

Feasibility of a Colorectal Cancer Screening Decision Aid Delivered Via the Patient Portal to Increase Screening Participation in a Large Academic Health Center

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Intro

There are several recommended colorectal cancer (CRC) screening modalities, and patient preference is contingent on factors such as eligibility, invasiveness, time required, and effectiveness. Patients who select a modality aligned with their preferences are more likely to complete screening. We aimed to assess the feasibility of an electronic decision aid to increase CRC screening participation and to inform implementation of a future large-scale decision aid intervention.

Methods

This pilot study took place at UCLA Health, a large academic health system that primarily offers fecal immunochemical testing (FIT) and colonoscopy for CRC screening. WiserCare is a third-party software-based decision aid ordered by primary care providers (PCPs) to assess preferences for screening modalities and provide individualized risk and a rank-ordered list of options after a decision analysis. From 09/03/2020 to 10/06/2022, PCPs in two clinic locations bulk-ordered the online CRC screening module for average-risk patients due for screening. We assessed module engagement and completion, screening completion, and screening modality choice for patients prescribed the module. Significant predictors of modality choice were determined using multivariable logistic regression.

Results

The study included 2,036 patients and 40 PCPs. Patients were 60.3% female, 53.6% Non-Hispanic White, 7.6% Non-Hispanic Black, and 6.0% Hispanic; mean age was 64.0 years (SD=8.8) (Table). 25% (508) of patients completed the module. An additional 8.5% (173)

initiated but did not complete the module, and 66.6% (1,355) did not open the module. Among module completers (508), 18.6% (94) selected colonoscopy, 17.3% (88) selected FIT, 15.9% (81) indicated a prior abnormal study and/or needed further discussion with a PCP, and 48.2% (245) indicated they were up-to-date with screening (Figure). During the study period, 13.8% (281) of all patients and 46.5% (236) of module completers were screened with any modality. When controlling for insurance, age, sex, race/ethnicity, and social vulnerability index (SVI), individuals who did not prefer English had significantly lower odds of module completion (aOR=0.17, 95%CI=0.06-0.47).

Discussion

Patients in our health system were willing to participate in an electronic decision aid to indicate CRC screening preferences and select a screening modality. A portal-delivered decision aid is a valuable resource to identify appropriateness of and eligibility for various screening modalities, potentially reducing the time required for counseling by PCPs. The study also emphasizes the importance of delivering education and counseling in a patient's preferred language. Future steps include incorporation of the module into a large-scale portal-based intervention with primers and reminders and a randomized effectiveness trial.

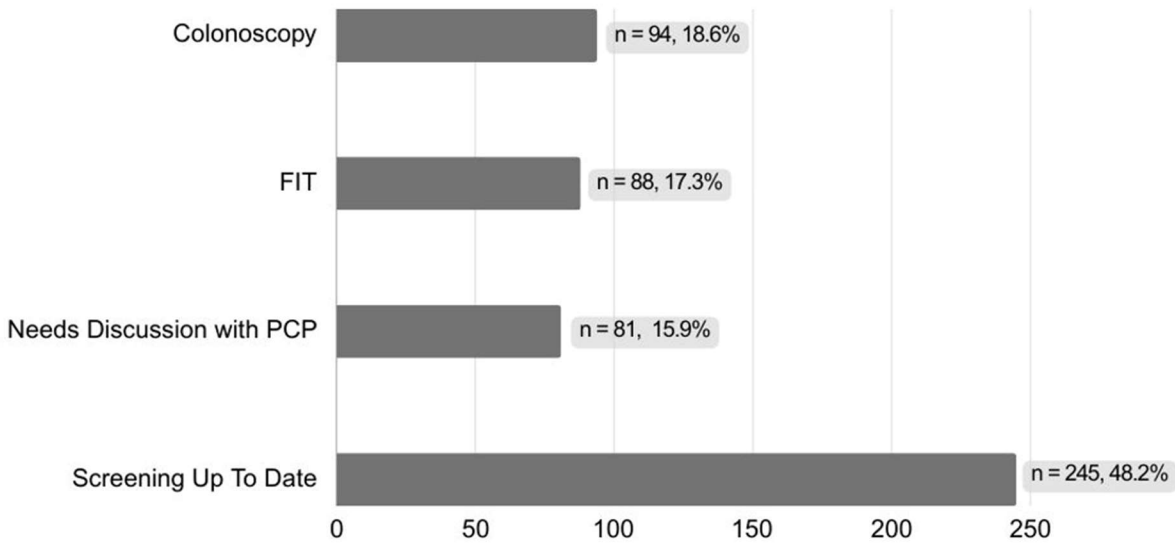
Tables/Figures

Table: Characteristics of the study population, stratified by Wisercare module outcome

Patient Demographics	Total (n=2,036)	Completed Module (n=508)	Incomplete Module (n=173)	Did Not Open Module (n=1,355)	p-value
Age [mean (SD)]	64.0 (8.8)	63.3 (8.3)	64.4 (8.4)	64.2 (9.0)	0.161
Sex [n (%)]					0.840
Male	808 (39.7)	207 (40.8)	67 (38.7)	534 (39.4)	
Female	1228 (60.3)	301 (59.3)	106 (61.3)	821 (60.6)	
Social Vulnerability Index (SVI) [median (IQR)]	21.0 (7.5 – 41.7)	19.8 (7.2 – 39.8)	19.3 (7.4 – 37.3)	21.0 (7.5 – 42.0)	0.483
Race/Ethnicity [n (%)]					0.022
Non-Hispanic White	1085 (53.6)	305 (60.0)	94 (54.7)	686 (51.0)	
Non-Hispanic Black	153 (7.6)	32 (6.3)	8 (4.7)	113 (8.4)	
Hispanic	122 (6.0)	41 (8.1)	9 (5.2)	85 (6.3)	
Non-Hispanic Asian	228 (11.3)	54 (10.6)	17 (9.9)	157 (11.7)	
NH Other	40 (2.0)	7 (1.4)	1 (0.6)	32 (2.4)	
Unknown/Decline to State	398 (19.6)	69 (13.6)	43 (25.0)	273 (20.3)	
Preferred Language [n (%)]					<0.0001
English	1958 (96.2)	504 (99.2)	166 (96.0)	1288 (95.1)	
Other	78 (3.8)	4 (0.8)	7 (4.1)	67 (4.9)	
Primary Insurance Status [n (%)]					0.593
Private/Commercial	1193 (59.3)	310 (62.1)	101 (58.7)	782 (58.4)	
Federal	761 (37.8)	178 (35.7)	67 (39.0)	516 (38.5)	
None/Other	57 (2.8)	11 (2.2)	4 (2.3)	42 (3.1)	
Completed Screening	281 (13.8)	236 (46.5)	9 (5.2)	36 (2.7)	<0.0001

Footnote: p-values indicate comparison between module completion groups

Figure: Frequencies for Wisercare module outcomes among patients who participated in the CRC screening module



Footnote: Module decision is based on patient preferences indicated during module completion or module recommendation based on individual answers provided by patient. Needs discussion categorization includes patients with prior abnormal screening.