

Gastroenterologists utilize the referral for EGD to enhance colon cancer screening more effectively than primary care physicians

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SUMMARY

Background

Colorectal cancer screening rates among patients with upper gastrointestinal symptoms undergoing oesophagogastroduodenoscopy have not been previously established. We hypothesize that gastroenterologists seize this opportunity more frequently than primary care providers.

Aims

To assess colorectal cancer screening rates at the time of direct access oesophagogastroduodenoscopy and gastrointestinal clinic evaluation for upper gastrointestinal symptoms. To compare rates in the 6 months following the oesophagogastroduodenoscopy in both cohorts of patients.

Methods

Retrospective review. primary care physician group: direct access oesophagogastroduodenoscopy ($n = 247$) vs. gastrointestinal group ($n = 278$). Multivariable regression analysis utilized to assess predictors of screening outcome.

Results

Colorectal cancer screening at the time of referral was 54%. Among the 243 unscreened patients, an additional 29% in the primary care physician group vs. 59% in the gastrointestinal group completed colorectal cancer screening in 6 months of follow-up. Nearly 60% patients evaluated in gastrointestinal clinic for upper symptoms had documented discussion, and 99% of those patients underwent colonoscopy ($P < 0.001$). Gastrointestinal consultation increased the probability of colorectal cancer screening completion eightfold (95% CI 3.69–18.96).

Conclusions

At the time of evaluation for upper symptoms, half of patients were not current with colorectal cancer screening recommendations. Referrals for the direct access oesophagogastroduodenoscopy and, more importantly, the gastroenterology consult represent key opportunities for colorectal cancer screening education and improved compliance.

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INTRODUCTION

Colorectal cancer (CRC) is the third leading cause of cancer and the second leading cause of all cancer-related deaths in the USA.^{1,2} Convincing evidence of reduced CRC incidence and mortality has generated specific screening guidelines.³⁻¹¹ Colonoscopy, flexible sigmoidoscopy, barium enema and fecal occult blood test (FOBT) are the accepted tests recommended by the American College of Gastroenterology, U.S. Preventive Services Task Force (USPSTF) and the American Cancer Society (ACS).¹²⁻¹⁴ Despite these recommendations, adherence to CRC screening has been suboptimal. The latest data from the Behavioral Risk Factor Surveillance System (BRFSS) recently reported a 51% national participation rate for all accepted screening methods.² Adherence to CRC screening is even worse in women and continues to lag behind other cancer screening tests.^{15, 16} Given inadequate compliance across the nation, investigators have focused on identifying the interventions and settings to help promote CRC screening in the general population.¹⁷⁻²³

In the past 20 years, there has been an increasing utilization of upper endoscopy.²⁴⁻²⁶ Patients may be referred solely for direct access oesophagogastroduodenoscopy (EGD) for evaluation of upper gastrointestinal (GI) symptoms from their primary care physician (PCP). The most recent American Society of Gastrointestinal Endoscopy survey estimated that 60% of gastroenterologists provide some form of direct access endoscopy, comprising a quarter of practice for gastroenterologists.²⁵ However, some patients with upper GI symptoms are referred to gastroenterology specialists for further evaluation and management. Given persistent low CRC screening rates, the EGD visit and the gastroenterology consultation for upper GI symptoms may represent additional opportunities to improve the compliance with CRC screening. CRC screening likely provides greater clinical value than the EGD, even in patients with upper GI symptoms. For example, the most rapidly increasing upper GI malignancy, oesophageal cancer, has a lifetime risk of 0.8% for men and 0.3% for women compared with a 6% lifetime risk for colon cancer.²⁷

Before we can study the effectiveness of promoting CRC screening at these clinical opportunities or 'teachable moments', we need to estimate the rate of CRC screening compliance in patients undergoing the direct access EGD without an intervening gastroenterology consultation (or PCP cohort) compared with patients undergoing EGD after an intervening gastroenterology

consultation (or GI cohort). The aims of the present study were (i) to determine the rate of CRC screening completion after EGD in patients needing CRC screening at the time of the EGD in the PCP cohort compared with the GI cohort; and (ii) to determine the predictors of CRC screening completion in eligible patients in both cohorts.

