


Waiting Times for Colonoscopy: A 10 Year-Long Review

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SUMMARY

Introduction: Colorectal cancer (CRC) is the third leading cause of cancer-related deaths and timely detection and removal of colon adenomas via colonoscopy prevents colon cancer. Colonoscopy is regarded as the gold standard tool for screening, prevention, and diagnosis of colorectal cancer (CRC). Waiting times for colonoscopy may influence patient outcomes and reflect healthcare system performance.

Methods: We conducted a narrative review of the literature on colonoscopy waiting times in April - May 2025 searching for original peer-reviewed papers in the PubMed (MEDLINE) database. Studies were screened through a multi-stage process based on predefined eligibility criteria.

Results: The search identified 158 publications, of which 9 studies met the eligibility criteria and were included in the review. Waiting times for colonoscopy ranged from 50 to 110 days and were generally stable over time. Variations were primarily due to external factors (such as COVID-19 pandemic, availability of health insurance). Estimates are approximate, as some studies reported means or medians, while others reported weeks or months. Patients managed through specialists or structured care pathways experienced shorter waiting times.

Conclusions: Colonoscopy waiting times vary according to system-level and patient-level factors, and monitoring these times is essential to optimize timely diagnosis and improve patient outcomes.

Keywords: colonoscopy, waiting time, review, colorectal cancer, screening

INTRODUCTION

Based on American Cancer Society estimates, colorectal cancer (CRC) is the third leading cause of cancer-related deaths for both men and women in the United States [1] and timely detection and removal of colon adenomas via colonoscopy prevents colon cancer [2].

Colonoscopy is regarded as the gold standard tool for screening, prevention, and diagnosis of colorectal cancer (CRC) [3]. Colonoscopy can be performed for diagnostic and therapeutic indications [4]. However, beyond its clinical effectiveness, access to colonoscopy represents an important health system performance

indicator, as delays in diagnostic procedures may undermine the benefits of organized screening programs and early detection efforts.

Recognizing the importance of timely access to digestive health services, the Canadian Association of Gastroenterology (CAG) published a consensus statement in 2006 defining maximal acceptable wait times for consultation and endoscopic procedures based on clinical indication. Similar recommendations are provided by the American College of Gastroenterology (ACG) and the European Society of Gastrointestinal Endoscopy (ESGE), reflecting a broad international consensus on the need to monitor and optimize waiting times for colonoscopy [5].

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Despite the existence of recommended benchmarks, prolonged wait times for colonoscopy remain a widespread issue and may directly impact patients and contribute to anxiety, lost time from work and impaired social functioning [6].

More importantly, among screen-diagnosed CRC patients, undergoing colonoscopy more than 12 months after the initial positive fecal occult blood test (FOBT) is associated with more advanced disease and higher mortality due to CRC [7].

The aim of our study was to conduct a narrative review of the literature on colonoscopy waiting times in order to summarize current evidence and identify key factors that contribute to these delays.

METHODS

Between April and May 2025, we conducted a search for original peer-reviewed papers in the PubMed electronic database (MEDLINE). The key search terms were “waiting times AND colonoscopy”, “waiting times AND colon cancer screening”. The AND operator was intentionally chosen to focus the search on studies specifically addressing waiting times in the context of colonoscopy. Using the OR operator would have yielded a very large number of results, many of which were not directly relevant to the topic, making the search less targeted and less manageable.

Titles and abstracts of all retrieved studies were first screened independently by two reviewers. Screening was performed blind, and any disagreements were resolved by consensus between the reviewers. Studies were selected in a multi-stages process that included first the analysis of titles and abstracts and then the analysis of the full texts. Finally, the reference lists were also screened in order to identify further eligible manuscripts according to the eligibility criteria. The eligibility criteria were: i) type of article (original peer reviewed articles, but also letters to the editor or short communications if containing original data); ii) date of publication between 2015 and 2025; iii) language (Italian, English, Spanish or French); iv) availability of essential information (country, study period, source of the data/study design, number of participants, waiting times).

“Waiting time” was defined broadly as the interval between referral for colonoscopy and the completion of the procedure. While the exact definition varied across studies, all reported waiting time measures were recorded and considered in our analysis.

