# THE EFFECTIVENESS OF AUTOMATED REMINDER CALLS TO INCREASE COLONOSCOPY COMPLETION RATES AFTER ABNORMAL FECAL IMMUNOCHEMICAL TEST RESULTS

Olivia J. Jordan, MD[1], Jiwen Li, MD[1,2], Anjani Reddy, MD, MPH[3], Amit Kothari, MD[3], Jayraan Badiee MPH[4], Folasade P. May, MD, PhD, MPhil[3,4,5]

(1) Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, California; (2) Division of Cardiovascular Medicine, Stanford University Medical Center, Stanford, California; (3) Greater Los Angeles Veterans Affairs Health System, Los Angeles, California (4) Vatche and Tamar Manoukian Division of Digestive Diseases; UCLA David Geffen School of Medicine, University of California, Los Angeles, California; (5) UCLA Kaiser Permanente Center for Health Equity, Jonsson Comprehensive Cancer Center

**Character limit:** 2782/2900
**Category:** AGA: Colorectal Cancer Screening and Surveillance: Clinical Studies to Improve Uptake, Increase Adherence & Address Racial Disparities.

**Introduction:** The fecal immunochemical test (FIT) is effective in reducing colorectal cancer (CRC) incidence and mortality. In many Veterans Health Administration (VA) facilities, FIT is the preferred method for CRC screening for average-risk individuals. However, a challenge with FIT screening is that an abnormal test must be followed by colonoscopy. Effective interventions to increase colonoscopic completion after abnormal FIT are lacking. We implemented and assessed the impact of an automated reminder call to patients with an abnormal FIT result on colonoscopy completion in a Veteran population.

**Methods:** The study setting was the Greater Los Angeles Veterans Health Administration, an urban, VA healthcare system with satellite sites across Southern California. Eligible patients were age 45-75 with a documented abnormal FIT result between 11/1/2021 and 7/20/2022. The study design was an interrupted time series analysis during which patients with an abnormal FIT result on weeks 1-5, 7-13, 15-17, 19-20, 24-25, and 29 received the intervention. Patients in the intervention arm received one automated reminder call encouraging colonoscopy completion in addition to usual care practices (verbal or mailed notification about abnormal result from the primary care provider or other dedicated healthcare team member). Patients on the non-intervention weeks (usual care arm) were notified of their FIT result according to usual care practices only. The primary study outcome was completion of colonoscopy within 3 months of the positive FIT result. We used descriptive statistics to summarize patient characteristics and t-tests to compare colonoscopy completion rates in both arms.

**Results:** The study included 299 patients: 100 in the intervention arm and 199 in the usual care arm. Mean age of participants was 65.3 years and most were non-Hispanic White (Table). In the intention-to-treat analysis, 55 (55%) patients in the intervention arm and 97 (48.7%) patients in the usual care arm completed a colonoscopy (p=0.31) (Figure). To perform a per-protocol analysis, we excluded 13 patients from the intervention arm who did not receive the reminder call as intended and 4 patients from the usual care arm who were lost to follow-up. In the per-protocol analysis, 48 (55.2%) patients and 97 (49.7%) patients completed a colonoscopy in the intervention and usual care arms, respectively (p=0.40) (Figure).
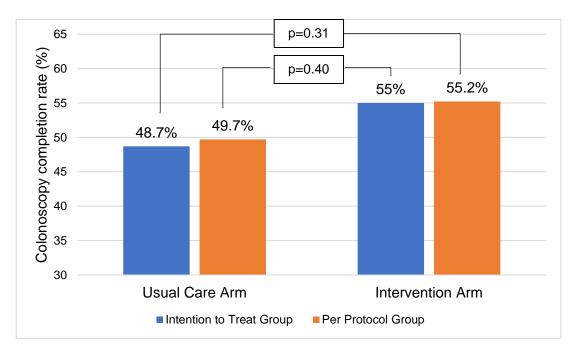
**Conclusions:** Implementation of an automated reminder call to encourage colonoscopy among Veterans with an abnormal FIT result did not result in significantly higher colonoscopy completion rates than standard management of abnormal FIT results. Future efforts to improve colonoscopy completion in this vulnerable population must consider more intensive and multicomponent interventions with personalized outreach, particularly as FIT use increases in the VA nationally.

**Table:** Descriptive characteristics of the study cohort stratified by study arm (n=299, intention-to-treat group assignment).

| Patient Characteristic | All patients+ N=299 | Usual Care Arm, n=199 | | Intervention Arm, n=100 | |
|---|---|---|---|---|---|
| | | Colonoscopy completed^ 97(48.7%) | Colonoscopy not completed^ 102(51.3%) | Colonoscopy completed* 55(55%) | Colonoscopy not completed* 45(45%) |
| Male sex | 282 (94.3) | 91 (49.2) | 94 (50.8) | 54 (55.7) | 43 (44.3) |
| Race/ethnicity | | | | | |
|     Non-Hispanic White | 128 (42.8) | 37 (45.1) | 45 (54.9) | 26 (56.5) | 20 (43.5) |
|     Non-Hispanic Black | 64 (21.4) | 22 (48.9) | 23 (51.5) | 11 (57.9) | 8 (42.1) |
|     Non-Hispanic Other | 21 (7.0) | 6 (46.2) | 7 (53.8) | 6 (75.0) | 2 (25.0) |
|     Unknown | 39 (13.0) | 12 (52.5) | 11 (47.8) | 7 (43.8) | 9 (56.3) |
|     Hispanic | 47 (15.7) | 20 (55.6) | 16 (44.4) | 5 (45.5) | 6 (54.5) |

+Percent values represent percent of the entire study population with indicated patient characteristic
^Percent values represent proportion of those in usual care arm patients
*Percent values represent proportion of those in intervention arm patients

**Figure:** Colonoscopy completion rates in usual care versus intervention arms with intention-to-treat (n=299) and per-protocol group assignment results (n=282).