VANDERBILT UNIVERSITY School of Nursing

# 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**

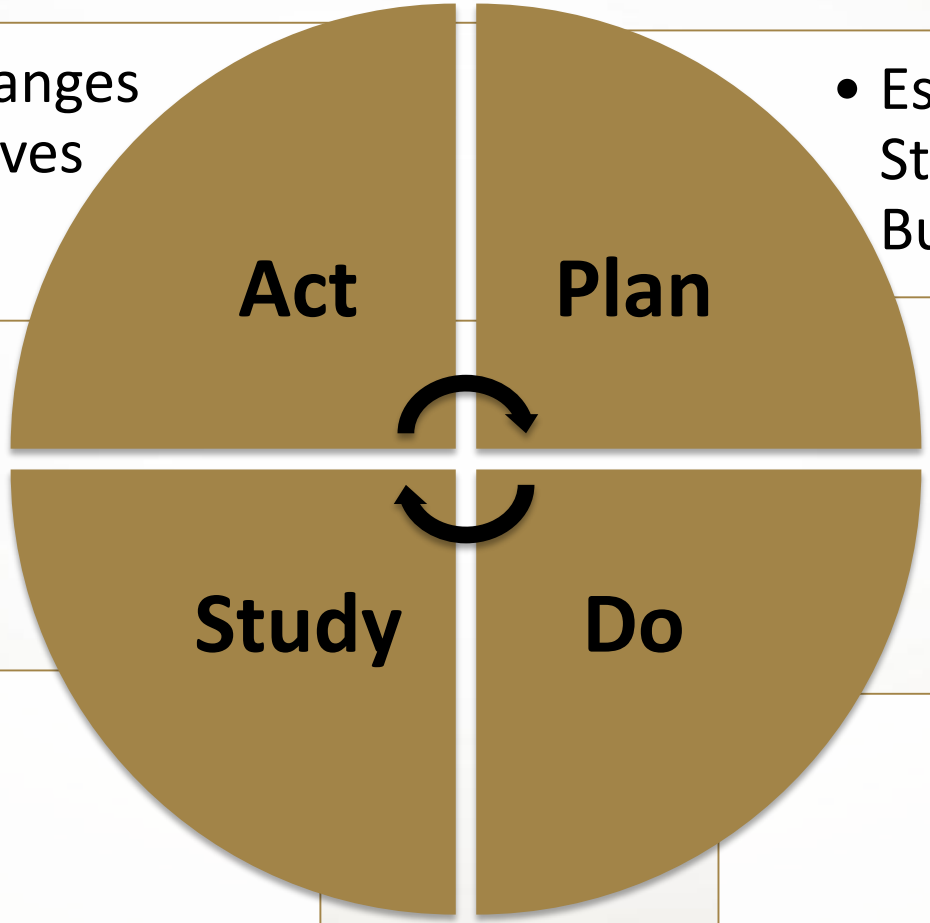
- Philosophical basis: People are basically good and work hard, but the system in which they work may fail them, resulting in required QI
- Ongoing process that requires teams of participants to critically assess processes, problem solve, and implement solutions

(CDC, 2012; Deming, 1986; IOM, 2001; The Health foundation, 2010)

# Methodology: PDSA Cycle (IHI, 2012)

- Practice Changes & QI Initiatives

- Establish Stakeholder Buy-in




- Analyze Endoscopic Performance

- Collect Data

# 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)

| Quality Metrics (TQE, 2006) | Meets Standards | Substandard |
|---|---|---|
| Initial CRC Risk Assessment | Documented | Not documented |
| Recommended post-polypectomy and post-cancer surveillance time and the presence or absence of colorectal polyps | Documented | Not documented |
| Cecal Intubation Rates | ≥ 95 % | < 95% |
| Bowel Preparation Quality | ≥ 90% “excellent” or “good” | ≥ 10% “fair” or “poor” |
| Mean Adenoma Detection Rate | Males ≥ 25 %<br>Females ≥ 15% | Males < 25%<br>Females < 15% |
| Mean Colonoscopy Withdrawal Time | ≥ 6 minutes | < 6 minutes |

# Results

| | Documented CRC Risk Assessment | Documented Recommendations for Surveillance and Presence of Polyps | Cecal Intubation Rate | Quality of Bowel Preparation | Adenoma Detection Rate (male/female) | Mean Colonoscope Withdrawal Time (minutes) |
|---|---|---|---|---|---|---|
| TQE Standard | 100% | 100% | 95% | 90% | 25/15% | >6 |
| Practice | 36.7% | 72.2/83.3% | 100% | 91.5% | 33.7/30.1% | Insufficient Data Points |
| Grade | Substandard | Substandard | Met | Met | Met | Substandard |

# Results

| Substandard Performance | Root Cause | Practice Initiative |
|---|---|---|
| Measurement and documentation of colonoscope withdrawal time for each procedure | Absence and varying approaches for measuring and documenting colonoscope withdrawal time | Designate endoscopy technician to time the withdrawal of scope from cecum to anus and document the time in the procedural record |
| Documentation of recommended CRC-P surveillance time and the presence and absence of polyps | Endoscopists did not consistently include the required information as part of the assessment and plan in the colonoscopy report for each patient | Document information routinely to meet the established standard |
| Documentation of CRC risk assessments | Deficiency of a conducted assessment for each patient | 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 |

# 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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