

Impact of Retroactive Application of Updated Surveillance Guidelines on Endoscopy Center Capacity at a Large VA Health Care System

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Background: In 2020, the US Multi-Society Task Force (USMSTF) on Colorectal Cancer revised its recommended interval for surveillance of 1 to 2 subcentimeter tubular adenomas from 5 to 10 years to 7 to 10 years. This study assessed the impact of retroactively applying these guidelines on endoscopy center capacity.

Methods: Colonoscopy reports were reviewed for patients with an upcoming colonoscopy reminder at the Veterans Affairs Pittsburgh Healthcare System (VAPHS). Patients with incomplete records, high-risk indications, or inadequate bowel preparation were excluded. Previous surveillance recommendations were

compared with the 2020 USMSTF guideline to determine whether colonoscopy intervals could be extended.

Results: Of 583 patients, 331 (56.7%) had adequate data to determine extendibility. Using the 2020 USMSTF guidelines, colonoscopy interval could be extended by ≥ 1 year for 64 patients (11%) for a total of 153 years extended. For 36 patients, the ability to extend the colonoscopy interval was directly attributable to the updated 2020 USMSTF guideline.

Conclusions: Retroactive application of USMSTF surveillance guidelines could modestly increase endoscopic capacity, but overall impact may be limited by fragmentation of care.

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In 2020, the US Multi-Society Task Force (USMSTF) on Colorectal Cancer (CRC) increased the recommended colon polyp surveillance interval for 1 to 2 subcentimeter tubular adenomas from 5 to 10 years to 7 to 10 years.¹ This change was prompted by emerging research indicating that rates of CRC and advanced neoplasia among patients with a history of only 1 to 2 subcentimeter tubular adenomas are lower than initially estimated.^{2,3} This extension provides an opportunity to increase endoscopy capacity and improve access to colonoscopies by retroactively applying the 2020 guidelines to surveillance interval recommendations made before their introduction. For example, based on the updated guidelines, patients previously recommended to undergo colon polyp surveillance colonoscopy 5 years after an index colonoscopy could extend their surveillance interval by 2 to 5 years. Increasing endoscopic capacity could address the growing demand for colonoscopies from new screening guidelines that reduced the age of initial CRC screening from 50 years to 45 years and the backlog of procedures due to COVID-19 restrictions.⁴

As part of a project to increase endoscopic capacity at the US Department of Veterans Affairs (VA) Pittsburgh Healthcare System (VAPHS), this study assessed the potential impact of retroactively applying the 2020 USMSTF polyp surveillance guidelines on

endoscopic capacity. These results may be informative for other VA and private-sector health care systems seeking to identify strategies to improve endoscopy capacity.

METHODS

VAPHS is an integrated health care system in the Veterans Health Administration (VHA) serving 85,000 patients across 8 health care institutions in Pennsylvania, Ohio, and West Virginia. VAPHS manages colorectal screening recommendations for patients receiving medical care in the health care system regardless of whether their prior colonoscopy was performed at VAPHS or external facilities. The VA maintains a national CRC screening and surveillance electronic medical record reminder that prompts health care practitioners to order colon polyp surveillance based on interval recommendations from the index colonoscopy. This study reviewed all patients from the VAPHS panel with a reminder to undergo colonoscopy for screening for CRC or surveillance of colon polyps within 12 months from September 1, 2022.

Among patients with a reminder, 3 investigators reviewed index colonoscopy and pathology reports to identify CRC risk category, colonoscopy indication, procedural quality, and recommended repeat colonoscopy interval. Per the USMSTF guidelines, patients with incomplete colonoscopy or pathology records, high-risk indications (ie, personal

history of inflammatory bowel disease, personal history of CRC, or family history of CRC), or inadequate bowel preparation (Boston Bowel Preparation Score < 6) were excluded. Additionally, patients who had CRC screening or surveillance discontinued due to age or comorbidities, had completed a subsequent follow-up colonoscopy, or were deceased at the time of review were excluded.

Retroactive Interval Reclassification

Among eligible patients, this study compared the repeat colonoscopy interval recommended by the prior endoscopist with those from the 2020 USMSTF guidelines. In cases where the interval was documented as a range of years, the lower end was considered the recommendation. Similarly, the lower end of the range from the 2020 USMSTF guidelines was used for the reclassified surveillance interval. Years extended per patient were quantified relative to September 1, 2023 (ie, 1 year after the review date). For example, if the index colonoscopy was completed on September 1, 2016, the initial surveillance recommendation was 5 years, and the reclassified recommendation was 7 years, the interval extension beyond September 1, 2023, was 0 years.

