

Summary of Conclusions Addressing the Clinical Research Questions

Clinical Research Questions	Findings
<p>1. For patients with non-acute indications for colonoscopy, what is the appropriate timing between colonoscopies?</p>	<p>i. Family History: Risk of development of colorectal cancer in patients with a family history is categorised in currently endorsed guidelines as ‘at or slightly above’ (Category 1) risk, at ‘moderately increased’ (Category 2) risk and at ‘potentially high’ (Category 3) risk. According to these guidelines, patients with Category 1 risk require bowel cancer surveillance equivalent to that required by the general population. Studies included in this review demonstrate that decisions regarding commencement and frequency of surveillance colonoscopy in patients with Category 2 or Category 3 risk are based on the strength of family history and findings of index colonoscopy, particularly the presence and features of adenomas identified at index colonoscopy.</p> <p>ii. Genetic predisposition: Patients with a genetic predisposition to bowel cancer are at increased risk of developing adenoma and colorectal carcinoma. Appropriate intervals between surveillance colonoscopies vary according to the type of genetic condition affecting the patient, the patient’s age, findings from preceding colonoscopies and the presence of other risk factors for colorectal cancer. As a result, recommended surveillance intervals for subsequent colonoscopies in this group of patients vary between several months and 5 years or longer. Published studies support the commencement of colonoscopic surveillance for patients with a defined genetic predisposition to bowel cancer at a younger age than for other groups of patients requiring surveillance colonoscopy.</p> <p>iii. Inflammatory Bowel Disease: Patients with inflammatory bowel disease are at increased risk of colorectal cancer. Risk of development of colorectal cancer varies according to the patient’s individual risk factors. These include disease duration, disease extent as well as the presence of other risk factors for colorectal cancer such as primary sclerosing cholangitis, family history of sporadic colorectal cancer, the presence of strictures, pseudopolyps and mucosal dysplasia and the severity of endoscopic and histological inflammation, and factors that are independent of the patient’s inflammatory bowel disease status such as patient age and the presence of concurrent familial bowel cancer syndromes.</p> <p>In patients without additional risk factors, included studies suggest that colonoscopic surveillance commenced from 8 to 10 years of diagnosis is warranted for pancolitis, and from 12 years in left sided colitis. In patients with additional risk factors for colorectal cancer, evidence suggests that surveillance may commence sooner, depending on the nature of the additional risk factors.</p> <p>Empirical data are limited regarding the frequency with which surveillance colonoscopy should be performed in patients with</p>

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	<p>inflammatory bowel disease. Available evidence suggests that ongoing colonoscopic surveillance should be performed at intervals of between ≤ 12 months and 5 years, depending on the endoscopic findings and clinical risk factors in the individual patient. The body of literature regarding the use of surveillance colonoscopy in inflammatory bowel disease is mostly related to the management of patients with ulcerative colitis.</p> <p>iv. Older people: There was no direct evidence supporting cessation of colonoscopic screening based solely on the patient's age. There were no trials identified in this review that assessed optimal intervals between colonoscopy examinations in older versus younger people for specific clinical conditions in which colonoscopic surveillance was indicated.</p> <p>v. Patients with a past history of bowel cancer: Studies included in this review demonstrate a significant risk of synchronous and metachronous cancers and adenomas after resection of colorectal cancer. Colonoscopy is indicated pre- or peri-operatively to identify and manage synchronous lesions.</p> <p>Studies included in this review suggest that post-operative colonoscopy performed within 12 months of surgery reduces the incidence of high-risk lesions at 1 year, including advanced adenomas, new cancer diagnoses and localised recurrence of malignancy.</p> <p>Decisions regarding subsequent post-operative colonoscopies are determined according to the clinical features of the individual case. Five years is the maximum timeframe within which repeat colonoscopy is recommended in studies of patients with normal post-operative index colonoscopy. In patients with abnormal colonoscopy, repeat colonoscopy was performed at between 1 and 3 years, depending on the patients risk for subsequent neoplasia, in included studies.</p> <p>vi. Patients with a past history of adenoma: The recommended timing of surveillance colonoscopy in patients with a past history of adenoma varies according to adenoma size, number and histological features. Surveillance intervals proposed across published studies vary between several months (in patients with incompletely removed adenomas) and 10 years (in patients with one or two lower risk adenomas and no other risk factors for colorectal cancer). In general, patients with larger adenomas, adenomas with higher grades of dysplasia, adenomas with villous components, patients with multiple adenomas and patients with other risk factors for development of colorectal neoplasia require more frequent surveillance. Patients with incomplete or inadequate colonoscopic examination require re-examination within 12 months of the prior examination.</p> <p>MBS Data: The majority (68%) of patients receiving MBS-rebated colonoscopy have not had another MBS-rebated colonoscopy in the 10</p>

