HEALTH FORUM



Rapid Evidence Profile #43

(12 December 2022)

Question

What is known from the evidence and from other jurisdictions about how to increase capacity and reduce wait times for endoscopic services?

What we found

Organizing framework

- Changes to how endoscopy services are financed
 - Adjusting what organizations can be commissioned to provide endoscopy services
 - Public private partnerships
 - Adjusting funding to organizations
 - Targeted payments/penalties
 - Adjusting provider remuneration
 - Targeted payments/penalties
- Changes to how endoscopy services are delivered (or to the services needed before or after)
 - Adjusting referral requirements for an endoscopy
 - Adjusting who is prioritized for the procedure and how this prioritization is determined
 - Adjusting by whom the endoscopy (or the services needed before or after) is provided
 - Adjusting where the endoscopy (or to the services needed before or after) is provided
 - Within hospital but in a different room type
 - Outside of hospital

Box 1: Our approach

We identified evidence addressing the question by searching: 1) Health Systems Evidence and 2) PubMed. All searches were conducted on 5 December 2022. The search strategies used are included in Appendix 1. We identified jurisdictional experiences from four countries (Australia, New Zealand, U.K. and Ireland) and all Canadian provinces and territories by hand searching government and stakeholder websites for information relevant to the question. Countries were chosen by the requestor as typical comparator countries to Canada.

We searched for guidelines, full systematic reviews (or review-derived products such as overviews of systematic reviews), rapid reviews, protocols for systematic reviews, and titles/questions for systematic reviews or rapid reviews that have been identified as either being conducted or prioritized to be conducted, and primary studies.

We appraised the methodological quality of full systematic reviews and rapid reviews that were deemed to be highly relevant using AMSTAR. Note that quality appraisal scores for rapid reviews are often lower because of the methodological shortcuts that need to be taken to accommodate compressed timeframes. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems or to broader social systems.

This rapid evidence profile was prepared in the equivalent of three days of a 'full-court press' by all involved staff.

- Adjusting with what supports the endoscopy (or the services needed before or after) is provided
 - Patient education
 - ICT
 - Quality monitoring and improvement systems
 - Safety monitoring and improvement systems

We identified 11 evidence documents relevant to the question, of which we deemed 9 to be highly relevant. The highly relevant evidence documents include:

- one older low-quality evidence synthesis; and
- eight primary studies.

We outline in narrative form below our key findings related to the question from highly relevant evidence documents and based on experiences from other countries and Canadian provinces and territories. A detailed summary of the evidence is provided in Table 1, while experiences from other countries and from Canadian provinces and territories are provided in Table 2 and 3, respectively. A detailed summary of our methods is provided in Appendix 1, the full list of included evidence documents (including those deemed of medium and low relevance) in Appendix 2, and hyperlinks for documents excluded at the final stage of reviewing in Appendix 3.

Key findings from highly relevant evidence sources

The majority of highly relevant evidence documents relate to changes to how endoscopy services are delivered (or changes to the services needed before or after). Suggested approaches to reduce wait times focused on:

- implementing virtual clinical assessment to triage patients following primary care referrals
- <u>adjusting how the waitlist is managed</u>, including dedicating clerical staff to manage the specific lists, backfilling gastroenterologists annual leave, and reviewing the wait list to identify high risk patients
- creating <u>consistent 'waiting groups' in which to triage patients</u> with clear targets for the time between referral and procedure
- adjusting the regulatory framework in place to <u>allow additional professionals to perform</u> <u>endoscopic procedures</u> (i.e., advance practice nurses)
- <u>discharging patients back to their primary care provider</u> for follow-up from the endoscopy
- providing <u>patient education on preparing for an endoscopy</u> via telephone, email or SMS shortly before their procedure.

Three additional approaches were included in the highly relevant evidence, but were not empirically tested, which focused on:

- temporarily reducing cancer screening programs to low-risk individuals to re-allocate capacity
- <u>enhancing vetting of referrals using fecal immunochemical test levels</u> to triage patients
- extending procedure scheduling to include evening and weekend availability.

In addition, one study reported on the experience of a <u>long-term public-private partnership</u> in Australia between a hospital and endoscopy clinic which was successfully used to increase capacity and reduce the percentage of patients waiting longer than 120 days.

