

# Promoting Early Detection Tests for Colorectal Carcinoma and Adenomatous Polyps

## *A Framework for Action: The Strategic Plan of the National Colorectal Cancer Roundtable*

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**BACKGROUND.** The purpose of the current study was to provide health professionals, professional organizations, policy makers, and the general public with a practical blueprint for increasing the practice of screening for colorectal carcinoma (CRC) and adenomatous polyps over the next decade. The National Colorectal Cancer Roundtable (NCCRT) was founded in 1997 by the American Cancer Society and the Centers for Disease Control and Prevention to provide strategic leadership, advocacy, long-range planning, and coordination of interventions targeted at reducing the disease burden of CRC through education, early detection, and prevention. The NCCRT and its three workgroups include CRC survivors; recognized experts in primary care, gastroenterology, radiology, colorectal surgery, nursing, public policy, epidemiology, and behavioral science; patient advocates; and representatives of health plans and insurers, government, and other organizations.

**METHODS.** The NCCRT performed a literature review of published and unpublished data related to CRC screening guidelines, compliance, and barriers to adherence, as well as test effectiveness and cost-effectiveness. Members of the three NCCRT workgroups developed summary reports regarding professional education, public education and awareness, and health policy. A drafting committee developed the final strategic plan from workgroup reports, which was reviewed by the entire NCCRT membership, amended, and subsequently approved in final form.

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The following are National Colorectal Cancer Roundtable Member Organizations: Association of State and Territorial Health Promotion and Public Health Educators, Agency for Healthcare Research and Quality, Alliance of Community Health Plans, American Academy of Family Physicians, American Association of Health Plans, American Cancer Society, American College of Gastroenterology, American College of Obstetrics and Gynecology, American College of Physicians-American Society of Internal Medicine, American College of Preventive Medicine, American College of Radiology, American Gastroenterological Association, American Medical Association, American Medical Women's Association, American Society for Gastrointestinal Endoscopy, American Society of Colon and Rectal Surgeons, Association of State and Territorial Chronic Disease Program Directors, Boston Medical Center, Cancer Research Foundation of America, Centers for Disease Control and Prevention, Center for Medicare and Medicaid Services Collaborative Group of the Americas on Inherited

**RESULTS AND CONCLUSIONS.** Although the rationale for population-wide CRC screening is well established, the majority of adults in the U.S. are not currently being screened for CRC. Thus, the nation foregoes an opportunity to reduce CRC-related mortality by an estimated  $\geq 50\%$ . To increase CRC screening rates, the issues of patient and physician barriers to screening, lack of universal coverage, lack of incentives to motivate adherence, and expanded infrastructure must be addressed. *Cancer* 2002;95:1618–28. © 2002 American Cancer Society.  
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This year in the U.S. colorectal carcinoma (CRC) will be diagnosed in an estimated 148,300 adults, and will be responsible for  $> 56,600$  deaths.<sup>1</sup> CRC is the second leading cause of cancer death in the U.S., surpassed only by lung carcinoma. The cumulative lifetime risk of CRC is approximately 6%, and although incidence and mortality rates are higher in men compared with women, CRC is a leading cause of cancer morbidity and mortality in both genders.<sup>2</sup> The risk of CRC rises with advancing age, with 92% of cases of CRC diagnosed in Americans age  $\geq 55$  years.<sup>3</sup> Americans who die of CRC lose an average of 13.4 years of life.<sup>2</sup> Incidence and mortality rates vary both regionally and among ethnic groups, but to our knowledge there is no group in the U.S. in whom CRC is not an important health problem.<sup>4</sup> Individuals with a personal or family history of adenomatous polyps, CRC, familial hereditary CRC syndrome, or inflammatory bowel disease are at increased risk for CRC; however, the majority of CRC cases occur in individuals who have none of these predisposing risk factors.<sup>5</sup> A lower risk of CRC has been associated with greater physical activity, lower consumption of red meat, long-term folate-containing multivitamin supplementation, long-term use of nonsteroidal antiinflammatory medications, hormone replacement therapy, and increased calcium intake<sup>6</sup>; however, the immediate or long-term potential for individual risk reduction through lifestyle modification is uncertain, but also are not likely to be sufficiently effective as a single approach to disease control.