Furthermore, because index surveillance recommendations are not always guideline concordant, the years extended per patient were calculated by harmonizing the index endoscopist's recommendations with the guidelines at the time of the index colonoscopy.³ For example, if the index colonoscopy was completed on September 1, 2018, and the endoscopist recommended a 5-year follow-up for a patient with average risk for CRC, adequate bowel preparation, and no colorectal polyps, that patient is eligible to extend their colonoscopy to September 1, 2028, based on guideline recommendations at the time of index endoscopy recommending that the next colonoscopy occur in 10 years. In this analysis the 2012 USMSTF guidelines were applied to all index colonoscopies completed in 2021 or earlier to allow time for adoption of the 2020 guidelines.

This project fulfilled a facility mandate to increase capacity to conduct endoscopic procedures. Institutional review board approval was not required by VAPHS policy relating to clinical operations projects. Approval for

TABLE. Patient Demographics and Colonoscopy Indications (N = 583)

Criteria	Result
Age, median (IQR), y	74 (69-76)
Male sex, No. (%)	560 (96.1)
Index procedure year, median, (IQR)	2016 (2013-2018)
Indication, No. (%)	
Average risk	178 (30.5)
History of low-risk adenomatous polyps	123 (21.1)
History of advanced adenomatous polyps	15 (2.6)
Personal or family history of colorectal cancer	35 (6.0)
Inflammatory bowel disease	7 (1.2)
Diagnostic	11 (1.9)
Undocumented/unknown due to record availability	214 (36.7)

publication of clinical operations activity was obtained from the VAPHS facility director.

RESULTS

Within 1 year of the September 1, 2022, review date, 637 patients receiving care at VAPHS had clinical reminders for an upcoming colonoscopy. Of these, 54 (8.4%) were already up to date or were deceased at the time of review. Of the 583 eligible patients, 96% were male, the median age was 74 years, the median index colonoscopy year was 2016, and 178 (30.5%) had an average-risk CRC screening indication at the index colonoscopy (Table).

Of the 583 patients due for colonoscopy, 331 (56.7%) had both colonoscopy and pathology reports available. The majority of those with incomplete records had the index colonoscopy completed outside VAPHS. Among these patients, 222 (67.0%) had adequate bowel preparation. Of those with adequate bowel preparation, 43 were not eligible for interval extension because of high-risk conditions and 13 were not eligible because there was no index surveillance interval recommendation from the index endoscopist. Of the patients due for colonoscopy, 166 (28.4%) were potentially eligible for surveillance interval extension (Figure).

Sixty-five (39.2%) of the 166 patients had 1 to 2 subcentimeter tubular adenomas on their index colonoscopy. Sixty-two patients were eligible for interval extension to 7 years, but this only resulted in ≥ 1 year of extension beyond the review date for 36 (6% of all 583 patients due for colonoscopy). The 36 patients were extended 63 years. By harmonizing the index endoscopists' surveillance interval recommendation with the guideline

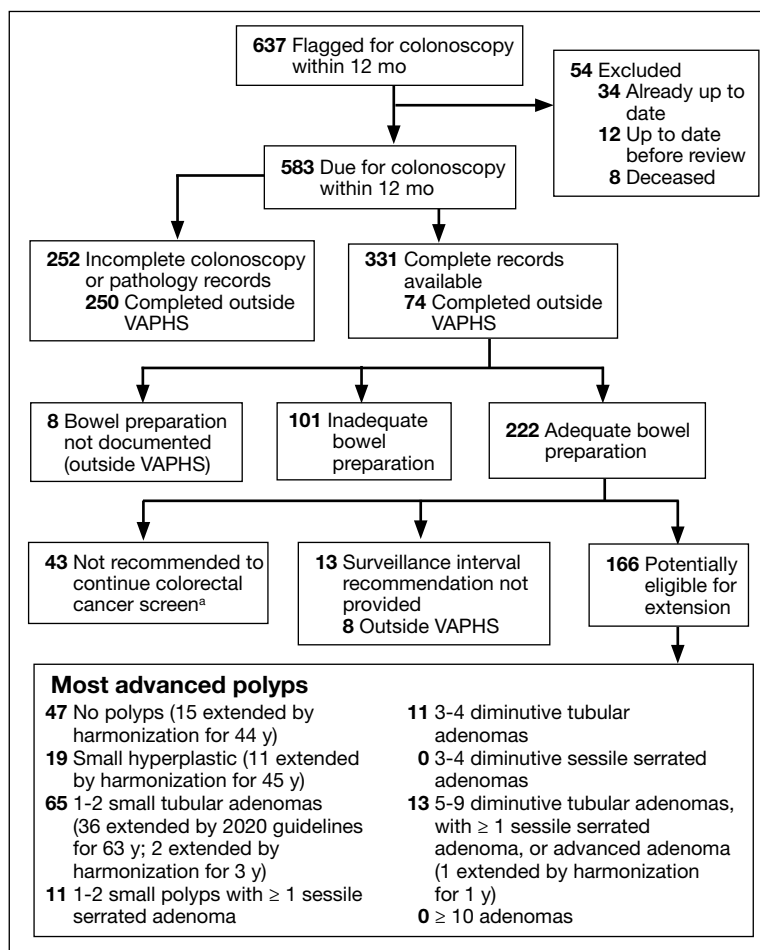


FIGURE. Eligibility for retroactive surveillance of polyp interval extension based on concordance with the 2020 USMSTF recommendations and guideline harmonization.