Key findings from the jurisdictional scan

Three of the four countries that were included in the scan had released specific action plans or quality improvement programs specific to endoscopy services. Key elements of these plans and programs included:

• implementing standardized referral pathways with set urgency categories and completion targets

- hiring endoscopy coordinators to help manage waitlists and facilitate service improvements across the system
- using waitlist management and triage software to facilitate booking and scheduling
- hiring and training additional clinical staff, including gastroenterologists, surgeons and support staff
- training for rural generalists to offer local services in remote areas
- training for advance practice nurses (and similar) to provide endoscopy services as well as nurseled endoscopic pre-assessments
- integrating virtual and telehealth supports for services provided before and after the endoscopy
- implement standardized care pathways based on the best-available evidence
- leveraging private healthcare providers to deliver endoscopy procedures on the weekend.

In comparison, no provinces or territories in Canada have issued specific strategies to contend with the backlog of endoscopy cases. However, four provinces have issued strategies related to surgery and procedural backlogs caused by the COVID-19 pandemic. Key elements of these strategies that pertain to endoscopy services, include:

- implementing a centralized referral and intake model
- adopting common definitions for priority population groups
- leveraging out-of-hospital clinics to perform less complex endoscopy services
- implementing quality improvement iniatives including improvement collaboratives.

Table 1: Key findings from highly relevant evidence documents on increasing capacity for endoscopic services and reduing wait times

Components of the organizing	Key findings	
framework		
Changes to how endoscopy services are financed		
Adjusting what organizations can be commissioned to provide endoscopy services	 One study reported on the experience of a long-term (10 year) public-private partnership in Australia between a hospital and endoscopy clinic was established to increase capacity and reduced the percentage patients waiting for longer than 120 days from 41% to 19% Remuneration was provided to the private clinic on a fee-for-service model based on a discounted rate such that the cost to the public was equivalent whether the procedure was performed in the public hospital or private clinic 	
Adjusting funding to	No evidence documents identified	
Adjusting provider remuneration	No evidence documents identified	
Changes to how endoscopy service	s are delivered (or changes to the services needed before or after)	
Adjusting referral requirements for an endoscopy	 One primary study aimed to model the expected backlog of endoscopy services during the COVID-19 pandemic in England and, as part of this study, they identified (though did not empirically evaluate) the following approaches to reduce wait times: Reducing cancer screening programs and re-allocating this capacity (which was noted needing to be belanced against risk of an overall increase in preventable deaths) Enhancing vetting of referrals and using fecal immunochemical test levels to triage patients for lower gastrointe Using CT colonography and referring patients where it is safe to do so One primary study documented the implementation of a virtual clinical assessment service for primary care referrals, whereby a secondary care clinician triages patients to the most appropriate pathway The study found the clinic helped to reduce the wait time for those who require an outpatient gastroenterologist appointment and noted that 21% of patients were discharged back to their primary care provider following the clinical assessment, significantly reducing inappropriate 	
• Adjusting who is prioritized for the procedure and how this prioritization is determined	 One primary study documented <u>the changes undertaken by a large hospital in Adelaide, Australia to reduce endoscopy waitlists caused by hospital renovations, including:</u> A new waitlist management system, whereby endoscopy services were moved onto the electric surgical waitlist and managed alongside Dedicating clerical staff to specific lists to ensure cases were booked at least three weeks out and last-minute cancellations were kept to a minimum Backfilling annural leave by circulating a list of available sessions to all professionals that could perform endoscopies 	