MATERIALS AND METHODS

Patient population

A retrospective chart review of the Medical Procedures Unit and Gastroenterology (GI) referral patient population at a large academic hospital in the Midwest was performed after investigational review board approval. To determine the rate of CRC screening in patients undergoing EGD, an initial group of new patients directly referred for EGD and comparison group scheduled following the GI specialty consultation for upper gastrointestinal (UGI) symptoms was identified. This group was subsequently limited to individuals 50 years or older. This age cohort was chosen as both the USPSTF and the ACS recommend CRC screening beginning at the age 50 for asymptomatic individuals of average risk who do not have risk factors predisposing to or a family history of CRC. The final study population was divided into a PCP cohort and a GI cohort.

Definition of the PCP cohort

A cohort of patients, aged 50 and older, undergoing an EGD, between January 2003 and June 2004, for upper GI symptoms, was identified and included if EGD referral was received from a primary care provider at the same academic hospital. Specifically, patients in the PCP cohort were directly referred to EGD without prior consultation with a gastroenterologist. The PCP cohort required a provider at the same academic institution who had followed them for at least 1 year to ensure an adequate computerized medical record. Exclusion criteria for direct access endoscopy included age >80, weight >350 lbs, history of myocardial infarction, stroke, severe congestive heart failure within the last 6 months, COPD with FEV1 1.0, anaemia with haematocrit <20%, artificial heart valve, pregnancy, or coagulopathy/use of anticoagulation treatment. A total of 1076 referrals for the PCP cohort were reviewed, of which 247 patients met inclusion criteria.

Definition of the GI cohort

As a comparison, a second cohort of patients, aged 50 and older, undergoing an EGD for upper GI symptoms, was identified and included if the EGD was scheduled by a gastroenterologist after clinic evaluation. These patients were referred at the discretion of a primary care provider from either the tertiary or private medical community. An abbreviated time period from January 2003 through June 2003 was required to achieve a similar population size in the GI cohort, as was achieved in the PCP cohort. A total of 278 patients were included in the GI cohort.

Ascertainment of eligibility for colorectal cancer (CRC) screening

In both cohorts, patients who were not current with CRC screening at the time of EGD were considered eligible for CRC screening. To screen for CRC, the ACS recommends that individuals 50 years and older undergo FOBT annually, sigmoidoscopy or double contrast barium enema every 5 years or colonoscopy every 10 years.²⁸ Patients were considered current with CRC screening recommendations at the time of EGD if they had completed FOBT in the 12 months preceding EGD, flexible sigmoidoscopy or double contrast barium enema in the 5 years preceding EGD or colonoscopy in the 10 years preceding EGD.¹²⁻¹⁴

Completion of CRC screening in the eligible patients was defined as the completion of FOBT, flexible sigmoidoscopy, double contrast barium enema or colonoscopy in 6 months following the EGD. In the PCP cohort, any CRC screening test occurring within 6 months after the EGD constituted a positive outcome. In the GI cohort, we attempted to isolate the effect of gastroenterologist consultation by limiting the consideration of positive outcomes to those who completed CRC screening tests that were scheduled (but not necessarily performed concurrent with the EGD) at the gastroenterologist clinic visit. CRC screening utilization was determined from the patients' electronic medical record.

Identification of predictors of CRC screening completion

For both cohorts, the following data were derived from the electronic medical record for each patient and used as predictors for CRC screening completion: (i) demographics including gender, age, marital status and

race,^{16, 29-31} (ii) access to health care including insurance type^{29, 31} and referring physician gender, (3) health-related variables including indication for and results of endoscopy according to the EGD report, family history of CRC, adherence to non-CRC cancer screening, adherence to non-cancer-related preventive health services, current smoking or alcohol use and the presence of other co-morbidities.^{16, 29-31} Cohort (PCP or GI) itself was used as an independent predictor of CRC screening completion.

In EGD reports listing more than one indication, the first listed indication was considered to be the primary indication. Findings that were determined significant on EGD were based on previously established criteria. Charles *et al.*³² defined the following as significant: any malignant or premalignant lesion, any stricture of the GI tract whether benign or malignant, and any endoscopic or histological finding that could explain the symptoms or reason for referral and was likely to have an adverse outcome without therapeutic intervention.

Adherence to non-CRC screening was considered if patients completed at least one of the following tests within the last 2 years: prostate-specific antigen testing for men, Papanicolaou (Pap) smear or mammography for women. Adherence to non-cancer-related preventive health behaviour was considered if patients completed at least one of the following at least once: cholesterol testing or dual energy X-Ray absorptiometry (DEXA) scanning.