Between 1985–1995, the incidence of CRC declined significantly in men and women (approximately

2.0% per year), with average annual percentage decreases being slightly greater in men than women and considerably greater in whites than blacks. In the period 1995–1998, the overall incidence increased slightly (0.5% per year), which is likely due to increases in screening.<sup>2</sup> CRC mortality rates have been declining and, unlike incidence rates, the overall average annual percentage rate of decline is increasing. In the most recent period, the decline was reported to be similar in men and women (approximately 2.0%), and greater in whites than blacks (Fig. 1).

#### Benefits of Screening

CRC is highly curable when detected early, and the detection and removal of precancerous adenomatous polyps can prevent the disease.<sup>5,7</sup> The National Cancer Institute Colorectal Cancer Progress Review Group predicted that wider use of screening could save  $> 20,000$  lives annually<sup>8</sup>. Even higher benefits, including a 60% reduction in CRC incidence and an 80% reduction in CRC mortality, were estimated from a simulation of CRC screening that assumed 60% compliance with initial testing and 80% compliance with follow-up.<sup>9,10</sup>

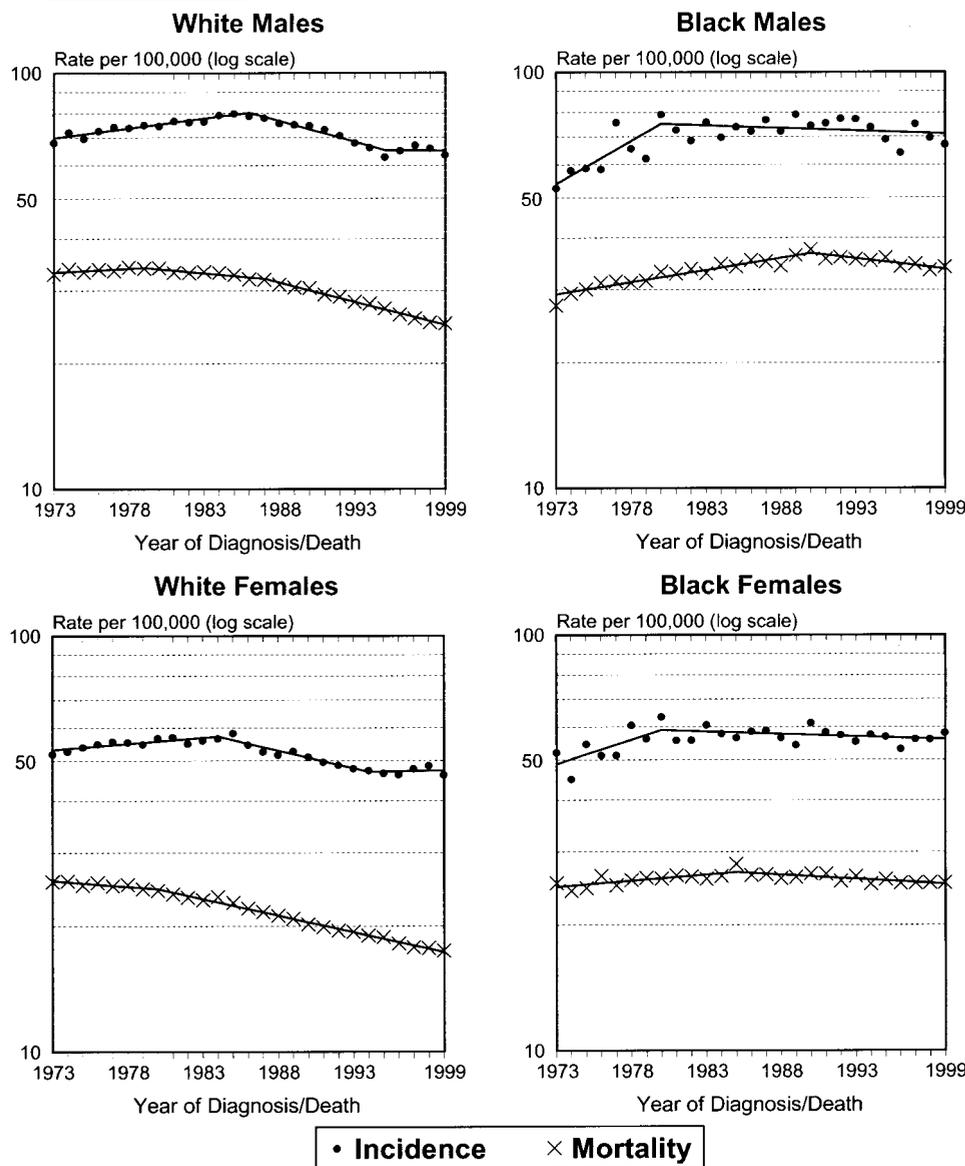
There currently are several options for CRC screening, including the fecal occult blood test (FOBT), endoscopic visualization of the colon and rectum (flexible sigmoidoscopy or colonoscopy), or radiologic visualization with double contrast barium enema (DCBE). These tests differ with regard to sensitivity, cost, complexity, and the possibility of harm associated with screening, but data support the