Adjusting by whom the	 Reviewing the wait list to identify high risk patients (based on national guidelines) and low-risk patients One primary study documented the establishment of homogenous waiting groups which would create four categories fo waiting times and would be used across primary care, specialty care and emergency rooms The implementation of these groups led to greater awareness among professionals about appropriate referrals One low-guality evidence synthesis found that non-physisican endoscopies, frequently provided by advance
endoscopy (or the services needed before or after) is provided	 one tote quarky of theme of points at the provided by gastroenterologists with no significant difference detected in the finding or removal of polyps, depth of insertion or total procedu The review noted that evidence related to the cost-effectiveness of the change in provider is scarce, however the two studies that were included both point to potential cost-savings The review highlights the following as key elements as being critical to enable other professionals to take on endoscopy services: A regulatory framework in place for professional liability, which in Ontario also included the establishment of a nurse-physician dyad to ensure technical support Remuneration for both physician and non-physicians Participant recruitment pathways including raising primary care awareness for referrals Training for new professionals taking on the role, with the recommendations of a minimum of 50 procedures be performance under direct supervision One primary study examined the effects of discharging patients back to their primary care provider following their endoscopy rather than having a scheduled visit with a gastroenterologist Both primary care providers and gastroenterologists reported a reduction in workload that allowed them to take on additional patients However, primary care providers reported an increase in their workload, the effects of which should be carefully considered
Adjusting when endoscopy services are provided	 One primary study that aimed to model the expected backlog of endoscopy services during the COVID-19 pandemic in England identified (though did not empirically evaluate) adding capacity during evenings and weekends to reduce the predicted backlog (though the study pointed to previous studies that have found that many NHS trusts already engage in ad-hoc weekend work, making tincreasing capacity for a sustained period of time difficult)
• Adjusting with what supports the endoscpy (or the services needed before or after) is provided	 One primary study <u>examined the provision of additional education on preparing for an endoscopic procedure and found excellent</u> and good levels of preparation were higher among groups receiving education shortly before their procedure, which was also associated with a reduction in procedure time However, the study found levels of adequate and poor preparation remained the same The study recommends the use of additional education through telephone, email or SMS for patients that have prolonged waiting periods between their referral and their procedure

Table 2: Experiences in other countries on increasing capacity for endoscopic services and reducing wait times

Country	Summary of experiences		
Australia	• The Queensland Government released an endoscopy action plan, entitled, " <u>Advancing health: Improving the patient journey</u> ", which		
	focuses on ensuring individuals have timely and equitable access to gastrointestinal endoscopy services across the state		
	• A targeted investment of \$160 million over the next four years will help to reduce wait times, improve access to care, and deliver		
	an additional 50,000 gastrointestinal endoscopies		
	• This plan will focus on five key actions, which include: 1) expanding services; 2) increasing access; 3) promoting equity; 4) focusing on outcomes: and 5) improving the system		
	• With respect to expanding services, this will entail delivering an additional 50,000 endoscopic procedures to help reduce wait		
	times, along with hiring and training more clinical staff (e.g., gastroenterologists, surgeons, and support staff)		
	• With respect to increasing access, there will be improved training for rural generalists to offer local services in remote areas, with		
	the aim of reducing travel times for rural Queenslanders requiring endoscopy services, as well as integrating telehealth services		
	for endoscopic care within the system more effectively		
	• With respect to promoting equity, the plan aims to invest in clinical leaders that will be able to develop statewide standards and guidelines to ensure that individuals receive equitable guality of care, irrespective of the location that the treatment is provided in		
	• With respect to focusing on outcomes, information systems will be modified and enhanced to ensure waitlists are managed more		
	effectively across the state, and clinics will hire 'endoscopy coordinators' to help manage waitlists and facilitate service		
	 The implementation of this plan will be led by the state's Gastroenterology Network; they will further facilitate innovation and reforms to promote sustainable services. 		
	 In 2016, the Australian Commission on Safety and Quality in Health Care published a <u>report</u>, where they detail the specifics of a proposed safety and quality model for colonoscopy services within the country 		
	• The model consisted of clinical care standards for high-quality colonoscopy service delivery, training (and periodic recertification of) specialists, and data collection, reporting, and analysis		
	 Key performance and quality indicators will be utilized to guide the specifications of colonoscopy training for specialists Care standards will be implemented in both public and private hospitals, and in day procedure centres 		
	• Queensland Health published their <u>Gastrointestinal Endoscopy Services Implementation Standard</u> , which outlines a set of processes for ensuring equitable care delivery of endoscopy services and best-practices for waitlist management		
	• Waitlist registration for endoscopy services consists of providing patient and procedural details (e.g., contact information, referral source, urgency category, consent status, etc.), having requests recorded on an electronic waitlist management system,		
	and notifying patients of their successful registration on the system		
	o Urgency category assignment can range from Category 4: Priority (completion of an endoscopy procedure within 30 days is		
	optimal, whereas prolonging this further can possibly result in an emergency situation), Category 5: Semi-Urgent (completion of		
	an endoscopy procedure within 90 days is optimal, and if left untreated beyond this timeframe, it could possibly result in an		
	emergency situation), or Category 6: Not Urgent (completion of an endoscopy procedure within 365 days is acceptable, although		
	the patient's condition is unlikely to deteriorate if left untreated beyond a year)		