RESULTS

The literature search covering 2015–2025 initially identified 158 publications. After removing 23 duplicate records identified prior to screening, the

titles and abstracts of 135 unique manuscripts were screened. During this process, 2 reviews, 120 studies not aligned with the aim of our study, and 4 articles published in languages other than Italian, English, Spanish, or French (3 Chinese, 1 Swedish) were excluded. Consequently, 9 studies were considered potentially eligible for full-text analysis.

After analyzing the full texts we identified 8 manuscripts eligible for the review. Reference screening allowed us to retrieve one additional study eligible for inclusion, bringing the total number of studies included in the review to nine (Figure 1).

In Table 1 (at the end of the article) the main characteristics of the studies included in the review are summarized. The articles have been published between 2016 and 2025; the studies have been conducted from 2004 to 2021; they involved a minimum of 246 to a maximum of 125866 participants. Studies have been conducted in the USA, Taiwan, Denmark, Canada, Italy, Australia, Singapore. The principal results of our review are shown in Table 1.

Waiting time was defined heterogeneously across studies, including intervals from GP referral to colonoscopy completion, from referral to booking, from positive FIT/FOBT to colonoscopy, or from booking to procedure.

Overall, waiting times for colonoscopy varied widely across the included studies. Reported waiting times ranged from a minimum of 49 days to a maximum of 174 days, depending on the country and study design.

In U.S.-based studies, waiting times ranged from 50 to 141 days; an Australian study reported waiting times between 49 and 79 days; a Canadian study showed mean waiting times ranging from 86 to 97 days.

In Denmark, waiting times were longer, ranging from 72 to 174 days.

An Italian study reported waiting times expressed in weeks, ranging from 3.8 ± 2.27 to 32 ± 22.31 weeks.

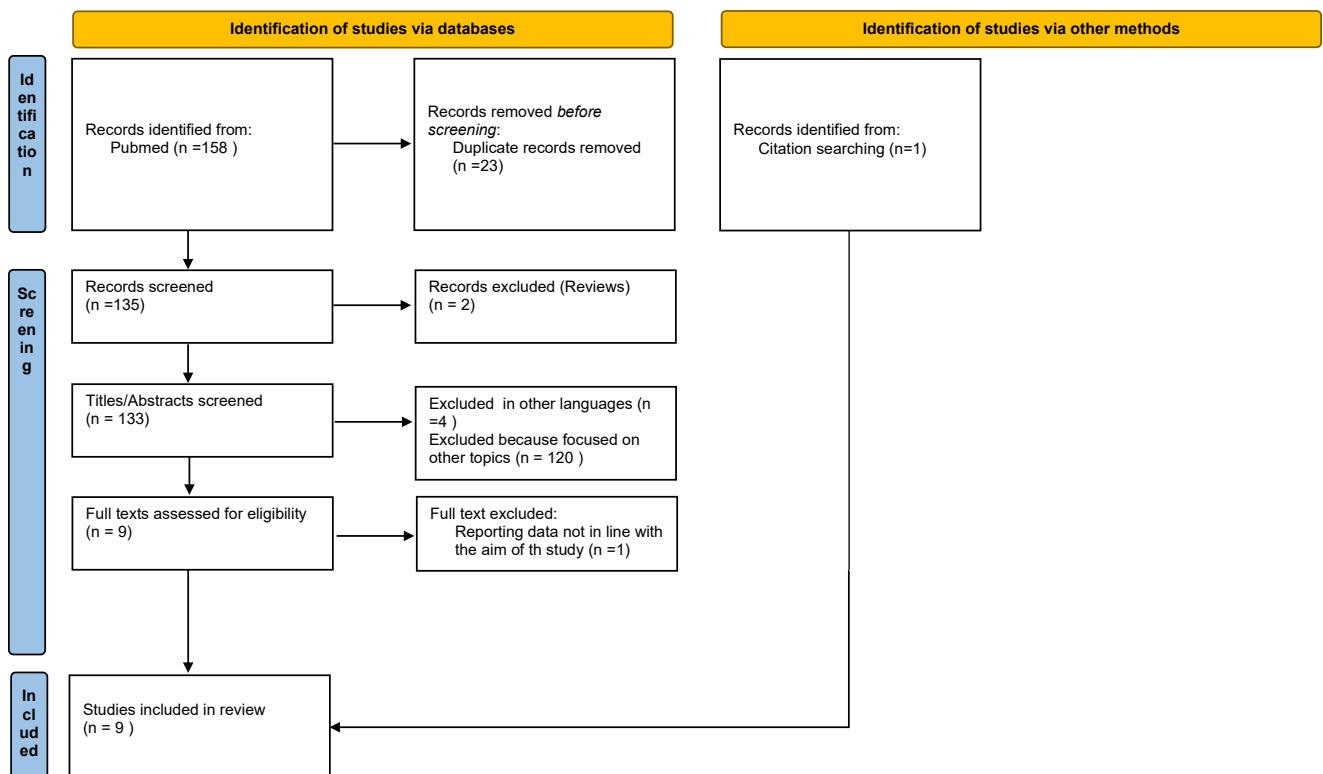
Taken together, most studies reported waiting times for colonoscopy within a time span of approximately 50–110 days, without substantial fluctuations over the years.

