

Quality Indicators for Colonoscopy in Canada: The Canadian Association of Gastroenterology (CAG) Endoscopy Quality Initiative (EQI) Practice Audit Project

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INTRODUCTION

- Practice audit (PA) is a key component of continuing professional development for physicians.
- The outcomes of PA provide the impetus to implementation of changes in practice.
- There is an increasing emphasis on documenting quality indicators for the purposes of:
 - ⇒ Credentialing,
 - ⇒ Maintaining privileges,
 - ⇒ Colon cancer screening programs
- CAG has developed guidelines and PA methods to facilitate measuring, monitoring and reviewing quality indicators in clinical practice.^{1,2}
- A pilot project demonstrated the feasibility of using a novel point-of-care data collection method via Smartphone technology.³

OBJECTIVE

- To facilitate colonoscopists' (MD) measurement of quality indicators as part of a practice audit (PA) using a novel point-of-care collection method.

METHODS - I

- Participation by MDs from 13 Canadian centres.
- Data collected before, during and immediately after procedures over a period of at least 2 weeks.
- Real-time data collection software (ReFormXT, Goanyware Software, Tulsa OK) on a smartphone (Treo 650, Palm Inc., Mississauga, ON) allowed prompt download to a secure website.
- Data presented on a secure, confidential website (ECD Solutions, Atlanta, GA) for review by MDs, in compliance with PA requirements.



Figure 1. Treo 650: Screen view of timing of endoscope withdrawal.

METHODS - II

- Procedure data recorded included:
 - ✓ Patient's age bracket
 - ✓ Reason for colonoscopy
 - Investigation of abnormality – INV
 - Screening – SCR
 - Surveillance – SUR
 - ✓ Indications for colonoscopy
 - ✓ Interval since the patient's last colonoscopy
 - ✓ Insertion and withdrawal times
 - ✓ Extent of the examination (cecum, ileum, etc.)
 - ✓ Quality of bowel preparation (Ottawa scale)
 - ✓ Findings (number of polyps, biopsies)
 - ✓ Sedation
 - ✓ Immediate complications
- Data were then downloaded to the secure website for subsequent review and comparison of personal data with previous data and comparison with national data.

RESULTS - I

- Preliminary results available from 02/08 to 09/08
- Results of 822 colonoscopies reported by 45 MDs (35 gastroenterologists and 11 surgeons).

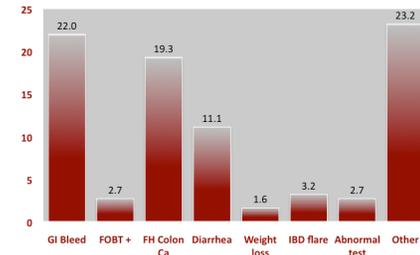


Figure 2: Indications for colonoscopy in 822 patients seen for investigation (INV; n=353), screening (SCR, n=324) or surveillance (SUR; n=145).

Table 1: Percent of colonoscopies with mean withdrawal time <6 minutes, by reason for procedure and physician years in practice.

	N (evaluable data)	Mean Withdrawal Time < 6 mins % (95% CI)
Reason for Colonoscopy		
Overall	755	46.6 (43.0 to 50.3)
INV	317	43.5 (38.0 to 49.2)
SCR	304	57.2 (51.5 to 62.9)
SUR	134	29.9 (22.3 to 38.4)
MD: Years in Practice		
≤ 5 years	113	40.7 (31.6 to 50.4)
6-10 years	203	61.1 (54.0 to 67.8)
11-20 years	269	35.7 (30.0 to 41.7)
> 20 years	167	49.7 (41.9 to 57.5)

RESULTS - II

- Mean cecal intubation rates (% / MD):
 - Overall: 93.9%
 - INV: 92.1%
 - SCR: 93.7%
 - SUR: 97.2%
- Median polyp detection rates per MD (%; 95% CI):
 - Overall: 33.3% (29.4-40.0)
 - INV: 32.3% (21.4-37.5)
 - SCR: 35.2% (20.0-50.0)
 - SUR: 40.0% (33.3-60.0)

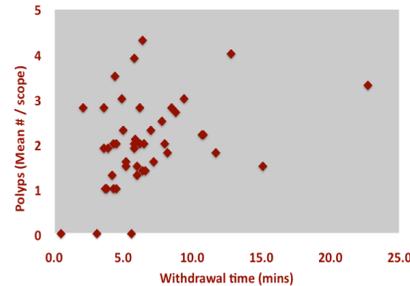


Figure 3: Relationship between the number of polyps removed during colonoscopy and the reported withdrawal times for all patients (INV+SCR+SUR).

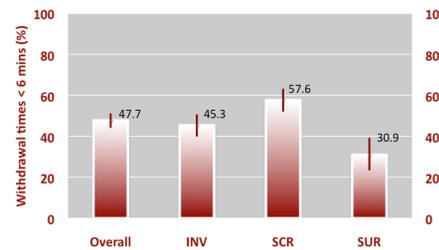


Figure 4: Proportion of procedures (%) for which the reported withdrawal times for all patients (INV+SCR+SUR) were less than 6 minutes.

DISCUSSION

- This study demonstrates the utility of real-time data collection:
 - ⇒ Prompt web-based presentation of an individual's data
 - ⇒ Confidential data presentation
 - ⇒ Feedback on personal performance and comparison with peer practice
 - ⇒ Practical practice audit tool
 - ⇒ Potential for improving colonoscopy practice
- Quality indicators can be measured, tracked and compared using the point-of-care data collection.
- In this Canadian study:
 - ⇒ Cecal intubation rates exceed 90%
 - ⇒ Polyp detection rates exceed 30%
 - ⇒ However in 47.7% of procedures, the mean withdrawal time was < 6 mins

CONCLUSIONS

- Real-time, practice audit for endoscopic procedures is feasible in clinical practice.
- It is possible to collect relevant quality indicators for colonoscopy.
- Practitioners, in clinical practice, can compare their own practice easily with that of their peers.
- Currently, a high proportion of withdrawal times do not conform to published targets.
- The current program provides:
 - ⇒ A convenient mechanism for repeated evaluations of colonoscopic practice
 - ⇒ A tool to monitor performance and outcomes in forthcoming colon cancer screening programs
 - ⇒ A mechanism that will facilitate continuing professional development, maintenance of competence, and renewal of privileges for endoscopists in a variety of practice settings.
 - ⇒ A means of evaluating current practice and conduct relevant needs analyses as a basis for future educational programs
 - ⇒ A tool for developing 'personal report cards'

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1. Romagnuolo J, et al. *Can J Gastroenterol* 2008;22:17-22.
 2. Armstrong D, et al. *Can J Gastroenterol* 2006;20:405-410.
 3. Armstrong D, et al. *Can J Gastroenterol* 2008;22(Suppl A):A194.