	• Outsourcing of patients to private facilities can be done; however, a clear service agreement, which outlines the division of
	clinical and administrative responsibilities, must be in place between both parties
New Zealand	• The primary aim of "The Endoscopy Guidance Group for New Zealand" is to assist in delivering high quality endoscopic services
	to patients across the country
	• This group serves as an outlet for obtaining professional consensus, coordinates and ensures consistency of endoscopy training
	across specialities, develops endoscopy standards, and is tasked with oversight responsibilities
	• This group published an "Endoscopy Unit Service and Facility Standards for New Zealand", which highlights standards for all
	endoscopy services
	• Standard 1.1: Leadership and Organization discusses how the leadership team should have timely access to capacity, demand,
	and wait times to help inform decision-making
	• Standard 1.4: Access and Booking describes how systems and processes should be in place to ensure equitable patient-centred care
	(e.g., defined roles for the management of waitlists)
United	• The Welsh Government released their National Endoscopy Programme Action Plan, which details four key 'work streams' that will
Kingdom	help to guide their actions between 2019 and 2023
	• The streams include: 1) demand and capacity (i.e., capacity planning through a standardized approach); 2) clinical pathways (i.e.,
	standardizing processes based on the best available evidence); 3) workforce training and development (i.e., supporting workforce
	recruitment, retention, and training opportunities); and 4) facilities and infrastructure (i.e., improving information technology to
	enable the delivery of high-quality endoscopy services)
	• The Endoscopy Implementation Group noted six recommendations within the plan, four of which relate to endoscopy service
	capacity and wait times: 1) in order to support workforce and service planning, health boards will need to improve their
	understanding of current capacity, productivity, and demand projections; 2) health boards will need to agree to a standardized
	referral pathway process for endoscopy services; and 3) health boards will need to develop an action plan that addresses the
	capacity gap; and 4) health boards will need to review their endoscopy workforce and ensure adequate service capacity
	• Milestones to achieve by 31 March 2023 include: 1) sufficient capacity to allow for the optimization of the test threshold for the
	bowel screening program; 2) secure funding to establish a national endoscopy training program; 3) increase training for two
	cohorts of clinical endoscopists; and 4) increase recruitment and training of support staff to help with capacity
	• The Scottish Government published their Endoscopy Action Plan on 24 March 2019, detailing the nation's aim to ensure that all
	new patients will have a key endoscopic test completed within six weeks, and that urgent patients are processed through a
	prioritized referral pathway
	• An investment of £6 million was announced to help fund upper and lower endoscopy, colonoscopy, and cystoscopy procedures;
	this allocation has already shown promise in reducing overall wait times
	• The overall aim of reducing wait times will be met by leveraging the use of additional clinics, implementing key improvement
	programs (e.g., using qFIT to support primary care referrals), utilizing management systems to facilitate the booking and
	scheduling of endoscopy patients, adopting new innovative technologies (e.g., transnasal and capsular endoscopy), increasing
	clinical effectiveness through surveillance and follow-up guidance, incorporating the Active Clinical Referral Triage system, and
	accrediting endoscopy units

	• Increasing capacity will be done through integrating care delivery with the independent sector to reduce wait times and ensure patients with urgent needs are prioritized, and supporting the workforce (e.g., training nurse endoscopists)
	 The Department of Health published an <u>Elective Care Framework: Restart, Recovery, and Redesign</u> on 15 June 2021, which proposes a £700+ million investment over five years to help reduce wait times for assessments and treatments within the country A proposal will be brought forward to help redesign endoscopy services, with reforms centered on consolidating fewer sites delivering a high volume of procedures, and examining the feasibility of developing endoscopy centres with high volumes of procedural output Other reforms include developing capacity and capability among staff by increasing workforce skills training (e.g., nurse-led endoscopic pre-assessments), leveraging in-sourcing services from private health care providers to deliver endoscopy procedures on weekends, and expanding elective care centres (e.g., having 10 more endoscopy sessions at Omagh Hospital will result in an
	additional 3,000 patients being attended to per year)
Ireland	• The National Quality Improvement Team, in conjunction with the Royal College of Physicians of Ireland and Royal College of Surgeons in Ireland, released the <u>National GI Endoscopy Quality Improvement Programme</u> report; one of the eight core recommendations was that a positive impact may be reflected on endoscopy waitlist times if patients are triaged to left.
	colonoscopies or flexible sigmoidoscopies as opposed to full colonoscopies