However, these estimates should be interpreted with caution, as waiting times were reported using heterogeneous measures (means, medians, or ranges) and expressed in different units (days, weeks, or months), which may affect the precision and comparability of the data.

After outlining the overall findings, we now turn to a detailed presentation of the results reported in the individual studies.

Hubers et al. reported that the mean wait time to colonoscopy completion increased over time (from 68 days in 2013–2014 to 111 days in 2015–2016) with the largest increase found in colonoscopies for screening or surveillance. The wait time for a diagnostic colonoscopy did not change significantly (with 50

Figure 1. Flow diagram for identifying studies included in our non-systematic (narrative) review



days in 2013–2014 vs 56 days in 2015–2016) [8].

However, some factors seem to influence these times. For example Clarke et al. [9] reported an increase waiting time among patients who were referred to standard colonoscopy services compared to those who referred to the Direct Access Colonoscopy Service. Del Vecchio Blanco et al. [10] reported greater waiting times among patients who received a prescription by a general practitioner (GP) for an open-access colonoscopy (OAC) compared to those enrolled in a Clinical care pathway (CCP, introduced to improve the appropriateness of diagnostic procedures). Shim et al. [11] reported longer waiting times for underinsured patients. These findings indicate that system-level factors, including type of healthcare funding and referral organization, strongly influence waiting times.

According to Clarke et al. a shorter waiting time was due to a much shorter interval from General Practitioner referral to booking [9].

As for patients' age, the retrieved data were discordant: in fact, in 2008–2015 Adams et al. reported that no significant differences in waiting times have been observed among patients with different ages [12]. Contrariwise, Shim et al. (in their study conducted in 2019–2021) observed that patient age has a positive correlation with colonoscopy wait time [11].

The COVID-19 pandemic significantly disrupted colonoscopy services in 2019–2021. Elective procedures were postponed, creating a backlog and extending waiting times. Priority was given to

symptomatic or high-risk patients, while screening and surveillance colonoscopies experienced delays [13]. Compared to the pre-COVID 19 period, there was a longer time to colonoscopy during the recovery (HR: 0.91; 95% CI: 0.87, 0.94) and heightened alert periods (HR: 0.88; 95% CI 0.85, 0.91).

As for patients' health status, subjects who had no signs or symptoms of CRC at the time of referral waited longer for endoscopy than those with one or more signs or symptoms [14].

Moreover, FIT positive patients (FIT = fecal immunochemical test) receiving the conclusive examination within 30 days had better outcomes compared to those receiving the examination more than 90 days after initial invitation (3.49 times more likely to be diagnosed with any CRC and 2.10 times more likely to have advanced stage disease) [15].

This finding is confirmed also by Lee et al. who observed that in patients who had a positive FIT result but failed to receive timely colonoscopic follow-up, the risks of any CRC or advanced-stage CRC increased with time [16].