CRC, Colon Cancer Alliance, Colorectal Cancer Network, Crohn's and Colitis Foundation of America, Inc., Digestive Disease National Coalition Foundation for Digestive Health and Nutrition, Hadassah, Harvard Center for Cancer Prevention, Harvard Medical School, Health and Medicine Council of Washington, Intercultural Cancer Council, Memorial Sloan-Kettering Cancer Center, Minnesota Colorectal Cancer Initiative, National Cancer Institute (National Institutes of Health, Department of Health and Human Services), National Caucus and Center on Black Aged, Inc., National Colorectal Cancer Research Alliance, National Committee for Quality Assurance, Presbyterian Medical Center, STOP Colorectal Cancer Foundation, Society of Gastroenterology Nurses and Associates, Inc., Stony Brook University, United Ostomy Association, University of Minnesota Cancer Center, University of Texas at Houston School of Public Health, and The Wellness Community – National. The following organizations are corporate affiliates: The Eric Davis Foundation, Exact Laboratories, Inc., Hoffman LaRoche, Inc., Olympus America, Sanofi-Synthelabo, and Pharmacia Corporation.

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## SEER Incidence and U.S. Death Rates Colon & Rectum



**FIGURE 1.** Incidence and mortality rates are age-adjusted to the 2000 U.S. standard million population by 5-year age groups. Regression lines are calculated using the Joinpoint Regression Program. Source: Surveillance, Epidemiology, and End Results (SEER) 9 areas and National Center for Health Statistics (NCHS) public use data file, figure VI-1.

efficacy of each test and all are considered to be cost effective by usual standards.<sup>5,11,12</sup> Convincing evidence of the efficacy of early CRC detection has prompted several organizations to establish CRC screening recommendations (Table 1).<sup>5,13,14</sup> Although these guidelines vary somewhat, all endorse regular screening for average risk adults age  $\geq 50$  years.

Despite the acknowledged benefits of screening, studies indicate that the majority of Americans are not being screened for CRC.<sup>15</sup> Results from the 1999 Behavioral Risk Factor Surveillance System (BRFSS) survey found that 20.6% of respondents had undergone

an FOBT within the last year and 33.6% had undergone sigmoidoscopy or colonoscopy within the last 5 years. More than a decade ago, the nation faced a similar challenge of low compliance for breast carcinoma screening. Since that time, remarkable progress has been made in increasing health care professionals' endorsement of screening and women's use of mammography and clinical breast examination. Today, approximately 80% of women age  $\geq 40$  years have undergone a mammogram,<sup>16</sup> with a resulting impact on breast carcinoma mortality rates.<sup>3</sup>

As with utilization of other screening tests, the

**TABLE 1**  
**Current Guidelines-Based CRC Screening Options for Asymptomatic Patients  $\geq$  50 Years at Average Risk**