Table 3: Experiences in Canada on increasing capacity for endoscopic services and reduing wait times

Province	Summary of experiences
British Columbia	 Did not identify a strategic document related to endoscopy services, however the BC Ministry of Health published <u>A</u> <u>Commitment to Surgical Renewal in B.C.</u> in May 2020, which outlines five steps for delivering surgical renewal: 1) increasing surgeries; 2) increasing essential personnel; 3) focusing on patients; 4) adding more resources; and 5) reporting on progress Many of the specific strategies outlined in this plan and that have already been implemented in B.C. to address the capcity could be considered to also reduce the wait time for endoscopy services
Alberta	• In May 2018, a provincial committee, the <u>Alberta Endoscopy and Screening Quality Management committee</u> was established to improve the standards of care for endoscopy by forming partnerships with all 50 endoscopy sites, this includes: providing education and support to sites to implement an endoscopy quality improvement tool that helps a site assess the quality of care they provide; rolling out a learning collaborative for all 50 sites; creating a policy whereby endoscopy sites need to submit surveys to the Canadian Association of Gastroenteroly twice a year; and collaborating with a Connect Care team which gives content experts an opportunity to provide feedback and insight into new processes
Saskatchewan	No strategic document identified
Manitoba	• As part of Manitoba's <u>Clinical and Preventative Services Plan</u> in 2019, the province implemented a <u>centralized referral and</u> <u>intake model</u> whereby access is determined by the appropriateness of the patient for the service and medical urgency
Ontario	 As part of the efforts to address the surgical backlog in Ontario, the province provided funding through the provincial <u>Centralized Waitlist Management program</u> to support a complex, multiyear transformation initiative to establish a regional central intake model with an initial focus on endoscopy In 2020, Ontario Health released <u>A Measured Approach to Planning for Surgeries and Procedures During the COVID-19 pandemic</u>, which identified recommendations for reintroducing schedules surgical and procedural work, as well as the basis on which to prioritize this work As part of this work, Cancer Care Ontario released priority classification definitions for four priority groups as well as their prioritization according to indication These four groups include: A – patients for whom endoscopy must always be performed as they are deemed critical and require endoscopy because they situation is unstable, is causing unbearable suffering or immediately life threatening; B – patients for whom endoscopic procedures should be performed because they are either non-critical patients who require services or treatments for condition that may in the mid-to-long-term cause negative impact on quality of life, functional status or prognosis; C – patients for whom endoscopic procedures could be performance in some circumstances because they are generally healthy whose condition is deemed as non-life-threatening and the service can be delayed without anticipated change in outcome for many months or years; and D – patients for whom endoscopic procedures should not be performed during or after the pandemic because they can be screened using a fecal immunochemical test and can be referred back to their primary care provider
Quebec	No strategic document identified

New Brunswick	No strategic document identified
Nova Scotia	 As of February 2021, a <u>13-month initiative</u> was implemented whereby surgeons and anesthesiologists from IWK will perform some less-complex procedures such as some types of endoscopy services at Scotia Surgery, an out-of-hospital facility, with the clinic's nurses In December 2022, a new endoscopy room was opened in Dartmouth General hospital, increasing the capacity to undertake endoscopic services
Prince Edward Island	No strategic document identified
Newfoundland and Labrador	No strategic document identified
Yukon	No strategic document identified
Northwest Territories	No strategic document identified
Nunavut	No strategic document identified

Waddell K, Alam SA, Wilson MG. Rapid evidence profile #43: What is known from the evidence and from other jurisdictions about how to increase capacity and reduce wait times for endoscopic services? Hamilton: McMaster Health Forum, 12 December 2022.

This rapid-evidence profile was funded by the Ministry of Health of British Columbia. The McMaster Health Forum receives both financial and in-kind support from McMaster University. The views expressed in the rapid synthesis are the views of the authors and should not be taken to represent the views of the Government of British Columbia or McMaster University





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Appendix 1: Methodological details

We use a standard protocol for preparing rapid evidence profiles (REP) to ensure that our approach to identifying research evidence as well as experiences from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For this REP, we searched health systems evidence and PubMed using: (endoscopy OR endoscopic) AND (wait time or wait list).