In the PCP cohort, we hypothesized that a longer relationship with a PCP would increase the probability of CRC screening while more PCP visits would have the reverse effect. Therefore, data on the length of relationship with the referring PCP and the number of PCP visits per year were derived for the PCP cohort.

In the GI cohort, we hypothesized that discussion with the gastroenterologist at the time of gastroenterologist consultation would increase the probability of CRC screening. Therefore, data on discussion of CRC screening documented in the medical record at the time of gastroenterology consultation were derived for the GI cohort.

Statistical analysis

The study's primary outcome was the rate of completion of CRC screening in the 6 months following the EGD in both cohorts in patients who are eligible for CRC screening at the time of EGD. Age was categorized into three age groups: 50-59, 60-69, and 70 or

older. Race was categorized into three groups: Caucasian, African-American and other (including Hispanic, Asian-American or none of the above). Type of health insurance was dichotomized into medicare or non-medicare types.

For the health-related variables, significant findings on EGD, family history of CRC, adherence to non-CRC cancer screening, adherence to non-cancer preventive behaviour, current alcohol use and current smoking were individually treated as dichotomous variables. Co-morbidities were scored using the Charlson Co-morbidity Index with the final score treated as a dichotomous variable, where patients were categorized as having no more than one co-morbid condition or more than one co-morbid condition.³³

Cohort was treated as a dichotomous variable, with patients belonging to either the PCP cohort or the GI cohort.

Each potential predictor variable was first screened for its relationship with cancer screening adherence. The univariate analysis was evaluated using chi-squared test when the predictors were dichotomous or categorical variables and using Student's *t*-test when the predictors were continuous variables. Multivariate analysis was subsequently performed, using a constructed logistic regression model to determine the adjusted odds ratios of each of the predictor variables.

For PCP cohort-specific variables, years followed by PCP were dichotomized into ≤ 9 years or > 9 years. Number of PCP visits per year was dichotomized into less than or equal to nine visits or greater than nine visits. We chose to dichotomize these last two variables to preserve parsimony in the final multivariate analysis.

For GI cohort-specific variables, medical record documentation of CRC screening discussion at the time of gastroenterologist consultation was treated as dichotomous variables.

All statistical analyses were done using STATA 8.0 (Stata Corp., College Park, TX, USA), and statistical significance was set at 0.05.

RESULTS

Patient population characteristics at the time of EGD

Of the 525 individuals undergoing EGD who met inclusion criteria, the mean age was 61 years, the majority was Caucasian (80%), and over half were

women (57%). The reason for EGD referral included: persistent reflux despite treatment (25%), dysphagia (20%), abdominal pain suggesting organic cause (20%), dyspepsia (14%), Barretts screening (11%) and other reasons (7%). Fifty-nine percent had some type of clinical findings relevant to the patients' complaints. Two oesophageal cancers were detected.

Data regarding the non-CRC screening practices and other preventive practices were available in 86% of patients. Seventy-three percent of women had undergone mammography, and 61% had undergone Pap smear. Sixty-seven percent of males had undergone PSA testing, 22% and 80% of the total population had undergone DEXA and cholesterol testing, respectively.

Other demographic and health characteristics are summarized in Table 1. More patients in the PCP cohort had a female referring physician compared with the GI cohort ($P < 0.05$). Patients in the PCP cohort had significantly enhanced adherence to preventive health behaviours for both non-CRC cancer screening ($P < 0.05$) and non-cancer-related preventive testing ($P < 0.05$) compared with the GI cohort. Current alcohol use was also significantly higher in the PCP group ($P < 0.05$).

Current with CRC screening at the time of EGD

Of the 525 patients in the total study population, 284 patients (54%) were current with CRC screening at the time of EGD (68% of the PCP cohort, 41% of the GI cohort, $P < 0.05$) (Table 2). Colonoscopy (81%) was the most common CRC screening tool utilized. Adjusting for other predictors, women were about 50% less likely to be current with CRC screening at the time of EGD ($P < 0.05$). Having a female referring physician, whether in the PCP or the GI, cohort correlated with an increased probability of being CRC screening compliant at the time of EGD ($P < 0.05$). A family history of CRC appropriately correlated with a twofold increased probability of being current with CRC screening at the time of EGD.