^aHistory of colorectal cancer, inflammatory bowel disease, or sessile serrated polyps: not recommended to continue colorectal cancer screen for age/comorbidities by prior endoscopist. Abbreviations: USMSTF, US Multi-Society Task Force; VAPHS, Veterans Affairs Pittsburgh Healthcare System.

at the time of the index colonoscopy, 29 additional patients could have their colonoscopy extended by ≥ 1 year. Harmonization extended colonoscopy intervals by 93 years. Retroactively applying the 2020 USMSTF polyp surveillance guidelines and harmonizing recommendations to guidelines extended the time of index colonoscopy by 153 years.

DISCUSSION

With retroactive application of the 2020 USMSTF polyp surveillance guidelines, 6% of patients due for an upcoming colonoscopy could extend their follow-up by ≥ 1 year by extending the surveillance interval for 1 to 2 subcentimeter tubular adenomas to 7 years. An additional 5% of patients could extend

their interval by harmonizing the index endoscopist's interval recommendation with polyp surveillance guidelines at the time of the index colonoscopy. These findings are consistent with the results of 2 studies that demonstrated that about 14% of patients due for colonoscopy could have their interval extended.^{6,7} The current study enhances those insights by separating the contribution of 2020 USMSTF polyp surveillance guidelines from the contribution of harmonizing surveillance intervals with guidelines for other polyp histologies. This study found that there is an opportunity to improve endoscopic capacity by harmonizing recommendations with guidelines. This complements a 2023 study showing that even when knowledgeable about guidelines, clinicians do not necessarily follow recommendations.⁸ While this and previous research have identified that 11% to 14% of patients are eligible for extension, these individuals would also have to be willing to have their polyp surveillance intervals extended for there to be a real-world impact on endoscopic capacity. A 2024 study found that only 19% to 37% of patients with 1 to 2 small tubular adenomas were willing to have polyps surveillance interval extension.⁹ This suggests the actual effect on capacity may be even lower than reported.

Limitations

The overall impact of the 2020 USMSTF polyp surveillance guidelines on endoscopic capacity was blunted by the high prevalence of incomplete index colonoscopy records among the study population. Without data on bowel preparation quality or procedure indications, this study could not assess whether 43% of patients were eligible for surveillance interval extension. Most index colonoscopies with incomplete documentation were completed at community-care gastroenterology facilities. This high rate of incomplete documentation is likely generalizable to other VA health care systems—especially in the era of the Veterans Access, Choice, and Accountability Act of 2014, which increased veteran access to non-VA community care.¹⁰ Veterans due for colon polyp surveillance colonoscopies are more likely to have had their prior colonoscopy in community care compared with prior eras.¹¹ Furthermore, because the VHA is among the most established

integrated health care systems offering primary and subspecialty care in the US, private sector health care systems may have even greater rates of care fragmentation for longitudinal CRC screening and colon polyp surveillance, as these systems have only begun to regionally integrate recently.^{12,13}

Another limitation is that nearly one-third of the individuals with documentation had inadequate bowel preparation for surveillance recommendations. This results in shorter surveillance follow-up colonoscopies and increases downstream demand for future colonoscopies. The low yield of extending colon polyp surveillance interval in this study emphasizes that improved efforts to obtain colonoscopy and pathology reports from community care, right-sizing the colon polyp surveillance intervals recommended by endoscopists, and improving quality of bowel preparation could have downstream health care system benefits in the future. These efforts could increase colonoscopy capacity at VA health care systems, thereby shortening colonoscopy wait times, decreasing fragmentation of care, and increasing the number of veterans who receive high-quality colonoscopies at VA health care systems.¹⁴

CONCLUSIONS

Eleven percent of patients in this study due for a colonoscopy could extend their follow-up by ≥ 1 year. About half of these extensions were directly due to the 2020 USMSTF polyp surveillance interval extension for 1 to 2 sub-centimeter tubular adenomas. The rest resulted from harmonizing recommendations with guidelines at the time of the procedure. To determine whether retroactively applying polyp surveillance guidelines to follow-up interval recommendations will result in improved endoscopic capacity, health care system administrators should consider the degree of CRC screening care fragmentation in their patient population. Greater long-term gains in endoscopic capacity may be achieved by proactively supporting endoscopists in making guideline-concordant screening recommendations at the time of colonoscopy.

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Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

Ethics and consent

This project was conducted to fulfill a facility mandate to increase endoscopy capacity. Approval for publication of clinical operations activity was obtained from the Veterans Affairs Pittsburgh Healthcare System facility director.

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