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing.

Identifying experiences from Canadian provinces and territories

For each REP we search several sources to identify experiences. This includes government-response trackers that document national responses to the pandemic, as well as relevant government and ministry websites. For example, we search websites from relevant federal and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language, where information is not available through the government-response trackers, we are unable to extract information about countries that do not use English, Chinese, French or Spanish as an official language.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraised the quality of the guidelines we identified as being highly relevant using AGREE II. We used three domains in the tool (stakeholder involvement, rigour of development and editorial independence) and classified guidelines as high quality if they were scored as 60% or higher across each of these domains.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher

out of a possible 11, medium-quality reviews are those with scores between four and seven, and lowquality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare a small number of bullet points that provide a brief summary of the key findings, which are used to summarize key messages in the text. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. We then draft a brief summary that highlights the total number of different types of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2: Key findings from evidence documents that address the question, organized by document type and sorted by relevance to the question

Type of document	Relevance to question	Key findings	Recency or status
Guidelines	No guidelines identified		
Full systematic reviews	 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting by whom the endoscopy (or the services needed before or after) is provided 	 The study examines places where non-physician endoscopy services have been safely provided, including California, Ontario, and the UK The majority of these programs use advanced practice nurses to deliver endoscopy services Key elements of transitioning away from having exclusively physician provided endoscopy services include: A regulatory framework in place for professional liability, which in Ontario also included the establishment of a nurse-physician dyad to ensure technical support Remuneration for both physician and non-physicians Participant recruitment pathways including raising primary care awareness for referrals Training for new professionals taking on the role, with the recommendations of a minimum of 50 procedures be performance under direct supervision The review found that non-physician endoscopies are as safe and effective as those provided by gastroenterologists, with no significant different detected in regards to the finding or removal of polyps, depth of insertion or total procedure time The review notes that data on cost-effectiveness of non-physicians performing endoscopy is scarce, however three studies were included found a total savings of approximately \$15 dollars per procedure 	

	 Changes to how endoscopy serices are delivered (or to the services needed before or after) Adjusting referral requirements for an endoscopy Adjust who is prioritized for the procedure and how this prioritization is determined 	 endoscopist, however cost-benefit did not account for any follow-up procedures Source (1/9 AMSTAR rating) The review found that delays in diagnostics were attributable to: Race and ethnicity – with studies identifies individuals of Spanish decent in the U.S. and Burmese in a Nepalese study Age – with studies indicating those who are both young and older than 70 receiving later diagnoses Economic and social status - with studies indicating individuals in severe poverty or at the highest level of social deprivation being more likely to be diagnosed at an advanced stage Access to diagnostic services – with studies indicating those living in remote areas having a higher likelihood of later diagnosis Lack of insurance – with many people who had a delay in diagnosis being those without health insurance Gender – with men receiving a later diagnoses than women 	
Rapid reviews	No rapid reviews identified		
Protocols for reviews that are already underway	No protocols identified	•	
Titles and questions for reviews being planned	No titles identified	•	
Single studies	• Changes to how endoscopy services are delivered (or to the services needed before or after)	• Discharging patients from specialist care to primary care when they can be safely management is one potential methods of increasing access to specialist services	Published 30 June 2016

 Adjusting by whom the endoscopy (or the services needed before or after) is provided 	 Instead of receiving a follow-up appointment with a specialist, the patient could be managed by a primary care provider following the endoscopy An accompanying study identified that a partnership between a hospital and referring network of primary care providers resulted in a reduction in wait time for third next available gastroenterology clinical by 53% The policy allowed certain patients to be discharged back to primary care following an upper endoscopy or colonoscopy rather than having a scheduled visit with a gastroenterologist to follow-up on the results The majority of primary care providers reported being very satisfied with the post endoscopy discharge, though fewer (40%) of gastroenterologists reported feeling satisfied with the discharge process Nearly all primary care providers identified that the discharge process increased their workload, while nearly all gastroenterologists reported that the average complexity of their clinic patients increased since the implementation of the discharge process 	
 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting referral requirements for an endoscopy 	 Study examined colonoscopy priorities among specialists in gastroenterology in Norway The study found a lower priority referral was consistently given to referrals containing information on low socio-economic status <u>Source</u> 	Published May 2018
 Changes to how endoscopy services are financed Adjusting what organizations can be commissioned to provide endoscopy services Public-private partnerships 	 The study examines a regional health service where endoscopy services are provided by both gastroenterologists and general surgeons The study reports on recent interventions to increase colonoscopy capacity through a public-private partnership 	Published May 2019