Completion of CRC screening after EGD in eligible patients

After excluding the 284 patients who were current with CRC screening at the time of EGD, 243 patients remained eligible for CRC screening. Of these 243, 49% completed any type of CRC screening within

Table 1. Comparison of demographic and health characteristics between direct primary care practitioner (PCP) oesophagogastroduodenoscopy (EGD) referrals and Gastroenterology EGD referrals

Variable	PCP cohort	Gastrointestinal (GI) cohort
Total number	247 (%)	278 (%)
Demographic characteristics		
Gender		
Female	139 (56)	161 (58)
Male	108 (44)	117 (42)
Age		
50–59	129 (52)	144 (52)
60–69	78 (32)	68 (24)
≥70	40 (16)	66 (24)
Marital status		
Married	182 (74)	205 (73)
Single	65 (26)	73 (27)
Race		
Caucasian	205 (83)	217 (78)
African-American	16 (7)	26 (9)
Other	24 (9)	19 (3)
Access to health care		
Insurance type		
Medicare	76 (32)	95 (34)
Non-medicare	163 (66)	183 (66)
PCP gender		
Female PCP	103 (42)	86 (31)
Male PCP	144 (58)	192 (69)
Health-related variables		
Family history of CRC	24 (10)	43 (15)
Adherence to non-CRC cancer screening		
Women	135 (97)	66 (41)
Men	87 (75)	45 (38)
Ever-tested for cholesterol		
Women	134 (96)	71 (26)
Men	104 (96)	53 (19)
Ever-tested for DEXA		
Women	50 (36)	24 (15)
Men	8 (7)	2 (2)
Social history		
Current alcohol use	67 (27)	30 (11)
Current smoker	16 (7)	12 (4)
Co-morbidity index		
0	127 (51)	123 (44)
1–2	71 (29)	102 (37)
3–4	42 (17)	40 (14)
≥5	7 (3)	14 (5)

DEXA, dual energy X-Ray absorptiometry.

6 months after EGD (28% in the PCP cohort, 59% in the GI cohort, $P < 0.05$).

We compared other demographic and health-related characteristics of eligible patients who completed any

type of CRC screening compared with those who did not (Table 3). Patients who completed CRC screening were significantly younger and healthier (with fewer co-morbidities than non-completers). A larger proportion of completers had a female referring physician compared with non-completers (38% vs. 25, $P < 0.05$).

Predictors of colon cancer screening completion

After controlling for other predictors of CRC screening completion, having an intervening gastroenterologist consultation, increased the probability of CRC screening completion in eligible patients eightfold (95% CI 3.69–18.96) (Table 3).

After multivariate analysis, age, referring physician gender and relative good health (as measured by co-existing co-morbidities) remained significant predictors of CRC screening completion in eligible patients in addition to patient cohort (Table 2). Specifically, patient groups 60–69 years old and ≥70 years were less likely to have completed CRC screening compared with the 50–59-year-old group. Female referring physician, either in the PCP or in the GI cohort, increased the probability of CRC screening completion (adjusted OR 2.71, 95% CI 1.31–5.62). Patients with no more than one co-morbidity were more than twice as likely to complete CRC screening as patients with more than one co-morbid condition (adjusted OR 2.31, 95% CI 1.10–4.84).

PCP cohort-specific predictors of CRC screening completion

After controlling for other predictors, there was no effect of duration of PCP relationship or number of yearly PCP visits on CRC screening completion.

GI cohort-specific predictors of CRC screening completion

Gastroenterologists discussed CRC screening in 74% of all patients, including patients who were already current with CRC screening. Gastroenterologists discussed CRC screening with 59% of the patients who needed CRC screening at the time of EGD, 99% of whom completed CRC screening.

Although not our primary aim, we found that the gastroenterologists updated the CRC screening status of 30 additional patients with colonoscopy in those who were previously compliant with CRC screening by other modalities.