DISCUSSION

Colorectal carcinoma (CRC) remains a major public health concern as it is the third most common non-skin cancer in the United States (US) after lung cancer in both men and women [17]. Screening is useful for

early diagnosis and in the last years a progressive increase in colonoscopy volumes has been observed [18].

While individual-level screening uptake is essential, timely access to colonoscopy represents a critical system-level determinant of screening effectiveness and population health outcomes. Waiting times are a frequently included key performance indicator for health services [19]. In this review, reported waiting times for colonoscopy most commonly ranged between 50 and 110 days, although substantial variability was observed across countries and healthcare systems. When compared with established international benchmarks, these waiting times appear broadly consistent with the recommendations, which considers colonoscopy completion to be timely if performed within 180 days for screening or surveillance indications and within 60 days for diagnostic indications [5, 11].

Appropriate colonoscopy prescription is associated with lower waiting times: as reported in literature, waiting-time prioritization is a useful mechanism for rationing health services [20]. It provides faster access for more urgent procedures, and an allowable wait time for others. Inappropriate or low-value colonoscopy referrals, conversely, may contribute to longer waiting lists and reduced system efficiency.

Our review also indicates that health system type influences waiting times. Longer waits were reported among underinsured patients or in public healthcare settings compared to private providers, suggesting that disparities in access remain a significant public health concern [11].

System-level monitoring of waiting times should extend beyond individual procedures to encompass the entire patient pathway, including referral, booking, and completion of colonoscopy [19, 21].

Modes of access to colonoscopy also varied across studies and contributed to observed differences in waiting times. Colonoscopies accessed through organized screening programs or following positive FIT results were generally associated with shorter waits, reflecting structured referral and prioritization pathways. In contrast, access via general practitioner referral without formal prioritization, or through opportunistic or self-referral pathways, was more often associated with longer waiting times [10, 14, 16].

The COVID-19 pandemic further exemplifies the vulnerability of health systems to external shocks. Elective procedures were delayed, and waiting lists increased substantially [22]. Importantly, these increases likely underestimate the true backlog, as many individuals deferred or did not seek care during the pandemic period. From a public health perspective, such delays may have long-term consequences for CRC outcomes and health system capacity planning.

Subjects who had signs or symptoms of CRC, or who were FIT-positive at the time of referral waited less for endoscopy compared to patients without symptoms or FIT-negative [16]: beyond the prolonged suffering or emotional stress, longer wait times undermine patient safety because a delayed diagnosis and treatment

leads to poorer prognosis and loss of lives. Similar findings have been observed in studies on other cancer types, suggesting that prolonged waiting times may be associated with adverse outcomes beyond colorectal cancer [23, 24].

The shorter waiting times observed among symptomatic and FIT-positive patients in this review suggest that prioritization mechanisms can mitigate some risks.

In conclusion, this review emphasizes that colonoscopy waiting times are not merely a procedural issue but a key public health indicator. Optimizing access through system-level interventions, monitoring, and policy guidance can reduce inequities, improve population outcomes, and inform planning of sustainable health services. Future research should continue to evaluate organizational strategies and policy interventions that minimize waiting times while maximizing the public health benefit of CRC screening programs.

Limits

Some limitations should be considered. First, our review was not systematic and could be considered a narrative review conducted on a single database. Another limitation is the partial comparability of some data, as the studies used different eligibility criteria and sometimes reported data that were not entirely clear. Moreover, the concept of “waiting time” was not always defined consistently, generating a known ambiguity in the literature [25, 26]. Finally, we did not conduct a formal quality assessment of the included studies; however, all studies were carefully reviewed and synthesized to provide an overview of available evidence on colonoscopy waiting times.

CONCLUSION

Our review showed that waiting times for colonoscopy tend to be stable over the time, with fluctuation generally due to external factors (such as COVID 19 pandemic, availability of health insurance). Patients managed by specialists or enrolled in dedicated clinical pathways consistently experienced shorter waiting times.

Prolonged waiting times tend to generate anxiety and dissatisfaction for patients and, beyond this evidence, for colonoscopy these times should be carefully monitored because they could be linked to poorer clinical outcomes.

