)).* If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: **[*For Maintenance* –** *If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.***]**

3a.2.Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results**:**

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program, provide name of program(s), locations, Web page URL(s)**:**

3b. Usefulness for Quality Improvement: H☐ M☐ L☐ I ☐
(*The measure is meaningful, understandable and useful for quality improvement.*)

3b.1. Use in QI. If used in quality improvement program, provide name of program(s), locations, Web page URL(s):
[*For Maintenance* – *If not used for QI, indicate the reasons and describe progress toward using performance results for improvement***]**.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated *(e.g., QI initiative),* describe the data, method and results:

Overall, to what extent was the criterion, *Usability*, met? H☐ M☐ L☐ I ☐
Provide rationale based on specific subcriteria:

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. **(evaluation criteria)**

4a. Data Generated as a Byproduct of Care Processes: H☐ M☐ L☐ I ☐

4a.1-2 How are the data elements needed to compute measure scores generated? *(Check all that apply).*
Data used in the measure are**:**
Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

4b. Electronic Sources: H☐ M☐ L☐ I ☐

4b.1 Are the data elements needed for the measure as specified available electronically *(Elements that are needed to compute measure scores are in defined, computer-readable fields)***:** ALL data elements are in a combination of electronic sources

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:

4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H☐ M☐ L☐ I ☐

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:
This is an administrative claims-based quality indicator with certain potential biases, including coding variation between providers and missing data. Nevertheless, administrative claims data are widely available and have been used to effectively examine and document patterns of health care utilization, detect opportunities to improve quality of care, estimate incidence of disease, and even assess outcomes of pharmaceutical, radiological, and surgical procedures.

HBI has developed an online tool (currently in use by several health plans), which allows physicians the opportunity to supplement their quality scores through self-report via a secured web site. Via this website, physicians are able to identify specific patients with whom they had an office visit during the measurement period and who reportedly did not have the indicated quality care. Physicians can then review their charts to verify whether in fact the quality care was performed. The physician can then manually enter corrections to the patient record via the website, indicating that the quality care was done. This data is subject to clinical review prior to acceptance. The hybrid quality score (via administrative claims and self report) can be updated on a quarterly basis.

4d. Data Collection Strategy/Implementation: H☐ M☐ L☐ I ☐

A.2 **Please check if either of the following apply** (*regarding proprietary measures*)**:**
4d.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues** *(e.g., fees for use of proprietary measures)***:**

Overall, to what extent was the criterion, *Feasibility*, met? H☐ M☐ L☐ I ☐
Provide rationale based on specific subcriteria:

OVERALL SUITABILITY FOR ENDORSEMENT

Does the measure meet all the NQF criteria for endorsement? Yes☐ No☐
Rationale:

If the Committee votes No, STOP.
If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

5. COMPARISON TO RELATED AND COMPETING MEASURES

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure before a final recommendation is made.

5.1 **If there are related measures *(either same measure focus or target population)* or competing measures *(both the same measure focus and same target population*), list the NQF # and title of all related and/or competing measures:**

5a. Harmonization

5a.1 **If this measure has EITHER the same measure focus OR the same target population as NQF-endorsed measure(s): Are the measure specifications completely harmonized?**

5a.2 **If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:**

5b. Competing Measure(s)

5b.1 **If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s): Describe why this measure is superior to competing measures** *(e.g., a more valid or efficient way to measure quality)***; OR provide a rationale for the additive value of endorsing an additional measure.** *(Provide analyses when possible)***:**

CONTACT INFORMATION

Co.1 **Measure Steward (Intellectual Property Owner):** Health Benchmarks-IMS Health, 21650 Oxnard Street, Suite 1850, Woodland Hills, California, 91367

Co.2 **Point of Contact:** Irina, Yermilov, MD, MPHTM, iyermilov@us.imshealth.com, 818-676-2835-
Co.3 **Measure Developer if different from Measure Steward:** IMS Health, 660 West Germantown Pike, Plymouth Meeting, Pennsylvania, 19462-0905 Co.4 **Point of Contact:** Judy, Chen, jchen@healthbenchmarks.com, 818-676-2883-
Co.5 **Submitter:** Zak, Ramadan-Jrad, zramadan@healthbenchmarks.com, 818-676-2820-, Health Benchmarks, Inc
Co.6 **Additional organizations that sponsored/participated in measure development:**
Co.7 **Public Contact:** Irina, Yermilov, MD, MPHTM, iyermilov@us.imshealth.com, 818-676-2835-, Health Benchmarks-IMS Health

ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
Ad.2 **If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:**
Measure Developer/Steward Updates and Ongoing Maintenance Ad.3 **Year the measure was first released:** 2008 Ad.4 **Month and Year of most recent revision:** 11, 2008 Ad.5 **What is your frequency for review/update of this measure?** Annually Ad.6 **When is the next scheduled review/update for this measure?** 09, 2009
Ad.7 **Copyright statement:** © 2008 Health Benchmarks® Confidential and Proprietary All Rights Reserved
Ad.8 **Disclaimers:**
Ad.9 **Additional Information/Comments:**
Date of Submission (*MM/DD/YY*)**:** 10/03/2011