Measuring Endoscopic Performance for Colorectal Cancer Prevention Quality Improvement in a Gastroenterology Practice

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Introduction

Colorectal Cancer (CRC)

• Third leading cause of cancer death for men and women

• Mortality reductions are associated with early detection of cancer and removal of adenomatous polyps

• Further incidence and mortality reductions may be achieved if CRC prevention efforts were improved (Crowe, 2012; Hardcastle et al., 1996; Kronborg et al., 1996; Levin et al., 2008; Mandel et al., 2000; Selby, Friedman, Quesenberry, & Weiss, 1992; U.S. Cancer Statistics Working Group, 2012)
Statement of the Problem

• A private GI practice’s purpose is circumscribed by the broader aims of health care in the 21st century for safe, effective, timely, patient-centered, efficient, and equitable care. (IOM, 2001)

• Ongoing assessment through the benchmarking process is warranted in order to meet these goals and improve CRC-P outcomes.
Purpose

• Assess endoscopists’ **adherence** to colorectal cancer prevention (CRC-P) measures

• Identify **performance gaps**

• Investigate **root causes** of deficiencies

• Identify **opportunities for improvement**

• Consider **practice changes** for improvement
Initiate Use of an Evaluation Tool

Colorectal Cancer Prevention Data Collection Form (AGA, 2012)

Benchmark

Patient Care Management | Adherence to Clinical Practice Guidelines | Use of Resources

Practice Changes

Identify Deficiencies | Analyze Root Causes | Develop Actions for Improvement

(The American Gastroenterology Association Digestive Health Outcomes Registry, 2012; Schoenfeld, 2012)
Synthesis of Evidence Appraisal

Quality Improvement in Medicine

Nation-wide problems in terms of medical errors and a wide discrepancy in outcomes and safety
Adoption of TQM concepts

(IOM, 2001; Radawski, 1999)

Colonoscopy Quality Discrepancy

A wide variation in CRC-P efforts among different endoscopists

(Anderson, Pasha, & Leighton, 2000; Levin et al., 2008; Rex et al., 1997; Waye, Lewis, & Yessayan, 1992)

Quality Measures

USMSTF-CRC (2002) developed quality measures to define optimal endoscopic performance
TQE (2006) graded level of evidence supporting each quality indicator

(Petersen, 2011; Guyatt et al., 2002)
Synthesis of Evidence Appraisal

Quality Metrics that Define Optimal Endoscopic Performance

- Use of recommended post-polypectomy and post-cancer resection surveillance intervals (1A)
- Appropriate indication (1C+)
- Cecal intubation rates (1C)
- Detection of adenomas in asymptomatic individuals (1C)
- Colonoscope withdrawal time (2C)
- Quality of the prep (2C)

(Guyatt et al. 2002; TQE, 2006; USMSTF-CRC, 2002)
Conceptual Framework

Quality Improvement

- Ongoing process to achieve measurable improvements in the efficiency, effectiveness, performance, accountability, and outcomes of performances to improve the health of a community

Total Quality Management

- Philosophical basis: People are basically good and work hard, but the system in which they work may fail them, resulting in required QI

- Ongoing process that requires teams of participants to critically assess processes, problem solve, and implement solutions

(CDC, 2012; Deming, 1986; IOM, 2001; The Health Foundation, 2010)
Methodology: PDSA Cycle

- Collect Data
- Analyze Endoscopic Performance
- Establish Stakeholder Buy-in
- Practice Changes & QI Initiatives

(Ref: IHI, 2012)
Data Collection Tool: Modified CRC-P Data Collection Form

Endoscopist Number: 1 2 3
Date of procedure:
Sex: Male Female
Age:
Initial CRC Risk Assessment:
  Documented
  Not Documented
Preparation Adequacy:
  Excellent  Good  Fair  Poor
Polyps Present or Absent:
  Documented
  Not Documented
Recommended post-polypectomy or post-cancer surveillance time:
  Documented
  Not Documented
Cecum Intubated: Yes No
Adenoma detected? Yes No #
Colonoscope withdrawal time from cecum: minutes
  Not Documented

(Digestive Health Outcomes Registry, 2012)
<table>
<thead>
<tr>
<th>Quality Metrics</th>
<th>Meets Standards</th>
<th>Substandard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial CRC Risk Assessment</td>
<td>Documented</td>
<td>Not documented</td>
</tr>
<tr>
<td>Recommended post-polypectomy and post-cancer surveillance time and the presence or absence of colorectal polyps</td>
<td>Documented</td>
<td>Not documented</td>
</tr>
<tr>
<td>Cecal Intubation Rates</td>
<td>≥ 95 %</td>
<td>&lt; 95%</td>
</tr>
<tr>
<td>Bowel Preparation Quality</td>
<td>≥ 90% “excellent” or “good”</td>
<td>≥ 10% “fair” or “poor”</td>
</tr>
<tr>
<td>Mean Adenoma Detection Rate</td>
<td>Males ≥ 25 %</td>
<td>Males &lt; 25%</td>
</tr>
<tr>
<td></td>
<td>Females ≥ 15%</td>
<td>Females &lt; 15%</td>
</tr>
<tr>
<td>Mean Colonoscopy Withdrawal Time</td>
<td>≥ 6 minutes</td>
<td>&lt; 6 minutes</td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th></th>
<th>Documented CRC Risk Assessment</th>
<th>Documented Recommendations for Surveillance and Presence of Polyps</th>
<th>Cecal Intubation Rate</th>
<th>Quality of Bowel Preparation</th>
<th>Adenoma Detection Rate (male/female)</th>
<th>Mean Colonoscope Withdrawal Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TQE Standard</strong></td>
<td>100%</td>
<td>100%</td>
<td>95%</td>
<td>90%</td>
<td>25/15%</td>
<td>&gt;6</td>
</tr>
<tr>
<td><strong>Practice</strong></td>
<td>36.7%</td>
<td>72.2/83.3%</td>
<td>100%</td>
<td>91.5%</td>
<td>33.7/30.1%</td>
<td>Insufficient Data Points</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td>Substandard</td>
<td>Substandard</td>
<td>Met</td>
<td>Met</td>
<td>Met</td>
<td>Substandard</td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th>Substandard Performance</th>
<th>Root Cause</th>
<th>Practice Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement and documentation of colonoscope withdrawal time for each procedure</td>
<td>Absence and varying approaches for measuring and documenting colonoscope withdrawal time</td>
<td>Designate endoscopy technician to time the withdrawal of scope from cecum to anus and document the time in the procedural record</td>
</tr>
<tr>
<td>Documentation of recommended CRC-P surveillance time and the presence and absence of polyps</td>
<td>Endoscopists did not consistently include the required information as part of the assessment and plan in the colonoscopy report for each patient</td>
<td>Document information routinely to meet the established standard</td>
</tr>
<tr>
<td>Documentation of CRC risk assessments</td>
<td>Deficiency of a conducted assessment for each patient</td>
<td>Create an assessment template to incorporate in each patient’s medical record for the initial office visit and electronically link it to the colonoscopy record</td>
</tr>
</tbody>
</table>
Future Implications for Practice

Growing interest in achieving higher-value care

- Direct link of quality outcomes to reimbursement

Well-designed and proactive monitoring of patient populations

- Intervene to prevent adverse health events
- Predict patients at risk for deteriorating health
- Ensure appropriate follow-up

Benchmarking outcomes

- Useful comparisons for improvement and demonstrate excellence
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Questions ?
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References


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