



# Topic Brief: Colonoscopy Quality Standards

**Date:** 1/10/2023

**Nomination Number:** 1032

**Purpose:** This document summarizes the information addressing a nomination submitted on November 15, 2022, through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

**Issue:** Early detection and treatment of colorectal cancer is effective, but the quality of screening for colorectal cancer via colonoscopy can vary depending on endoscopist-related factors. A systematic review of interventions to improve colonoscopy quality, using adenoma as the quality measure, could influence practice.

**Findings:** The EPC Program will not develop a new systematic review because we found a recent protocol for a systematic review addressing the concerns of this nomination.

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## Background

Colorectal cancer is cancer of the colon or rectum.<sup>1</sup> It is the fourth most common cancer in women and men, and the fourth leading cause of cancer-related deaths in the United States.<sup>2</sup> In 2022, there were an estimated 151,030 new cases (7.9 percent of all new cancer cases), and an estimated 52,580 deaths (8.6 percent of all cancer deaths).<sup>3</sup> Colorectal cancer was the second costliest cancer in 2020, accounting for 12.6 percent of all cancer treatment costs at \$23.7 billion for medical services and \$0.6 billion for prescription drugs.<sup>4</sup>

About nine out of every 10 people whose colorectal cancers are found early and treated appropriately are still alive five years later.<sup>5</sup> The U.S. Preventive Services Task Force recommends that adults ages 45 to 75 be screened for colorectal cancer, and that adults ages 76 to 85 talk to their doctor about screening. The Task Force recommends several colorectal cancer screening strategies, including stool tests, flexible sigmoidoscopy, colonoscopy, and CT colonography (virtual colonoscopy).<sup>6</sup>

Colonoscopy quality can vary based on endoscopist-related factors.<sup>7</sup> Quality indicators have been widely adopted to improve colonoscopy quality and reduce variations in care. Adenoma detection rate (ADR), which is the proportion of screening-related colonoscopies during which one or more adenoma is detected, is a well-established colonoscopy quality indicator.<sup>8</sup> There is an absence of clear evidence-based guidance on strategies to improve ADR and variability in ADR metrics; a systematic review could inform the development of an evidence-based guideline.

## Scope

What is the impact of various interventions on ADR and other quality indicators and detection parameters when compared with standard colonoscopy?

**Table 1.** Questions and PICO (population, intervention, comparator, and outcome)

<b>Questions</b>	Impact of interventions on quality indicators
<b>Population</b>	adults (age≥18) undergoing screening-related colonoscopy
<b>Interventions</b>	preprocedural and periprocedural parameters (e.g., bowel preparation, numbers and types of observers, sedation regimens), endoscopist-directed interventions (e.g., directed audit and feedback, educational courses), intraprocedural techniques (e.g., dynamic positional changes, second-look segmental examination, retroflexed segmental examination, water immersion), endoscopy technologies (e.g., advanced imaging modalities, CADe), disposable assistive devices (e.g., cuffs, rings, caps), additive substances (e.g., hyoscine-n-butyl bromide, natural/herbal additives)
<b>Comparators</b>	SC, defined as white light colonoscopy performed with high definition colonoscopes in primary a screening-related population without the aid of strategies used in intervention groups specific to the domain being assessed or any of the other interventions
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>a. ADR</li> <li>b. Other quality indicators and detection parameters (PDR), ADR subtypes (including but not limited to sessile serrated lesion detection rate and locational ADR), missed adenoma rate, CIR, withdrawal time, sedation requirements, patient satisfaction metrics, AE rates and UHEs, in addition to assessing these comparisons within clinically relevant subgroups determined a priori</li> </ul>

Abbreviations: ADR=adenoma detection rate; AE=adverse event; CADe=computer assisted detection; CIR=caecal intubation rate; SC=standard colonoscopy; PDR=polyp detection rate; UHEs=unplanned healthcare encounters.

## Assessment Methods

See Appendix A.

## Summary of Literature Findings

We found a 2022 protocol<sup>9</sup> for a systematic review and network meta-analysis addressing the scope of the nomination.

See Appendix B for detailed assessments of all EPC selection criteria.

## Summary of Selection Criteria Assessment

Early detection and treatment of colorectal cancer is effective, but the quality of screening for colorectal cancer via colonoscopy can vary depending on endoscopist-related factors. We found a protocol for a systematic review addressing interventions to affect colonoscopy quality indicators that covers the scope of the nomination.

Please see Appendix B for detailed assessments of individual EPC Program selection criteria.

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**Conflict of Interest:** None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

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## **Appendix A: Methods**

We assessed nomination for priority for a systematic review or other AHRQ Effective Health Care report with a hierarchical process using established selection criteria. Assessment of each criteria determined the need to evaluate the next one. See Appendix B for detailed description of the criteria.

### **Appropriateness and Importance**

We assessed the nomination for appropriateness and importance.

### **Desirability of New Review/Absence of Duplication**

We found the fitting protocol for a systematic review in an informal search. A formal search was not conducted.

## Appendix B. Selection Criteria Assessment

Selection Criteria	Assessment
1. Appropriateness	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the United States?	Yes.
1b. Is the nomination a request for an evidence report?	Yes.
1c. Is the focus on effectiveness or comparative effectiveness?	Yes.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes.
2. Importance	
2a. Represents a significant disease burden; large proportion of the population	Yes. Colorectal cancer is the fourth most common cancer in women and men, and the fourth leading cause of cancer-related deaths in the United States. <sup>3</sup>
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the United States population or for a vulnerable population	Yes. Colorectal cancer is the fourth most common cancer in women and men, and the fourth leading cause of cancer-related deaths in the United States. <sup>3</sup> Colorectal cancer was the second costliest cancer in 2020, accounting for 12.6 percent of all cancer treatment costs at \$23.7 billion for medical services and \$0.6 billion for prescription drugs. <sup>4</sup>
2c. Incorporates issues around both clinical benefits and potential clinical harms	Yes, it measures quality indicators.
2d. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes. Colorectal cancer was the second costliest cancer in 2020, accounting for 12.6 percent of all cancer treatment costs at \$23.7 billion for medical services and \$0.6 billion for prescription drugs. <sup>4</sup>
3. Desirability of a New Evidence Review/Absence of Duplication	
3. A recent high-quality systematic review or other evidence review is not available on this topic	No. We found a 2022 protocol <sup>9</sup> for a systematic review that addresses the scope of the nomination.