Organization	DRE	FOBT	Flexible sigmoidoscopy	FOBT and flexible sigmoidoscopy	DCBE	Colonoscopy
U.S. Preventive Services Task Force <sup>14</sup>	Insufficient evidence to make a recommendation	Annual	Recommended but periodicity unspecified	Insufficient evidence for a recommendation	Insufficient evidence for a recommendation	Insufficient evidence for a recommendation
Gastrointestinal Consortium <sup>5</sup>	Recommended with sigmoidoscopy, DCBE, or colonoscopy	Annual	Every 5 years	Annual FOBT and flexible sigmoidoscopy every 5 years	Every 5–10 years	Every 10 years
American Cancer Society <sup>13</sup>	Recommended with sigmoidoscopy or colonoscopy	Annual	Every 5 years	Annual FOBT and flexible sigmoidoscopy every 5 years	Every 5 years	Every 10 years

CRC: colorectal carcinoma; DCBE: double-contrast barium enema; DRE: digital rectal examination; FOBT: fecal occult blood test.

endorsement by a health care professional is likely to be a most important influence on determining whether individuals undergo CRC screening<sup>17-21</sup> (both here and throughout the text, the term *health care professional* refers to physicians, nurses, physician assistants, or other health professionals who play a clinical role in CRC screening). Health care professionals report that they fail to recommend an FOBT because they forget, they think the test is ineffective, or they do not want to inconvenience patients.<sup>19,22</sup> When they report the reasons they do not offer sigmoidoscopy, they cite their own inconvenience, patient discomfort, lack of time, little probability of detecting a significant lesion, insufficient training or experience in performing sigmoidoscopy, and cost.<sup>23,24</sup> Health policy factors such as access to care and costs, office systems, and reimbursement also have been shown to influence compliance with CRC screening.<sup>24</sup>

### The National Colorectal Cancer Roundtable

In 1996, the American Cancer Society (ACS) and the Centers for Disease Control and Prevention (CDC) established the National Colorectal Cancer Roundtable (NCCRT), a national coalition of public, private, and voluntary organizations dedicated to reducing the incidence and mortality of CRC in the U.S. through leadership, strategic planning, advocacy, coordination, and data gathering.<sup>2</sup> Joining the ACS and CDC in sponsoring the collaborative effort was the American Digestive Health Foundation (now called the Foundation for Digestive Health and Nutrition).

### METHODS

The NCCRT formed work groups to focus on three major challenges critical to effective screening programs (i.e., strategies for public education, health care professional education and practice, and health policy).

After an extensive literature review, each group met in December 1998 and presented recommendations to all NCCRT members in March 1999. That meeting produced a draft outline that was revised further and expanded by the workgroup co-chairs and the steering committee of the NCCRT.

To guide the development of a comprehensive strategic plan that would be directed at the national, state, and local levels, workgroups were asked to consider key issues that have been shown to be relevant to the introduction of a cancer screening program. Specifically, successful cancer screening depends on an informed consumer and health care professional, the key role of the primary care clinician, and developing and improving systems that support screening (e.g., access, reimbursement, patient reminders, and quality assurance).

### RESULTS

#### Professional Education and Practice

##### *Scope of the problem*

Understanding health care professionals' orientation to CRC screening is critical to recognizing, characterizing, and eliminating barriers to initiating screening for their patients. It is important to know how health care professionals interact with patients, how they perceive and communicate the significance of CRC risk and the importance of screening, and how they explain the benefits and limitations of screening.

Five CRC screening options currently are recommended, as shown in Table 1. Using any of these options to screen for CRC generally has been regarded as acceptable in the majority of guidelines. Because of current low levels of CRC screening in the U.S. and patient preferences,<sup>25</sup> health care professionals should offer as broad a range of choices as possible. However, some commonly performed methods of CRC screen-

ing and follow-up are not appropriate, such as the collection of a single-sample FOBT during a routine digital rectal exam (DRE) or repeat FOBT after an initial positive test.<sup>26</sup> Single-sample FOBT has been shown to have lower sensitivity and specificity compared with the recommended collection of two samples from three consecutive bowel movements.<sup>27</sup> A more serious concern derives from evidence that the majority of patients who have a positive FOBT on screening do not receive appropriate follow-up.<sup>28</sup> Although health care professionals may be concerned regarding the false-positive rate of FOBT, a positive FOBT in a patient who has undergone screening always should be followed by colonoscopy, or if colonoscopy is not available, DCBE and flexible sigmoidoscopy.<sup>29,30</sup>

Some health care professionals may not be conversant with guidelines, benefits and limitations, testing intervals, and potential complications of CRC screening options, and therefore creative ways to educate health care professionals regarding CRC screening will need to be developed and evaluated.<sup>5,8,17,24</sup> Primary care and relevant specialist training programs should include CRC screening skills as part of resident education, and in continuing medical education.