Conflict of interest

The authors declare no competing interests.

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Table 1 – Main characteristics of the studies included in the review

FOBT = fecal occult blood test
 FIT= Fecal Immunochemical Test (FIT)
 OC = Optical Colonoscopy
 CRC= colorectal cancer

Author, year	Country	Study period	Data Source/ Study Design	Participants (number)	Participants (characteristics)	Age (years)	Gender	Waiting Times	Other Findings
Adams, 2020	USA	2008-2015	Retrospective cohort study using mixed-effects regression of VA administrative data from the Corporate Data Warehouse	125866	Veterans who underwent outpatient colonoscopy for positive FOBT in 2008-2015 at 124 VA endoscopy facilities.	Age at FOBT ≤50 (n, %)/7277 (5.8%) 51–65 (n, %)/74,236 (59.0%) 66–75 (n, %)/34,515 (27.4%) 76–85 (n, %)/8936 (7.1%) ≥ 86 (n, %)/902 (0.7%)	Male 120,499 (95.7%) Female 5367 (4.3%)	In 2008, median wait time across sites was 50 days (interquartile range [IQR] = 33, 75). There was no secular trend in wait times (2015 median = 52 days, IQR = 34, 77). - In total, 125,866 outpatient colonoscopy encounters for positive FOBT occurred during the study period. The number of colonoscopies for this indication declined slightly over time (17,586 in 2008 vs. 13,245 in 2015; range 13,425–19,814). - Across years, there was a maximum difference in median wait time of only 8days (47days in 2009 vs. 55days in 2011 and 2012), which was not considered clinically significant. - None of the examined predictors was found to influence colonoscopy wait time in any clinically meaningful way. - Wait times by patient age group differed by 1.4days or less.	
Chen, 2025	Singapore	January 2019 – December 2021	Retrospective cohort study	18662	Patients who underwent colonoscopy at the Department of Colorectal Surgery	61	Pre-COVID-19 (PC) Male3222(49.6) Female3274 (50.4) Early COVID-19 (EC) Male 477 (46.0) Female559 (54.0) Recovery Period	Not specified	- Compared to the pre-COVID-19 period, there was a longer time to colonoscopy during the recovery (HR: 0.91; 95% CI: 0.87, 0.94) and heightened alert periods (HR: 0.88; 95% CI 0.85, 0.91). The early COVID-19 (OR: 1.36; 95% CI: 1.04, 1.77) and recovery (OR: 1.20; 95% CI: 1.01, 1.43) periods were associated with higher odds of diagnosing CRC*. * Pre Covid Pandemic period (PC): January 2019 – January 2020 Recovery period (RP): June-December 2020 Alert period (HA): January- December 2021

