Following is an overview of the clinical quality measures in GIQuIC that can be reported to CMS for the Physician Quality Report System (PQRS) via GIQuIC’s status as a qualified clinical data registry (QCDR). Additional detail for each measure follows on the subsequent pages.

To earn an incentive a provider must successfully report at least 9 individual measures, with at least one outcome measure, covering at least 3 National Quality Strategy (NQS) domains.

To avoid an adjustment a provider must successfully report at least 3 individual measures covering at least 1 NQS domain.

**Note:** Measures with a 0 percent performance rate will not count.

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GIQuIC Non-PQRS Measure 1: Adenoma detection rate [based on a PQRS measure concept, #343]

Measure Title: Adenoma detection rate

Description: Percentage of patients age 50 and over undergoing screening colonoscopy with a finding of at least one adenomatous polyp

Denominator: Patients age 50 years or older undergoing a screening colonoscopy

Numerator: Number of patients age 50 years or older with at least one adenoma or other colorectal cancer precursor or colorectal cancer detected during screening colonoscopy

Denominator Exceptions/Exclusions: inadequate bowel preparation

Measure Type: Outcome

Measure Domain: Effective Clinical Care

PQRS Status of Measure Concept: #343

NQF Endorsement Status: Being submitted to NQF in 2014 for consideration of endorsement by ACG, ASGE and the American Gastroenterological Association (AGA)

Rationale and Supported Evidence:
The adenoma detection rate is the best-established colorectal neoplasia-related quality indicator, and is defined as the proportion of patients undergoing colonoscopy in whom an adenoma or colorectal cancer is found.\(^1\) Studies show that high adenoma detection rates are associated with a significant reduction in colorectal cancer risk.\(^2\) Yet, virtually all studies on this subject have found marked variation in adenoma detection rates among physicians.\(^3\)\(^,\)\(^4\)\(^,\)\(^5\)\(^,\)\(^6\)

GIQuIC Non-PQRS Measure 2: Adequacy of bowel preparation

Measure Title: Adequacy of bowel preparation

Description: Percentage of colonoscopies with a bowel preparation documented as adequate or better

Denominator: All colonoscopies

Numerator: Number of patients for whom bowel preparation was assessed and documented as adequate

Denominator Exceptions/Exclusions: N/A

Measure Type: Process

Measure Domain: Effective Clinical Care

PQRS Status of Measure Concept: N/A

NQF Endorsement Status: N/A

Rationale and Supported Evidence:
Adenoma miss rates in the context of suboptimal bowel preparation are high; of all of the adenomas identified, 42% were discovered only during the repeat colonoscopy. The miss rate for advanced adenomas, although comparatively less, also remained high at 27%. This proportion remained similar after redefining an early repeat colonoscopy as occurring within 1 year of the index examination, suggesting a true miss rate rather than subsequent neoplasia. The miss rate was particularly

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\(^1\) Church J. Adenoma detection rate and the quality of colonoscopy: the sword has two edges. Dis Colon Rectum 2008;51:520-3.
high for those colonoscopies done with suboptimal bowel preparation in which any adenoma was found on the initial examination compared with none detected. Given the increased premalignant potential of advanced adenomas, suboptimal bowel preparation may cause an unacceptably high failure rate at identifying these important lesions, thereby compromising the effectiveness of the colonoscopy. While there is relative uniformity in surveillance intervals when bowel preparation is optimal, there is considerable variability when bowel preparation is suboptimal.\textsuperscript{7,8}

\textbf{GIQuIC Non-PQRS Measure 3: Photodocumentation of the cecum (also known as cecal intubation rate) – All Colonoscopies}

\textbf{Measure Title:} Photodocumentation of the cecum (also known as cecal intubation rate) – All Colonoscopies

\textbf{Description:} Percentage of colonoscopies into the cecum including photodocumentation of one or more of the cecal landmarks (ileocecal valve, appendiceal orifice, or terminal ileum)

\textbf{Denominator:} All (i.e., screening, surveillance, diagnostic/therapeutic) colonoscopies

\textbf{Numerator:} Number of patients for whom photodocumentation of one or more cecal landmarks was recorded

\textbf{Denominator Exceptions/Exclusions:} Patient has no cecum or hemicolecotomy; inadequate bowel preparation

\textbf{Measure Type:} Process \hspace{1cm} \textbf{Measure Domain:} Effective Clinical Care

\textbf{PQRS Status of Measure Concept:} N/A \hspace{1cm} \textbf{NQF Endorsement Status:} N/A