#### ***Establishing a CRC screening policy***

All clinicians in appropriate settings should work with their local clinics, hospital networks, health insurance networks, and their own office practice systems to adopt an explicit policy concerning CRC screening. Policies should be consistent with published guidelines (Table 1). To be effective, implementation of a national strategic plan for CRC screening must allow for flexibility at the local level.

Health care professionals should use appropriate opportunities with individuals under their care to initiate screening and to address lifestyle strategies associated with the primary prevention of CRC. The individual's preferences regarding CRC screening strategies should be taken into consideration and be part of shared decision making.<sup>25,31,32</sup> Those undergoing screening should 1) be informed about the importance of CRC screening and available CRC screening options, 2) understand that each of the tests has limitations and associated risks, and 3) be instructed regarding the importance of compliance with regular screening and follow-up recommendations. Although the majority of managed care plans offer and reimburse for CRC screening options, some health insurers may provide limited or no coverage, so it is important that discussions with those seeking screening include information regarding which tests are covered and which must be paid for personally.<sup>25,33,34</sup> Clinicians

must be prepared to implement CRC screening policy in the target population either themselves or through referral.

#### ***Identifying individuals at higher than average risk***

Individuals with a personal history of inflammatory bowel disease or a personal or family history of CRC or adenomatous polyps are at increased risk for CRC and may benefit from earlier and more frequent surveillance.<sup>5</sup> This is a two-step process, beginning with risk assessment, followed by the formulation of a personalized plan for surveillance. To identify individuals at increased risk, a complete individual and family history should be taken and updated regularly. The ACS,<sup>13</sup> the multidisciplinary expert panel (the GI Task Force convened by the Agency for Health Care Policy and Research),<sup>5</sup> and the Cancer Genetics Studies Consortium<sup>35</sup> have each issued surveillance and intervention guidelines for individuals at moderate and high risk. A personal or family history of uterine or ovarian carcinoma also is associated with an increased risk of CRC.<sup>36</sup>

#### ***Using reminder systems***

Reminder systems have been shown to increase compliance with cancer screening and are a direct or implicit endorsement of testing by a health care professional.<sup>37-46</sup> Long screening intervals, such as those recommended for endoscopy, especially warrant use of a reminder system because the longer the interval the greater the likelihood of losing track of the date for the next screening exam. Software programs or paper-based reminder systems can be used to identify and contact individuals in a health plan to initiate CRC screening on their 50th birthday and to return at appropriate intervals for follow-up screening.<sup>47</sup> Reminders can be generated at the time of an office visit to prompt clinicians to order CRC screening and likewise can contribute to follow-up for routine screening or heightened surveillance for individuals in higher risk groups.

#### ***NCCRT recommendations for professional education and practice***

Organizations for health professionals should require content regarding CRC screening as a prerequisite for accreditation of educational programs and in the certification and recertification of health professionals. Specifically: 1) residency programs should emphasize CRC screening skills and strategies; 2) professional societies should encourage CRC screening by promoting effective postgraduate educational activities, including conferences, journal articles, newsletter items, and information on web sites; 3) the NCCRT member

organizations will assess the extent to which accreditation requirements and certifying exams currently include an appropriate focus on CRC screening. In areas in which the emphasis on CRC screening is inadequate, NCCRT will work with educational and certifying organizations to remediate deficits. The NCCRT also intends to monitor ongoing health promotion and education research; identify, promote, and publicize interventions that have been shown to increase CRC screening rates; and promote the development and evaluation of new interventions designed to increase screening by health care professionals.

