Impact of the COVID-19 pandemic on follow-up colonoscopy rates after a positive stool-based screening test for colorectal cancer among U.S. health care organizations

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Background and Objective

- The COVID-19 pandemic has disrupted cancer detection, diagnosis, and treatment including colorectal cancer (CRC) screening.
- There was a sharp decline in screening colonoscopies during the COVID-19 pandemic, while utilization of stool-based screening tests (SBTs) such as fecal immunochemical test (FIT) or multitarget stool DNA test (mt-sDNA) increased.
- A positive SBT result requires a follow-up colonoscopy (FU-CY) to complete the screening paradigm.
- Simultaneous increased use of SBTs for screening and decrease in colorectal accessibility creates a potential care gap if patients fail to follow up after a positive SBT.

This study evaluated the impact of the COVID-19 pandemic on FU-CY rates within 90, 180, and 360 days of a positive SBT (FIT or mt-sDNA).

Study Design

- A retrospective analysis of de-identified administrative claims and electronic health record data between June 1, 2015, and June 30, 2021, obtained from the Optum Labs Data Warehouse.
- The study population included 14,623 average-risk patients aged 50-75 years old with positive SBT (FIT or mt-sDNA).
- Patients were excluded if they were at higher-than-average CRC risk, had a prior CRC diagnosis, or had recent CRC screening tests (SBTs) such as fecal immunochemical test (FIT) or multitarget stool DNA test (mt-sDNA).

Principal Findings

- Follow-up rates are significantly reduced in 2020.
- Largest impact on patients indexed March 2020.
- Patients indexed in June had FU-CY rates above 2019 levels, but differences persisted for all other index months.

FU-CY rates disproportionately impacted certain patient subpopulations

- Rates of follow-up over time are compared for patients indexed in 2020 vs 2019 (absolute change).
- No significant difference across African American and Caucasian patients (other patient races had insufficient data in 2020).
- Patients with 1-4 CCI (likely those with 1-2 chronic conditions) had the largest drop-off and the least recovery in FU-CY rates as compared to patients in other CCI categories.
- Medicare patients were overall less impacted than commercially insured patients, but this difference was small.
- No subpopulation recovered to 2019 rates within one year.

Conclusions

- Our study demonstrates the long-lasting impact of the COVID-19 pandemic on follow-up colonoscopy rates after a positive SBT result.
- Patients with positive SBT had much lower rates of follow-up in 2020 relative to 2019, which created a potential backlog of patients at high risk of CRC that must be addressed.
- Patients and health systems utilize SBTS for initial CRC screening as a convenient way to increase population-level screening rates; however, a lack of follow-up after a positive SBT during and after the COVID-19 pandemic needs to be addressed.

Implications for Policy and Practice

- 50% of patients with a positive SBT CRC screening test result in 2020 failed to complete a follow-up colonoscopy within 1 year.
- This failure rate was approximately 10% higher than the prior years.
- Patients with a positive screening test in March were disproportionately affected and never recovered to the same (lower) level as other months, potentially due to the disruption at the initial scheduling stage.
- By June 2020, FU-CY rates recovered to 2019 levels.

Patients at higher risk of mortality had lower FU-CY rates during the pandemic.

- A higher risk of mortality (as measured by CCI) was associated with lower FU-CY rates, perhaps due to difficulty in providing care to more complex patients.
- Overall, the differential impact of the pandemic across patient groups was modest, though this issue is separate from overall disparities in screening rates.

References


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Impact of the COVID-19 pandemic and related lockdowns significantly reduced rates of FU-CY

FU-CY rates disproportionately impacted certain patient subpopulations

Survival plots of follow-up rates, aligned on positive test result. FU-CY rates in 2020 failed to complete a follow-up colonoscopy within 1 year.

By June 2020, FU-CY rates recovered to 2019 levels.