\textbf{Rationale and Supported Evidence:}
In the United States, colonoscopy is almost always undertaken with the intent to intubate the cecum. Cecal intubation is defined as passage of the colonoscope tip to a point proximal to the ileocecal valve, so that the entire cecal caput, including the medial wall of the cecum between the ileocecal valve and appendiceal orifice, is visible. The need for cecal intubation is based on the persistent finding that a substantial fraction of colorectal neoplasms are located in the proximal colon, including the cecum. Low cecal intubation rates have been associated with higher rates of interval proximal colon cancer.\textsuperscript{9}

Effective colonoscopists should be able to intubate the cecum in ≥ 90% of all cases.\textsuperscript{10}

\textbf{GIQuIC Non-PQRS Measure 4: Photodocumentation of the cecum (also known as cecal intubation rate) – Screening Colonoscopies}

\textbf{Measure Title:} Photodocumentation of the cecum (also known as cecal intubation rate) – Screening Colonoscopies

\textbf{Description:} Percentage of screening colonoscopies into the cecum including photodocumentation of one or more of the cecal landmarks (ileocecal valve, appendiceal orifice, or terminal ileum)

\textbf{Denominator:} All screening colonoscopies

\textbf{Numerator:} Number of patients for whom photodocumentation of one or more cecal landmarks was recorded

\textbf{Denominator Exceptions/Exclusions:} Patient has no cecum or hemicolecotomy; inadequate bowel preparation

\textbf{Measure Type:} Process \hspace{1cm} \textbf{Measure Domain:} Effective Clinical Care

\textbf{PQRS Status of Measure Concept:} N/A \hspace{1cm} \textbf{NQF Endorsement Status:} N/A


Rationale and Supported Evidence:
A high-quality evaluation of the colon consists of examination of the entire colon – from the rectum to the cecum. This is especially important for colorectal cancer screening and surveillance colonoscopy examinations. A significant fraction of colonic neoplasms are located in the right colon, hence effective colonoscopists should be able to intubate the cecum in ≥ 95% of cases when the indication is screening in a healthy adult. Knowing the completeness of the examination can inform physicians whether an imaging procedure or repeat colonoscopy is necessary, and influences the timing of follow-up examination.

GIQuIC Non-PQRS Measure 5: Incidence of perforation

Measure Title: Incidence of perforation

Description: Percentage of total patients experiencing a perforation during colonoscopy, recognized immediately (before the patient leaves the facility)

Denominator: All colonoscopies

Numerator: Number of patients experiencing a perforation during colonoscopy, recognized immediately (before the patient leaves the facility)

Denominator Exceptions/Exclusions: N/A

Measure Type: Outcome

Measure Domain: Patient Safety

PQRS Status of Measure Concept: N/A

NQF Endorsement Status: N/A

Rationale and Supported Evidence:
Perforation is generally considered the most serious adverse event presenting in the short-term during or after colonoscopy. About 5% of colonoscopic perforations are fatal. Published rates of colonoscopic perforation vary widely.

GIQuIC Non-PQRS Measure 6: Appropriate follow-up interval for normal colonoscopy in average risk patients [based on a PQRS measure concept, #320]

Measure Title: Appropriate follow-up interval for normal colonoscopy in average risk patients

Description: Percentage of average-risk patients aged 50 years and older receiving a screening colonoscopy without biopsy or polypectomy who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report

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**GIQuIC Qualified Clinical Data Registry Measures**

**Denominator:** All average-risk patients aged 50 years and older receiving screening colonoscopy without biopsy or polypectomy

**Numerator:** Number of average-risk patients aged 50 years and older receiving a screening colonoscopy without biopsy or polypectomy who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report

**Denominator Exceptions/Exclusions:** Documentation of medical reason(s) for not recommending at least a 10 year follow-up interval (e.g., above average risk patient, inadequate bowel preparation)

**Measure Type:** Process  
**Measure Domain:** Communication and Care Coordination

**PQRS Status of Measure Concept:** #320  
**NQF Endorsement Status:** Endorsed #658

**Rationale and Supported Evidence:**
In the average-risk population (persons age 50 years and older without other risk factors for colorectal cancer, or who have only one first degree relative with colorectal cancer and that cancer was diagnosed at age >60 years), colonoscopic screening is recommended in all past and current guidelines at 10-year intervals.\(^{18,19,20}\) Inappropriate interval recommendations can result in overuse of resources and can lead to significant patient harm. Performing colonoscopy too often not only increases patients’ exposure to procedural harm, but also drains resources that could be more effectively used to adequately screen those in need.\(^{21}\)

**GIQuIC Non-PQRS Measure 7:** Repeat colonoscopy recommended due to poor bowel preparation

**Measure Title:** Repeat colonoscopy recommended due to poor bowel preparation

**Description:** Percentage of patients recommended for repeat colonoscopy due to inadequate bowel preparation

**Denominator:** All colonoscopies

**Numerator:** Number of patients for whom bowel preparation was assessed and documented as inadequate and whose recommended follow up interval was changed due to bowel preparation

**Denominator Exceptions/Exclusions:** N/A

**Measure Type:** Outcome  
**Measure Domain:** Efficiency and Cost Reduction

**PQRS Status of Measure Concept:** This measure concept was conceived jointly by ACG, AGA, and ASGE and submitted for PQRS 2015. The measure concept received a recommendation of “conditional support” by the NQF Measures Application Partnership.