All primary care physicians should adopt an appropriate CRC screening policy based on appropriate guidelines. The NCCRT will support member organizations, including the American Academy of Family Physicians (AAFP), the ACS, the American College of Obstetricians and Gynecologists (ACOG), the American College of Physicians–American Society of Internal Medicine (ACP-ASIM), and the CDC in endorsing CRC screening as an evidence-based recommended practice for all Americans age  $\geq 50$  years and for younger individuals at increased risk.

All primary care physicians should use systems and educational materials that support accurate risk stratification, increase appropriate screening according to that stratification, and promote shared decision-making with patients. The NCCRT will establish a clearinghouse for collecting and disseminating information regarding CRC screening, CRC screening policy, screening program implementation systems, and insurance reimbursement issues. The NCCRT will identify gaps and inconsistencies in existing and new educational materials. The NCCRT will encourage groups representing individuals with high-risk conditions to work cooperatively with the AAFP, ACOG, and ACP-ASIM to disseminate and implement risk stratification tools to assist health care professionals in identifying patients requiring a more intensive screening schedule.

## **Public Education**

### ***Scope of the problem***

The information needs of the public concerning CRC screening are different from those of health care providers. Studies have shown lack of awareness and misconceptions regarding CRC risk are associated with low compliance with screening recommendations.<sup>17,19</sup> Recent reviews of studies of CRC screening adherence identified a number of patient barriers to CRC screening.<sup>19,22</sup>

### ***Implementing public education campaigns to increase awareness***

Qualitative research using focus groups conducted since the publication of the major CRC screening guidelines has shown that people are poorly informed concerning CRC risk and risk factors (including age) and with regard to CRC screening.<sup>20,21,45</sup> The public does not appear to have a clear understanding of the differences between tests or of their relative benefits and limitations. There also is little communication reported between patients and health care providers regarding CRC screening; nevertheless, the public sees health care professionals as important sources of information and motivation for adopting and maintaining routine screening for CRC.<sup>45</sup>

In studies published to date,<sup>19,22</sup> the most frequently mentioned patient barriers to compliance with CRC screening were practical reasons such as conflicts with work or family, inconvenience, lack of interest, and cost. Other barriers were not having any current health problems or symptoms of CRC, anxiety regarding test results, and embarrassment. To our knowledge, the majority of studies of nonparticipation were conducted before publication of recommendations endorsing CRC screening and may not precisely reflect current barriers to participation, although recent research indicates psychosocial factors significantly influence compliance.<sup>17,48</sup>

Public education campaigns are believed to be effective in raising the general level of awareness regarding major health problems. However, these efforts are likely to yield greater results when coupled with well designed behavioral interventions that target specific subgroups, such as those at increased risk, the medically underserved, those with low literacy, and culturally diverse populations. The CDC and the Center for Medicare and Medicaid Services (CMS) have developed a multimedia awareness campaign, “Screen for Life,” that is targeted toward health care professionals and the public.<sup>49,50</sup>

The work group agreed that messages regarding lifestyle modification should be part of a broader cancer prevention message. It also was suggested that creative communication strategies, including humor, might be an effective way to make the topic of CRC prevention more appealing to the public. This concept already is being put to the test through an ACS-Advertising Council collaboration that has produced public service vignettes for television featuring “Polyp Man.”<sup>51</sup>

### ***Promoting routine screening, not specific tests or strategies***

The work group recommended that CRC screening should be promoted rather than particular tests or

strategies. The rationale for this recommendation is that communities across the country vary with respect to preparedness to deliver the full range of recommended tests, and individuals have varying insurance coverage. The workgroup believed that certain key messages have the most potential to increase the public's interest and to motivate people to participate in CRC screening.