	 The partnership consisted of a 10-year contract that allowed public patients to have their endoscopy performed in a nearby private hospital partner Remuneration was provided on a fee-for-service model to the hospital and the practitioners delivering the service at a discounted rate such that the cost to the public was equivalent whether the colonoscopy was performed at the public or private hospital Over the two year period that the initiative was studies, wait times went from 92 to 73 days and the number waiting for longer than the suggested 120 days reduced from 41 to 19% The study notes that there remain considerable challenges on reducing the wait time to get a referral
 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting referral requirements for an endoscopy Adjusting who is prioritized for the procedure and how this prioritization is determined Adjusting where the endoscopy (or to the services needed before or after) is provided 	 The study aims to quantify the endoscopy backlog in England and show mitigation strategies might affect it The study found that there were similar patterns of decrease and recovery from endoscopy across all regions of England, however it also found a difference in the case mix of procedures being done with a greater proportion of unscheduled procedures rather than those that were on a wait list This trend changes as endoscopic services recovered, with a significant growth in the overall waiting list The modelling study used five different scenarios to examine what could be expected to take place, one of which included adding in a triage based on the faecal immunochemical test for colonoscopy services using a cut-off of 10ug haemoglobin per gram, with patients that fall beneath being offered safety netting Additional suggestions include

	 adding capacity during evenings and weekends, however previous studies have found that many NHS trusts already engage in ad-hoc weekend work, making increasing capacity further for a sustained period of time difficult reducing cancer screening programmes and reallocating this capacity, however this needs to be balanced against the risk of an overall increase in preventable deaths enhanced vetting of referrals and using FIT to triage patients for lower gastrointestinal investigation use CT colonography where it is safe to do so, however ensuring CT capacity and expertise to perform and report the procedures might present barriers to implementation 	
• Channes to have an descent services on furneral	• The state de concepts the share of an destate a best	Published
 Changes to how endoscopy services are financed Adjusting what organized can be commissioned to provide endoscopy services 	 The study documents the changes undertaken by a single large hospital in Adelaide, Australia to reduce a waitlist caused by hospital renovations 	February 2021
 Changes to how endoscopy services are delivered (or to the services needed before or after) Adusting referral requirements for an endoscopy Adjusting who is prioritized for the procedure and how this prioritization is determined Adjusting where the endoscopy (or to the services needed before or after) is provided 	 Changes to the colonoscopy and endoscopy process, included: A revamp of the waitlist management system, whereby endoscopy services were moved onto the elective surgical waitlist and managed alongside Allocation to all colonoscopists to provide maximal flexibility and a shared queue across services Dedicated clerical staff were allocated to specific lists to ensure cases were booked at least 3 weeks out and last-minute cancellations kept to a minimum Backfilled planned annual leave by circulating a list of available sessions to all endoscopists A review of the waitlist to identify high risk patients (based on national guidelines), while a letter was sent to patients and their general 	

	 practitioner that did not meet these guidelines and may have been included on the waitlist inadvertently and should re-assess the risks A new pot of money was made available to temporarily pay for endoscopy procedures to be performed in the private sector to alleviate some of the wait time, in particular, the funding was used to pay for procedures to be performed on Saturdays outside of normal working hours
 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting who is prioritized for the procedure and how this prioritization is determined 	 Study examines the application of prioritisation comparing digestive endoscopy procedures, particularly looking to primary care versus specialist priority agreement, referral appropriateness and relevant endoscopic findings detected The two significant changes included the development of homogeneous waiting groups and included gastroscopy in a diagnostic schedule Homogenous waiting groups consisted of four categories of waiting times (3, 10, 30 days or no letter), these categories were co-developed and used in referrals as well as in accident and emergency and services to clearly categorize different patients and ultimately an operational manual was created which included referral instructions each with the same standardised waiting category Comparing 2006 to 2014, inappropriate referrals were highest for low-priority cases and for cases assigned a higher priority by primary care providers than by specialists Critical to this was intentionally ignoring the first come first serve priority criteria and instead scheduling at a time nearing the waiting time assigned There was a significant difference in inappropriate referrals within the group of patients repeating