**NQF Endorsement Status:** The measure will be submitted to NQF for endorsement.

**Rationale and Supported Evidence:**
The economic burden of repeating examinations because of inadequate bowel preparation is substantial. The Clinical Outcomes Research Initiative (CORI) on Colonoscopy Quality Indicators Study of 53 gastroenterology practice sites in 24

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GiQuIC Qualified Clinical Data Registry Measures

states looked at all patients undergoing colonoscopy (n=438,521); in this study, quality of bowel prep recorded was assessed. Findings indicated that 13.9% of reports did not have bowel prep quality reported and in 14 of 53 practices, over 20% did not have bowel prep quality. A study conducted in a public hospital and university hospital setting concluded that inadequate bowel preparation increased costs by 12% in the university hospital and 22% in the public hospital.

The GiQuIC registry tracks data on adequacy of bowel preparation, recommended follow-up intervals, and further tracks if a recommended follow-up interval for next colonoscopy was changed due to inadequate bowel preparation.

GiQuIC Non-PQRS Measure 8: Age appropriate screening colonoscopy

Measure Title: Age appropriate screening colonoscopy

Description: Percentage of patients age 85 years or older undergoing screening colonoscopy

Denominator: Patients age 50 years or older undergoing a screening colonoscopy

Numerator: Number of patients age 85 years or older undergoing a screening colonoscopy

Denominator Exceptions/Exclusions: N/A

Measure Type: Outcome

Measure Domain: Efficiency and Cost Reduction

PQRS Status of Measure Concept: This measure concept was conceived jointly by ACG, AGA, and ASGE and submitted for PQRS 2015. The measure concept received a recommendation of “conditional support” by the NQF Measures Application Partnership.

NQF Endorsement Status: The measure will be submitted to NQF for endorsement.

Rationale and Supported Evidence:

The U.S. Preventive Services Task Force (USPSTF) recommends screening for colorectal cancer in adults using fecal occult blood test, sigmoidoscopy, or colonoscopy, beginning at 50 years of age and continuing until 75 years of age. The risks and benefits of these screening methods vary. However, the USPSTF recommends against screening for colorectal cancer in adults older than 85 years as there is moderate certainty that the benefits of screening do not outweigh the harms.

GiQuIC Non-PQRS Measure 9: Documentation of history and physical rate - Colonoscopy

Measure Title: Documentation of history and physical rate - Colonoscopy

Description: Percentage of colonoscopies with history and physical documented

Denominator: All colonoscopies

Numerator: Number of patients for which history and physical are documented

Denominator Exceptions/Exclusions: N/A

Measure Type: Process

Measure Domain: Effective Clinical Care

PQRS Status of Measure Concept: N/A

NQF Endorsement Status: N/A


Rationale and Supported Evidence:

When performing colonoscopy for colorectal cancer (CRC) screening, endoscopists should document if the patient previously had a colonoscopy, date of the last colonoscopy, and any histologic findings from polyps removed during that colonoscopy under “Indication” for procedure if that information is available. This documentation should demonstrate that colonoscopy for CRC screening or colon polyp surveillance is being performed at an appropriate interval. Evidence from surveys indicates that post-polypectomy surveillance colonoscopy in the United States is frequently performed at intervals that are shorter than those recommended in guidelines. 

GIQuIC's supporting societies agree lack of documentation of history and physical should be considered essentially a "never event" and have recommended a performance target of > 98%. Data in the GIQuIC registry shows in 2012 not quite 90% of colonoscopies cases included in the registry had history and physical documented. That number improved to approximately 93% in 2013; however, improvement is still needed.

GIQuIC Non-PQRS Measure 10: Appropriate management of anticoagulation in the peri-procedural period rate – EGD

Measure Title: Appropriate management of anticoagulation in the peri-procedural period rate – EGD

Description: Percentage of patients undergoing an EGD on an anti-platelet agent or an anticoagulant who leave the endoscopy unit with instructions for management of this medication

Denominator: All patients undergoing an EGD on an anti-platelet agent or an anticoagulant

Numerator: Number of patients on an anti-platelet agent or an anticoagulant who leave the endoscopy unit with instructions for management of this medication

Denominator Exceptions/Exclusions: N/A

Measure Type: Process

Measure Domain: Communication and Care Coordination

PQRS Status of Measure Concept: N/A

NQF Endorsement Status: N/A

Rationale and Supported Evidence:

Given bleeding is an adverse event associated with EGD, adherence to this quality measure is supported by GIQuIC for this population of patients.