Clarke, 2019	Australia	January 2014 - June 2016	Not totally specified study design. Authors used prospectively maintained databases	-289 patients in the NS group -898 in the DACS* group *DACS = Direct Access Colonoscopy Service NS= normal service	- All patients aged 50–75 years who were referred by their GP with a positive FOBT were eligible for inclusion - The exclusion criteria were patients with significant comorbidities including cirrhosis, recent (<3 months) myocardial infarction or cerebrovascular accident or renal failure with a glomerular filtration rate <60 mL/min	The median age in the DACS* group overall was 63 years (interquartile range (IQR) 56–70), and in the NS* group was 64 years (IQR 57–71) ($P= 0.597$). *DACS = Direct Access Colonoscopy Service NS= normal service	There was an equal breakdown in the proportion of male and female patients.	DACS patients had a median waiting time from General Practitioner referral to colonoscopy of 49 days, significantly shorter than NS patients whose median wait was 79 days ($P< 0.0001$)	(RP) Male 1778 Female 1908 (51.8) Heightened Alert Period (HA) Male 3602 (48.4) Female 3842 (51.6)	CRC: colorectal cancer - There was no difference in the waiting time from colonoscopy to CRC surgery in the early COVID-19 and recovery periods, but CRC surgery was performed earlier during the heightened alert period (HR: 1.45; 95% CI: 1.22, 1.72) - After adjusting for age, type of priority for colonoscopy, type of consultation, and time periods with multivariable logistic regression, colonoscopy performed in early COVID-19 (OR = 1.36; 95% CI 1.04, 1.77) and recovery periods (OR = 1.2; 95% CI 1.01, 1.43) were more likely to diagnose CRC - The waiting time difference was due to a much shorter Interval from General Practitioner referral to booking, which was 8 days (IQR 6–13) in the DACS group compared with 38 days (IQR 21–56) in the NS group ($P< 0.001$). - There was no significant difference in the two groups for the waiting time from booking to colonoscopy, which was 38 days (IQR 26–61) in the DACS group and 37 days (IQR 26–59) in the NS group ($P= 0.816$).
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Del Vecchio Blanco, 2021	Italy	November 2015 - April 2017	Interview	698	<p>- Patients with prosthetic heart valves and those on dual antiplatelet drugs or oral anticoagulants were also excluded due to the complexity associated with managing their anticoagulation.</p> <p>- Patients undergoing normal service colonoscopy and those referred to DACS* were compared</p> <p>*DACS = Direct Access Colonoscopy Service</p>	Mean 62 ± 1	males/females 224/238	<p>The waiting time in the OAC* group was significantly longer than in the CCP group and NGPC group (32 ± 22.31 vs. 3.88 ± 2.27 and 4.38 ± 2.95 weeks, respectively; $P < 0.01$).</p> <p>OAC = Open-access colonoscopy</p>	Appropriateness of colonoscopy prescription was better in the CCP group than in the OAC group (92 vs. 50%, respectively)
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Hubers, 2020	USA	April 2013 - December 2016	Retrospective analysis	36623	history, were prospectively enrolled in the study.	Not specified	Not specified	CCP = clinical care pathway NGPC = non-gastroenterologist physician colonoscopy	<ul style="list-style-type: none"> - More colonoscopies for any indication were performed in 2015–2016 than in 2013–2014 (20,897 vs 15,726, respectively, $P=0.004$). - During the 4-year study period, there has been a statistically significant increase in the average wait time for colonoscopy ($r=0.98, P<0.0001$) - In patients with a new diagnosis of CRC made on a screening or surveillance examination, the mean wait time for colonoscopy increased significantly from 2013–2014 to 2015–2016 (68 vs 130 days, respectively, $P=0.013$), whereas the wait time for diagnostic examinations in this group did not significantly change (21 vs 27 days, $P=0.221$) - Overall, the wait time for a screening or surveillance colonoscopy in the CRC cohort was 4.5 times longer than the wait time for a diagnostic examination
Janssen, 2016	Canada	January 2010- December 2013	Retrospective chart review	246	Patients were included if they were referred to the St. Paul Hospital's (Vancouver)	Mean age 66	Female 41%	<ul style="list-style-type: none"> - The mean time from receipt of referral to office consultation with a gastroenterologist was 63 days. - The mean time from 	<ul style="list-style-type: none"> - Subjects who had no signs or symptoms of CRC at the time of referral waited longer for endoscopy (median 176 days, range 134–213 days) than those subjects who had one or more signs/symptoms (median 70 days, range 35–115 days) ($p<0.001$).

