Colorectal cancer screening: Physician recommendation is influential advice to Marylanders

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Abstract

Background. In comparison to the United States, Maryland is facing a significantly higher burden of colorectal cancer incidence and mortality. The primary objective of this study was to determine the predictors of colorectal cancer screening use in Maryland.

Methods. We performed secondary analyses on Maryland Cancer Survey 2002 data from 2994 respondents to investigate important predictors for individual colorectal cancer screening tests. CRC screening outcomes were defined as (1) FOBT within the past year, (2) sigmoidoscopy within the past 5 years, or (3) colonoscopy within the past 10 years.

Results. We found that clinician recommendation for a screening test is the best predictor in both age categories (50–64 years and 65+ years); it is a very strong indicator and consistently improves the odds of use by a factor of at least 8 for any screening test.

Conclusions. There remains a great need for improved colorectal cancer screening in Maryland. According to our results, it is clear that the most influential way to improve overall colorectal cancer screening for each test and both age groups is to increase clinician recommendation for these tests.

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Keywords: FOBT; Sigmoidoscopy; Colonoscopy; Colorectal cancer screening; Colon cancer screening

Introduction

Colorectal cancer (CRC) is the second most common fatal malignancy in Maryland [1]. According to the Maryland Cigarette Restitution Fund's 2003 Annual Cancer Report, 2778 new CRC cases were diagnosed and 1158 deaths due to CRC were recorded in Maryland during 2000. In comparison to the United States, Maryland is facing a significantly higher burden of CRC incidence and mortality. Effective CRC screening procedures allow for the detection and removal of precursor lesions and facilitate earlier identification of malignancies at stages that are more amenable to treatment [2,3]. The burden of CRC can be reduced by increased colorectal cancer screening and adherence to guidelines such as those issued by the American Cancer Society (ACS) [4]. For average risk individuals ages 50 years and older, the ACS lists the following as acceptable options for CRC screening: (1) annual fecal occult blood test, (2) flexible sigmoidoscopy every 5 years, or (3) colonoscopy every 10 years with the caveat that completion of timely fecal occult blood test and sigmoidoscopy is preferred over the individual tests alone. In practice, however, the tests are conducted in different settings and at different times.

According to 2001 BRFSS results for Maryland, 44.4% of residents 50 years and older reported FOBT use within the past 2 years and 52.2% reported ever having had a sigmoidoscopy or colonoscopy [1]. Fifty-eight percent of Maryland Cancer Survey 2002 (MCS) responders 50 years

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of age or older reported ever having had a sigmoidoscopy or colonoscopy [5,6]. This indicates that at least 42% of residents age 50 or older have not been screened by a method that visualizes the colon. The primary objective of this study was to determine the predictors of CRC screening test use among Marylanders 50 years or older. Additionally, we sought to assess and quantify the outstanding need for CRC screening by individual CRC test and age.

Background

Studies have previously shown an association between many factors and CRC screening. The literature suggests that age and sex influence screening behavior. Thomas et al. found peak compliance for annual FOBT to be around age 70 with lower screening seen among the youngest (55 years or younger) and the oldest (80 years or older) [7]. Lemon et al. found that men aged 65–74 were more likely to be currently CRC screened than men aged 50–64 [8]. Women perceive themselves to be at lower risk for CRC than men, as do their healthcare providers [9]. This may lead to differences in screening adherence between males and females. Race may also play a role in CRC screening. Escarce et al. demonstrated that after adjusting for age and sex, White elderly persons are significantly more likely than Black elderly persons to receive sigmoidoscopy or colonoscopy, a difference not entirely accounted for by access to health care [10]. Studies also propose that there may be differences in CRC screening practices in urban and rural settings [11]. Rural residents may have less access to the facilities, instruments, and trained physicians needed for CRC screening. Health status may also influence the utilization of preventive health practices. Data indicates that breast and cervical cancer screening rates decrease as comorbidity increases [12]. This same effect may exist for CRC screening.

Health insurance coverage and access to health care have been shown to be associated with CRC screening participation [8,11]. However, a study in Washington State concluded that use of CRC screening tests did not substantially change once Medicare coverage was available [13]. This and other literature reinforce that medical coverage alone is not enough to effectively increase CRC screening utilization. In studying factors associated with screening sigmoidoscopy among general medicine patients, Lewis and Jensen found that patients were five times more likely (OR = 5.02) to get a sigmoidoscopy if a clinician had advised it [14]. Holt concluded that recommendation and demonstration of concern by a physician may be the primary motivating factors in screening compliance [15]. Similarly, McCarthy and Moskowitz noted evidence that 50–75% of patients offered screening sigmoidoscopy will accept [16]. Unfortunately, primary care physician recommendations for CRC screening have been shown to be inconsistent and inappropriate [17]. Knowledge of CRC and the availability of screening can also be implicated in compliance [9]. Furthermore, family history of CRC, non-smoking status, and higher education have all been found to be associated with higher levels of screening [8].

Methods

Data source

The Maryland Cigarette Restitution Fund, created in 2000 with tobacco settlement money by the Maryland State Legislature, established the Cancer Prevention, Education, Screening, and Treatment (CPEST) Program under the Center for Cancer Surveillance and Control at the Department of Health and Mental Hygiene (DHMH). The Surveillance and Evaluation Unit of the CPEST Program commissioned the MCS, a population-based, random digit dial, computer-assisted land line telephone interview utilizing list-assisted disproportionate stratified (urban/rural) sampling. The MCS was conducted by a research team in the Department of Epidemiology and Preventive Medicine at the University of Maryland School of Medicine in Baltimore. The survey asked questions about cancer screening practices, knowledge of cancer and cancer screening, and cancer risk behaviors for selected cancers among English-speaking Marylanders age 40 and older residing in private residences. A total of 5071 interviews were completed from 84,172 phone numbers called. The Council of American Survey Research Organizations response rate was 38.4% (completed interviews/[known eligible + presumed eligible]) [5]. The completion rate (completed interviews/known eligible) was 65.4%.

Design

We obtained the MCS data set [6] and performed secondary analyses to investigate CRC screening usage in accordance with ACS screening guidelines for fecal occult blood test (FOBT), sigmoidoscopy, and colonoscopy. The three screening tests were evaluated independently and respondents reporting use of more than one test were counted more than once. Survey questions did not allow a dual response to sigmoidoscopy and colonoscopy use, however. Several distinct factor groups were considered and evaluated as contributors to CRC screening: (1) demographics [age, sex, race, Hispanic ethnicity, marital status], (2) socioeconomic status [urban/rural residence, education, income], (3) health status [self-reported health status], (4) health behaviors [current smoking status, alcohol consumption, body mass index (BMI)], (5) personal cancer predictors [level of concern about cancer, family history of CRC, knowledge of CRC screening], and (6) health system predictors [clinician recommendation for screening test, usual source of care, health insurance, inability to receive needed medical care]. Institutional Review Boards of the