GIQuIC Non-PQRS Measure 11: *Helicobacter pylori* (H. pylori) status rate

**Measure Title:** *Helicobacter pylori* (H. pylori) status rate

**Description:** Percentage of patients undergoing an EGD with a duodenal or gastric ulcer whose H. pylori status is unknown who have a plan documented for assessing H. pylori status

**Denominator:** All patients undergoing an EGD with a duodenal or gastric ulcer whose *H. pylori* status is unknown

**Numerator:** Number of patients undergoing an EGD with a duodenal or gastric ulcer whose *H. pylori* status is unknown and for whom a plan for assessing *H. pylori* status has been documented

**Denominator Exceptions/Exclusions:** N/A

**Measure Type:** Process

**Measure Domain:** Communication and Care Coordination

**PQRS Status of Measure Concept:** N/A

**NQF Endorsement Status:** N/A

**Rationale and Supported Evidence:**

*H. pylori* is a common cause of gastric and duodenal ulcer disease. Successful eradication of this organism results in dramatically reduced rates of ulcer recurrence.\(^{34}\) ASGE guidelines pertaining to the role of endoscopy for peptic ulcer disease recommends that all patients with gastric or duodenal ulcers should be assessed for this infection.\(^{35}\)

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GIQuIC Non-PQRS Measure 12: Appropriate indication for colonoscopy

**Measure Title:** Appropriate indication for colonoscopy

**Description:** Percentage of colonoscopy procedures performed for an indication that is included in a published standard list of appropriate indications and the indication is documented

**Denominator:** All colonoscopies

**Numerator:** Number of colonoscopies performed for an indication that is included in a published standard list of appropriate indications

**Denominator Exceptions/Exclusions:** N/A

**Measure Type:** Process

**Measure Domain:** Effective Clinical Care

**PQRS Status of Measure Concept:** N/A

**NQF Endorsement Status:** N/A

**Rationale and Supported Evidence:**

In 2012, ASGE updated its indications for endoscopic procedures, *Appropriate Use of Gastrointestinal Endoscopy*.\(^{36}\) This list was determined by a review of published literature and expert consensus. Studies have shown that when colonoscopy is done for appropriate reasons, significantly more clinically relevant diagnoses are made.\(^{37,38,39}\)

Based on the evidence GIQuIC’s supporting societies agree the performance target for an appropriate indication measure should be > 80%.

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GIQuIC Non-PQRS Measure 13: Colonoscopy interval for patients with a history of adenomatous polyps – avoidance of inappropriate use [based on a PQRS measure concept, #185]

**Measure Title:** Colonoscopy interval for patients with a history of adenomatous polyps – avoidance of inappropriate use

**Description:** Percentage of patients aged 18 years and older receiving a surveillance colonoscopy, with a history of a prior colonic polyp in previous colonoscopy findings who had a follow-up interval of 3 or more years since their last colonoscopy

**Denominator:** All patients aged 18 years and older receiving a surveillance colonoscopy with a history of a prior colonic polyp in a previous colonoscopy conducted at the same facility with a record in the GIQuIC registry

**Numerator:** Number of patients who had an interval of 3 or more years since their last colonoscopy

**Denominator Exceptions/Exclusions:** Documentations of medical reason(s) for an interval of less than 3 years since the last colonoscopy (e.g., patients with high risk for colon cancer, last colonoscopy had inadequate bowel preparation, piecemeal removal of adenomas, or last colonoscopy found greater than 10 adenomas)

**Measure Type:** Process

**Measure Domain:** Communication and Care Coordination

**PQRS Status of Measure Concept:** #185

**NQF Endorsement Status:** Endorsed #659

**Rationale and Supported Evidence:**

Colonoscopic screening is recommended at 5- to 10-year intervals among patients with one or two small (<10 mm) tubular adenomas, at 5-year intervals when there is a history of advanced adenomas on previous colonoscopies, and at three-year-intervals for patients with ≥ three small adenomas, adenoma with villous features or high-grade dysplasia, or an adenoma ≥1 cm in size. However, assessments of Medicare colonoscopy codes demonstrated systematic overuse of colonoscopy for screening and polyp surveillance by some physicians. The systematic overuse of colonoscopy exposes patients to unnecessary risk and is not cost effective.

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