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	<p>years preceding the procedure. Patient aged between 50 and 74 years receive the majority of repeat MBS-rebated colonoscopies.</p> <p>Approximately 1.5% of patients received 5 or more MBS-rebated colonoscopies over a 10-year period. Available MBS data do not provide information regarding the clinical indications for colonoscopies at this higher frequency.</p>
<p>2. What is the effectiveness of colonoscopy in improving outcomes in key target populations receiving colonoscopy?</p> <p>What is the likelihood of a single colonoscopy leading to the detection of an adenoma and / or colorectal cancer?</p>	<p>Cancer prevention: Colonoscopy is a diagnostic and therapeutic tool that is used for the prevention and early identification of colorectal neoplasia in patients in whom the procedure is indicated. Colonoscopy appears to prevent colorectal cancer from developing in many at-risk patients through the identification and removal of pre-malignant tumours; appears to assist in the identification of malignant tumours at an earlier disease stage than would otherwise be detected; and may be colon-sparing in some patients with inflammatory bowel disease.</p> <p>Diagnosis of pathology in symptomatic patients: The effectiveness of colonoscopy in the diagnosis of pathology in symptomatic patients varies according to the personal and clinical characteristics of the patient. Rates of diagnosis of significant pathology are higher in older compared with younger patients; and in patients whose symptoms include rectal bleeding or unexplained weight loss. Older compared with young patients with iron deficiency anaemia and patients with abnormal imaging and / or elevated carcinoembryonic antigen (CEA) levels also have higher rates of diagnosis of significant pathology at colonoscopy.</p> <p>Detection of an adenoma and / or colorectal cancer: The likelihood of a single colonoscopy leading to the detection of an adenoma and / or carcinoma varied across studies according to the clinical and personal characteristics of the patient and according to the technical aspects of the colonoscopy itself. Colorectal carcinoma was detected in between 0.3% and 6% of patients in ‘usual’ colonoscopic practice in this review; and adenomas were diagnosed in up to 25% of patients.</p> <p>Appropriateness criteria and diagnostic yield: Appropriateness criteria identify patients in whom the diagnostic yield from colonoscopy is greater. Patients in whom appropriateness criteria assess colonoscopy as ‘inappropriate’ may also have significant pathology present, although the diagnostic yield in this group is lower.</p>
<p>3. How do safety and quality outcomes of colonoscopy vary according to:</p> <p>- the procedural volumes of providers performing</p>	<p>Procedural volume: Procedural volume is one of a range of factors affecting the procedural quality of colonoscopy. Included studies demonstrate a trend towards improved procedural quality with increasing numbers of procedures performed, provided the colonoscopist is appropriately trained.</p> <p>Relationships between the procedural volume of the colonoscopist and</p>

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<p>colonoscopy? - certification / re-certification processes for providers performing colonoscopy?</p>	<p>detection of adenomas, development of subsequent colorectal cancer and adverse outcomes associated with colonoscopy have been observed. There is no clearly identifiable threshold volume of colonoscopy procedures below which procedural quality and safety declines noticeably in studies included within this review.</p> <p>Medicare data indicate that the majority of providers performing MBS-rebated colonoscopy achieve procedural volumes above the minimum threshold recommended by the Quality Working Group of the National Bowel Cancer Screening Program. Medicare data are insufficient to determine the procedural volumes of all colonoscopists as procedures performed in public settings are not included in this dataset.</p> <p>Certification / re-certification processes: No studies were identified that appraised the impact of certification or re-certification processes on the safety and quality outcomes of colonoscopy.</p> <p>The Quality Working Group of the National Bowel Cancer Screening Program recommends that “compulsory certification by the Conjoint Committee should be introduced for all proceduralists performing colonoscopies as a prerequisite for making claims under the MBS and participating in the NBCSP”.</p>
<p>4. How cost-effective is colonoscopy in key target populations?</p>	<p>Cost-effectiveness of colonoscopy: Colonoscopy appears to be a cost-effective procedure across a broad range of clinical conditions. The personal and clinical characteristics of the patient, the skills and experience of the colonoscopist and the setting in which the colonoscopy is performed contribute to the cost-effectiveness of the procedure.</p>
<p>5. Are all patient groups in whom colonoscopy should be used able to access colonoscopy? What is the impact of open access colonoscopy on access?</p>	<p>Access to colonoscopy: Analysis of Medicare data demonstrates a lower number of providers per 1,000 population for people in small rural and remote areas. However, access to colonoscopy services for patients in remote and very remote areas may occur through the public sector and may not be MBS-rebated. No peer-reviewed studies were identified that examined whether all patient groups in whom colonoscopy should be used are able to access the procedure.</p> <p>Interventions to improve access: Waiting list audit and the use of a patient navigator may improve access to colonoscopy services. Available published and unpublished data on the impact of waiting list audit on subsequent morbidity and mortality of patients whose colonoscopy was cancelled or delayed have not been assessed in studies included in this review.</p> <p>Open access colonoscopy: Open access colonoscopy, where a patient is referred by a clinician for a colonoscopy without a prior consultation with the specialist performing the colonoscopy, may improve access to services. There is some evidence suggesting that open access</p>

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	colonoscopy is associated with reduced waiting times but not with an increase in the number of colonoscopies performed that are not clinically indicated. No studies were included that systematically addressed adverse outcomes from open access colonoscopy.