	 gastroscopy compared to those having it performed for the first time In general, it is thought that work such as establishing these four set groups that improve the communication between primary care providers and specialists will benefit primary care providers in becoming more aware of appropriateness and of correct timing in endoscopy
 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting with what supports the endoscopy (or the services needed before or after) is provided Patient education ICT 	 The study examines additional education around preparation for colonoscopy services which included encouraging to start a low-fiber diet three days before the procedure and receipt of a list of unacceptable foods, as well as education about bowel preparation by a single nurse trained to provide this information The study found that short waiting times from education to colonoscopy can improve the quality of bowel preparation, however while the rate of good preparation was higher in the group receiving education, the levels of adequate preparation were the same Similarly, no significant difference in the polyp or adenoma detection rate between two groups was observed However, improved BBPs scores, which may be achieved through education were found to be indicative of more effective colonoscopies and a reduction in procedure time due to liquid fluid secretion, greater difficulty for the colonoscopist and patient discomfort Additional tools such as contact through telephone, email and SMS may be useful to remind patients about the bowel preparation process, particularly for patients with prolonged waiting times

 Changes to how endoscopy services are delivered (or to the services needed before or after) Adjusting referral requirements for an endoscopy Adjusting who is prioritized fro the procedure and how this prioritization is determined The study describes moving away from the previous referral approaches which were done either by: cancer fast track referral, choose and book, or by a letter direct from the general practitioner to the gastrointestinal department Instead, a virtual clinical assessment service for GP referrals was implemented which allowed secondary care clinicians to triage patients to the most appropriate pathway Additional funds were provided for a full-time administrator, who was responsible for processing triage e-proformas and communicating directly with 			
 GPs and patients to facilitate efficient running of the service The introduction of the clinic had many benefits, patients whose symptoms require an outpatient GI referral were seen more quickly Approximately 21% of patients were discharged back to their GP following the clinical assessment service, of which 5.5% were discharged back with a letter of advice, and 5.2% were deemed inappropriate for the CI clinic and were redirected to other specialists. The CAS clinic operates with a 3-week wait window for triage to ensure all patients are seen During a 3 year period, the new clinical resulted in an estimated reduced expenditure of 481 613 British pounds The concern of missing a serious diagnosis was addressed by rigorous monitoring and a robust governance agreement with primary care Source 	hanges to how endoscopy services are delivered r to the services needed before or after) Adjusting referral requirements for an endoscopy Adjusting who is prioritized fro the procedure and how this prioritization is determined	 The study describes changes made to the referral pathways to increase efficiency and reduce total costs to the healthcare economy The study describes moving away from the previous referral approaches which were done either by: cancer fast track referral, choose and book, or by a letter direct from the general practitioner to the gastrointestinal department Instead, a virtual clinical assessment service for GP referrals was implemented which allowed secondary care clinicians to triage patients to the most appropriate pathway Additional funds were provided for a full-time administrator, who was responsible for processing triage e-proformas and communicating directly with GPs and patients to facilitate efficient running of the service The introduction of the clinic had many benefits, patients whose symptoms require an outpatient GI referral were seen more quickly Approximately 21% of patients were discharged back with a letter of advice, and 5.2% were deemed inappropriate for the CI clinic and were redirected to other specialists. The CAS clinic operates with a 3-week wait window for triage to ensure all patients are seen During a 3 year period, the new clinical resulted in an estimated reduced expenditure of 481 613 British pounds The concern of missing a serious diagnosis was addressed by rigorous monitoring and a robust governance agreement with primary care 	Published April 201=d
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Appendix 2: Documents excluded at the final stages of reviewing

Type of document	Hyperlinked title
Guidelines	
Full systematic reviews	
Rapid reviews	
Protocols for reviews that are	
already underway	
Titles and questions for reviews	
being planned	
Single studies	Protocolized referral to endoscopy and Helicobacter pylori detected in stools aimed to decrease endoscopy waiting lists
	Clearing a colonoscopy waiting list: How we did it