Variable	Current with CRC screening	Not current with CRC screening	Adjusted odds ratio	95% CI
Total number	282	243		
Demographics				
Gender				
Female	152	148	0.55*	0.37–0.83*
Male	130	95	–	–
Age				
50–59	143	130	–	–
60–69	90	56	1.47	0.91–2.37
≥70	49	57	0.59	0.30–1.14
Marital status				
Married	212	175	1.13	0.73–1.73
Single	70	67	–	–
Race				
Caucasian	232	197	–	–
African-American	22	20	1.20	0.60–2.38
Other	30	24	0.86	0.46–1.59
Access to health care				
Insurance type				
Medicare	96	80	1.60	0.92–2.77
Non-medicare	186	163	–	–
Doctor gender				
Female PCP	113	76	1.63*	1.09–2.42*
Male PCP	169	167	–	–
Health-related variables				
Family history of CRC	38	29	1.30	0.74–2.28
Adherence to non-CRC Screening	204	119	2.61*	1.56–4.37*
Ever-tested cholesterol/DEXA	219	148	1.21	0.70–2.10
Social history				
Current alcohol use	97	75	1.12	0.73–2.10
Current smoking use	67	64	0.90	0.57–1.40
Co-morbidity Index				
0 or 1	192	162	–	–
>1	90	81	0.74	0.49–1.13
Cohort				
PCP	169	78		
GI	113	165		

Table 2. Comparison of demographic and health-related characteristics of patients who were current with colorectal cancer (CRC) screening at the time of oesophagoduodenoscopy (EGD) compared with patients who were not current with CRC screening at the time of EGD

DISCUSSION

Despite overwhelming evidence of reduced CRC-related mortality through current screening practices, CRC screening adherence continues to be insufficient. Our baseline CRC screening compliance at the time of EGD referral compares with the latest national data with only 54% of patients compliant with CRC screening. In our population, we found that previous adherence to non-CRC-related cancer screening tests correlated positively with being current with CRC screening at the time of EGD. These findings confirm multiple previous studies demonstrating that mammography, Pap smear

and PSA utilization within the past year are associated with an improved CRC screening.^{34–37} Generally, these associations may be explained by patient motivation and increased interactions with a health provider. Additionally, having a female physician was associated with an increased prevalence of CRC screening at the time of EGD and increased CRC screening completion in the 6 months afterward. This is the first time this association has been described in the CRC screening literature. Physician recommendation had been cited as a major factor influencing a patient's decision to undergo CRC screening; however, prior to the current study, this association had not been linked to a specific

Table 3. Comparison of demographic and health-related predictors of patients eligible for CRC screening at the time of oesophagoduodenoscopy (EGD) and completed CRC screening compared with eligible patients who did not complete CRC screening at the time of EGD

Variable	Completed CRC screening	Did not complete CRC screening	Adjusted odds ratio	95% CI
Total number	120	123		
Demographics				
Gender				
Female	77	71	1.28	0.67–2.46
Male	43	52	–	–
Age				
50–59	74	56	–	–
60–69	22	34	0.28*	0.12–0.65*
≥70	24	33	0.32*	0.11–0.095*
Marital status				
Married	92	83	1.45	0.72–2.93
Single	28	39	–	–
Race				
Caucasian	92	105	–	–
African–American	13	7	2.11	0.69–6.44
Other	15	11	1.49	0.54–4.03
Access to health care				
Insurance type				
Medicare	37	43	1.17	0.47–2.89
Non-medicare	83	80	–	–
Doctor gender				
Female PCP	45	31	2.71*	1.31–5.62*
Male PCP	75	92	–	–
Health-related variables				
Family history of CRC	67	76	–	–
Adherence to non-CRC Screening	19	10	2.41	0.87–6.64
Ever-tested cholesterol/DEXA	59	60	0.87	0.39–1.98
Social history				
Alcohol history	75	73	2.25	0.91–5.56
Smoking history	32	43	0.71	0.35–1.43
Smoking history	28	36	0.81	0.40–1.68
Co-morbidity index				
0 or 1	73	89	2.31	1.10–4.84
>1	47	34	–	–
Cohort				
PCP	22	56	–	–
GI	98	67	8.36	3.69–18.96*

physician gender.^{19, 20, 22, 23, 38–41} Weitzman *et al.*²³ demonstrated how persistent recommendations and a strong personal directive from a doctor facilitated FOBT and flexible sigmoidoscopy use, even over-riding reluctance to screening. Data from the gynecologic and primary care literature mirror our findings for non-CRC-related cancer preventive measures and have demonstrated that patients of female physicians were more likely to undergo breast and cervical cancer screening than patients of male physicians.^{42, 43}

Interestingly, women were less likely to be current with CRC screening at the time of EGD referral and yet were more likely to have undergone Pap smear and mammography. Many reasons exist as to why a woman may not be compliant with CRC screening, such as inadequate understanding of the health benefits screening provides, failure of a physician to recommend the procedure or poor insurance coverage.³⁴ Embarrassment and psychological fear of discomfort associated with the procedure may reduce

CRC screening specifically in the female population.^{34, 44, 45} The gender of the endoscopist performing the procedure may also be a reason for the reduced compliance. Recent studies have shown that 43–48% of women have a preference for gender concordant endoscopists.^{45–47} Menees *et al.*⁴⁵ reported previously that not ensuring a woman endoscopist is an absolute barrier to colonoscopy in 5% of women. Curiously, this negative predictor dissipated after EGD referral. It is possible to speculate that further education and contact with a gastroenterologist may have contributed to an enhanced CRC screening compliance in our female population.