<p>Kaalby, 2019</p>	<p>Denmark</p>	<p>March 2014 - December 2016</p>	<p>Cross-sectional study</p>	<p>53171</p>	<p>gastroenterologists and seen as outpatients for consultation and endoscopy, with the eventual outcome being a diagnosis of CRC. Patients with known inflammatory bowel disease were excluded given that they are screened more closely than the general population for colorectal cancer.</p>	<p>Patients registered in the Danish Colorectal Cancer Screening Database who tested FIT-positive between March 2014 and December 2016.</p>	<p>median age 63.7 years (Interquartile Range [IQR], 49–76 years)</p>	<p>Female 44% Male 56%</p>	<p>receipt of referral to first lower endoscopy study was 94 days; 102 of 246 subjects (41%) had their first endoscopic procedure within 60 days (guideline benchmark). -The mean time from receipt of referral to definitive lower endoscopy study was 97 days. - Authors also analyzed the subset of patients (N= 225) who had alarm signs or symptoms at the time of referral (BRBPR, anemia, positive FIT/FOBT; or change in bowel habits); these patients waited a mean of 86 days from time of referral to first endoscopy.</p>	<p>- There was no effect of time to endoscopy on the presence of lymph node positivity or distant metastatic disease at the time of diagnosis</p>
<p>Lee, 2019</p>	<p>Taiwan</p>	<p>2004-2012</p>	<p>Cohort Study (? Not specified)</p>	<p>39346</p>	<p>Patients (age, 50-69 years) who participated in the Taiwanese</p>	<p>Time to colonoscopy and number of positive FIT: 1 mo* ≤ t ≤ 3 mo 30695</p>	<p>Male 53.2%</p>	<p>The mean time from invitation to final OC in the group >90 days was 174 days (IQR, 91–1,348 days) and for the entire population 72.2 days (IQR, 10–1,348 days).</p>	<p>- Compared to participants receiving the conclusive examination within 30 days, those receiving the examination more than 90 days after initial invitation were 3.49 times more likely to be diagnosed with any CRC (OR 3.49 [95% CI, 3.13–3.89]) and 2.10 times more likely to have advanced stage disease (OR 2.10 [95% CI, 1.73–2.56]). - Those waiting for the longest were also more likely to have one or more high-risk adenomas (OR 1.59 [95% CI, 1.50–1.68]).</p>	
									<p>- in patients who had a positive FIT result but failed to receive timely colonoscopic follow-up, the risks of any CRC or advanced-stage CRC increased with time. Compared with those who underwent colonoscopy within 1–3 months,</p>	

Shim, 2024	USA	2019-2021 (pre intervention Period) – 2022 – 2023 (post intervention period)	Retrospective chart review	1249 (pre intervention period) 4050 (post intervention period)	Nationwide Screening Program from 2004 through 2012 and had completed a colonoscopy more than 1 month after a positive result from a FIT	Underinsured* and insured patients at Stony Brook University Hospital * Underinsured patients included those with Medicaid, Emergency Medicaid, or no insurance.	<p>Preintervention (2019–2021) Underinsured 52 (45–61) Insured 58 (51–66)</p> <p>Postintervention (May 2022–May 2023) Underinsured 52 (44–63) Insured 58 (50–67)</p>	<p>Preintervention Underinsured Male 41.6 female 58.4</p> <p>Insured Male 48.6 female 51.4</p> <p>Post Intervention Underinsured Male 50.8 female 49.2</p> <p>Insured 52.5 Male 47.5 female</p>	<p>Underinsured patients had a significantly longer median wait time than insured patients (median ± interquartile range [IQR]: 86.00 ± 96.00 days vs 62.00 ± 75.00 days, $P < 0.0001$).</p>	<p>3 mo < t ≤ 6 mo 6555 6 mo < t ≤ 9 mo 1357 9 mo < t ≤ 12 mo 444 12 mo < t295 *mo=months</p>	<p>patients who underwent colonoscopic follow-up after 6 months had a significantly increased risk of any CRC and advanced-stage disease.</p>	<p>- patient age (in years) was found to have a positive correlation with colonoscopy wait time (Pearson correlation coefficient = 0.0457, $P = 0.0076$).</p> <p>- After adjusting for age (categorical), sex, race, ethnicity, and preferred language, the estimated differences in screening/surveillance colonoscopy wait times with 95% confidence interval (CI) between underinsured and insured patients during each colonoscopy period were significantly different in the postpandemic period (estimated difference = 36.54, 95% CI: 18.20–54.89)</p> <p>- For screening/surveillance colonoscopies, wait time differences between underinsured and insured patients in the second postintervention phase were reduced by 34.21 days (95% confidence interval [CI]: 11.07–57.35) compared with the postpandemic period and by 56.36 days (95% CI: 34.16–78.55) compared with the first postintervention phase.</p> <p>-For diagnostic colonoscopies, wait time differences in the second postintervention phase were reduced by 27.57 days (95% CI: 9.96–45.19) compared with the postpandemic period and by 20.40 days (95% CI: 1.02–39.77) compared with the first postintervention phase.</p>
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