IS PROMOTION OF FECAL IMMUNOCHEMICAL TESTING “FIT” TO ADDRESS COVID-19 DISRUPTIONS TO COLORECTAL CANCER SCREENING?


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Summary

The COVID-19 pandemic has disrupted colorectal cancer (CRC) screening participation. Strategies to mitigate the impact of COVID on CRC outcomes are needed. Issaka et al used a simulation model to study potential impact of active promotion of fecal immunochemical testing (FIT) on screening uptake and outcomes. A FIT promotion strategy was selected because mailed FIT outreach has been shown consistently to increase screening uptake in randomized trials, and because some health systems have successfully used mailed FIT outreach to increase screening participation, indicating that this strategy is feasible and effective.

The model considered the impact of 4 scenarios of screening participation over a 3-year time horizon, with number of people screened and CRCs detected as the primary outcomes. The scenarios varied the duration of COVID-related screening disruptions and extent to which FIT was actively promoted to mitigate disruptions, and were compared to a baseline scenario in which high pre-pandemic screening participation rates were sustained as if the pandemic had not occurred. Alternate scenarios modelled were: 1) Early time to partial recovery of screening participation to 62% of pre-pandemic levels over 3 years (Scenario 1); 2) Prolonged time to partial recovery of screening to 57% of pre-pandemic levels over 3 years (Scenario 2); 3) Early time to partial recovery to 75% of pre-pandemic levels over 3 years by modeling increased FIT promotion and participation (Scenario 3); 4) Prolonged time to partial recovery of screening to 71% of pre-pandemic levels over 3 years by modeling increased FIT (Scenario 4). The estimate of increased FIT participation was based on results from a well-established usual care FIT outreach program. Colonoscopy completion after abnormal FIT was assumed to be 65%.

For the baseline scenario assuming no COVID disruption, the model estimated 4,690,668 individuals screened and 34,323 CRC cases diagnosed over 3 years. Scenarios 1 and 2, without active FIT promotion, were associated with estimated reductions of 37.6% and 42.9% in people screened, and 32.6% and 37.6% in cases detected, respectively. Scenarios 3 and 4, which included active FIT promotion, were associated with less severe estimated reductions of 25.1% and 29.0% for people screened, and 24.3% and 29.7% in terms of cancers detected. As such, model results suggest that promotion of FIT could substantially soften pandemic-related reductions in number of people screened and with CRC detected over 3 years.

Commentary

In response to the initial surge of COVID cases in March 2020, the Centers for Medicare and Medicaid Services recommended cessation of all nonurgent medical procedures, a move that led to a 90% decline in CRC screenings compared to the year prior. In the months since, early evidence suggests partial, but inadequate recovery of CRC screening test exposure (https://ehrn.org/articles/delayed-cancer-screenings-a-second-look/ ; JAMA Oncol. 2021;7:878-884 Cancer Cell 2021;39:1042-44). In addition to short term reductions in new CRC diagnoses, models estimate the effects of the COVID-19 pandemic may last for years and lead to an excess of CRC deaths between 2020 and 2050 of up to 2.0% beyond pre-pandemic expectations (Lancet Gastroenterology Hepatology 2021;6:304-14). This underscores the importance of screening systems to help mitigate the effects of the pandemic.

Issaka et al demonstrate that active promotion of FIT can mitigate pandemic-related disruptions in CRC screening and diagnoses. Specifically, they showed that modest improvements in FIT uptake can lead to an additional 600,000 people screened, and nearly
3,000 additional cases of CRC diagnosed over a 3-year period in a simulated population of Americans. Strengths of this study include a large population size as well as conservative and realistic assumptions when estimating ability to increase FIT uptake. The authors assumed that deliberate efforts to promote FIT could result in a 5-7% increase in patients screened, a figure that is in line with results from similar initiatives such as the Bowel Cancer Screening Program in the UK (Gut 2017;66:1631-44).

A few limitations may be considered in the interpretation of Issaka et al’s study. The time horizon modeled was a short, 3-year interval. Effects of the pandemic on screening may last substantially longer and, in particular, the impact of increased reliance on FIT may not be apparent until much later. As such, the short time horizon modeled gives only an early snapshot of pandemic related disruptions and potential mitigating impacts of promoting FIT. FIT as a screening modality is noted to have good sensitivity for CRC, however it is less effective in detecting advanced adenomas (NEJM 2012;366:697-706). As such, the effect of increased reliance on FIT may be more CRC diagnoses due to a lack of intervention on pre-malignant lesions. These differences would not be captured during the 3 year time period. Another limitation, as is true for all models, is the reliance on baseline assumptions, which if inaccurate could have skewed results. Strengths of the study include use of rigorous modeling methods and otherwise reasonable assumptions, particularly with respect to impact of active FIT promotion on screening uptake.

Overall, Issaka’s study shows us that a concerted, nationwide effort to increase FIT uptake may be one of our best options to mitigate COVID-related disruptions to CRC screening participation. Making this theoretical goal a reality is something the authors mention is out of their intended scope, but represents a significant challenge. This is true in particular because rates of screening were suboptimal, particularly across socioeconomic and insurance status, and by race/ethnicity prior to the pandemic (Ca Cancer J Clin 2020;70:145-64). Promotion of FIT may represent more than just a way to mitigate COVID-related disruptions, but a means to achieve more widespread screening uptake overall. Mailed FIT represents an effective and scalable approach to increasing screening uptake, with evidence from several health systems across the US suggesting it can be done (ACS 2020;70:231-314). Active promotion of Mailed FIT, in addition to interventions which promote test choice and screening offers as part of usual, visit-based care (JAMA Int Med 2018;178:1645-1658), can work to help the US catch up with screening and ultimately meet the 80% in every community screening goal set forth by the National Colorectal Cancer Roundtable.

We postulate that the COVID-19 era is more likely than not to be associated with major changes in the approach to CRC screening. The population has become increasingly exposed to availability of more convenient healthcare visits, such as video visits, and convenient forms of testing, such as at home or local on demand testing for COVID. This may increase expectations, demand, and interest for more non-invasive tests, including FIT, stool DNA-FIT, and emerging blood-based biomarkers that are more convenient than colonoscopy (Cancer Prevention Research 2021;14:603-14). The pandemic has laid bare the vulnerability of relying mainly on individual rather than population-level strategies for promoting screening, and may increase enthusiasm for population level-strategies such as mailed FIT. Addressing the challenges associated with CRC screening in the COVID-19 era will likely require resourcing and
implementing multiple strategies, including active promotion of FIT, as suggested by Issaka et al’s interesting work.