Forty-six percent of patients referred for EGD were not current with CRC screening at the time of EGD referral. Of these patients, an additional 49% of patients needing CRC screening completed CRC screening within the 6 months after EGD. Predictors associated with an increased likelihood of CRC screening completion included an intervening gastroenterologist consultation prior to EGD (GI cohort), having a female referring physician (either PCP or gastroenterologist), being younger (<60) and healthier (i.e. fewer co-morbidities). In both cohorts, older patients and those with more co-morbidities were less likely to undergo CRC screening. However, this finding of lower compliance with an increasing age is contrary to most studies, which report lower compliance in younger individuals (those <65) with peak adherence at the age 75.⁴⁸ Health status has not consistently correlated with CRC compliance in the literature. In our study, the significant association between having more than one co-morbid condition and decreased probability of CRC screening suggests that clinical and patient decision-making may take into account the relative benefit of CRC screening in light of co-existing conditions that may also require diagnostic or therapeutic interventions.

Our study is the first to document the impact of gastroenterologists on CRC screening compliance. In the GI cohort, gastroenterologists discussed CRC screening in at least 74% of patients referred for a clinical concern unrelated to CRC. However, gastroenterologists documented the CRC screening discussion in only 59% of patients in the GI cohort who needed CRC screening at the time of consultation. Despite the financial incentive for the endoscopist to promote colonoscopy, our data indicate substantial missed opportunities to educate patients, particularly given CRC screening utilization after the documented discussion exceeded 98%

in eligible patients. Clearly, gastroenterologists could achieve a higher rate of CRC screening by ensuring a discussion with their patients regardless of the initial clinical indication for consultation.

In evaluating cohort differences in CRC screening prevalence, patients in the PCP cohort had a higher baseline rate of CRC screening compliance compared with patients in the GI cohort. Similarly, adherence to non-CRC-related cancer screening and non-cancer-related preventive health recommendations was higher in the PCP cohort compared with the GI cohort. Taken together, the data suggest that patients in the GI cohort are underconsumers of preventive services in general. Therefore, the 59% CRC completion rate in the GI cohort compared with 28% completion in the PCP cohort is all the more remarkable and demonstrates the great impact of specialty consultation in improving CRC screening adherence.

Despite these improvements, the rate of CRC screening completion in our population remains suboptimal. In our population, only half of the patients requiring CRC screening underwent screening within 6 months of EGD. Although CRC screening completion in the GI cohort exceeds the national average, we should aim for a higher rate of completion than we have demonstrated. Given the acceptance of endoscopy in our population, the EGD experience, and particularly, the pre-EGD evaluation by gastroenterology, each represents a teachable moment for educating patients about the risk of CRC and the benefits of screening.

Our study has several potential limitations. First, our study was retrospective; therefore, documentation is limited regarding the substance of any physician discussion or recommendations about CRC screening. Secondly, the prevalence of CRC screening in our primary care population was higher than the nationally representative BRFSS database. This may reflect temporal trends towards the increased CRC screening utilization in general. Further, patients followed at an academic centre may not reflect the community setting regarding the CRC screening. The generalizability of our results may be limited by a demographically homogeneous study population.

CONCLUSION

Patients referred for diagnostic EGD are not adequately screened for CRC. Fortunately, an additional 50% of unscreened patients completed CRC screening 6 months following the EGD with the majority derived

from the unscreened population seen in office consultation. Since almost 60% of patients referred for GI consult were not current with CRC screening, gastroenterologists can continue to take an advantage of 'teachable moments' for CRC screening during the visit for an unrelated patient complaint. Their CRC screening discussion with non-compliant patients, specifically with women, significantly impacts patients' future CRC adherence. Both the EGD experience and, more

importantly, the gastroenterology consult represent a crucial setting for CRC screening education and an enhanced compliance.

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