#### ***Choosing spokespersons and message delivery channels***

Role models and celebrities such as athletes, politicians, and television personalities appear to be able to influence health behaviors and to foster public awareness of health issues.<sup>52</sup>

Other message delivery sources and channels include professional societies, mass media, federal and state government agencies, advocacy groups, workplace and labor unions, religious organizations, industry (e.g., food manufacturers), insurance companies, managed care organizations, and movie trailers. The Internet has emerged as a powerful tool with which to communicate widely about a range of health topics and could serve as a source of information. Because public service announcements generate no income for stations, they often are shown at off-hours; corporate sponsorships could help defray the costs for prime-time airing of public education messages regarding CRC. Television melodrama or even situation comedies have been used in the past to deliver information concerning health and may be an effective medium for informing the public and increasing interest in CRC screening. A direct approach was taken by Katie Couric of NBC's "Today Show," whose colonoscopy was broadcast to a national audience of approximately 6.7 million people and resulted in what was characterized by the Associated Press as the strongest interest in CRC screening since President Ronald Reagan underwent colonoscopic polypectomy in 1985.<sup>53</sup> Whatever the delivery channel, one overriding principle must be clear: it is essential that there be ongoing efforts to ensure delivery of consistent, accurate, and well tested messages. Furthermore, over time it will be important to periodically reexamine the reasons people give for engaging or not engaging in CRC screening to refine message strategies.

#### ***NCCRT recommendations for public education***

The NCCRT and its member organizations will promote coordinated and targeted public education initiatives, and their evaluation. The NCCRT believes the following key messages are important: 1) CRC is the number two cancer killer; 2) regardless of gender, race, or ethnicity, both men and women age  $\geq$  50 years are at risk for CRC and should be screened. All

adults should be informed about symptoms of CRC and should consult a physician immediately if symptoms develop; 3) men and women with a family history of CRC or adenomatous polyps are at increased risk for CRC. Individuals with multiple affected first-degree relatives, or first-degree relatives affected before age 60 years, should begin regular surveillance before age 50 years; 4) the majority of CRC cases arise from precancerous polyps, called adenomas, which are common in Americans age  $>$  50 years; 5) the majority of CRC cases can be prevented through screening that incorporates removal of adenomas; 6) CRC identified by screening is more likely to be diagnosed at an earlier stage and more likely to be curable than CRC identified at the time of detection of symptoms; and 7) CRC often has no symptoms.

#### **Health Policy**

##### ***Scope of the problem***

Despite the promulgation of guidelines by influential organizations and the federal government's approval of Medicare coverage for CRC screening, screening rates remain low, suggesting that more new policy initiatives are required. Third-party payers have been shown to be influential with providers and to influence screening rates, especially when the managed care group sends reminders and educational materials directly to the consumer.<sup>33</sup> Health plans that offer and pay for screening should be recognized for integrating evidence-based practice into their plan design. However, there remains wide variation in reimbursement, and referral and coverage rules can contribute to having the unintended consequence of discouraging screening.<sup>54</sup> Employers may purchase benefit packages that do not include specific CRC screening or other preventive care services, but in all probability employers are not likely aware of the importance of including a CRC screening benefit. One of the early recommendations of the NCCRT was the development of a business model arguing for the value of including CRC screening in health plans, which has been published.<sup>55</sup>

##### ***Paying for screening and eliminating financial disincentives***

Insurers should be made aware that CRC screening is at least as effective and as cost-effective as mammography in the early detection of breast carcinoma.<sup>5,10-12,56,57</sup> However, a variety of factors contribute to lack of access to CRC screening. Although a majority of health plans cover some CRC screening for persons age  $\geq$  50 years some do not, and it is likely that a smaller percentage of indemnification plans provide coverage. In addition to those individuals without access to

screening are the uninsured (approximately 43.9 million Americans are not insured at all, including 18.1% of all workers).<sup>58</sup>

For those individuals whose insurance covers CRC screening, financial arrangements may discourage health professionals from recommending or performing the tests. These include plans in which screening and follow-up are capitated, time-consuming referrals to specialists are required, choice is limited (the FOBT may be a reimbursable method but not flexible sigmoidoscopy), or reimbursement may be so low that it discourages screening.<sup>54</sup> Some health care professionals also may have underlying concerns regarding an individual plan's monitoring of their referral and testing patterns, which may be focused both on the individual provider's performance on preventive health measures but also cost-containment considerations.

Several factors may account for varying insurance coverage practices. Convincing evidence that CRC screening is effective has become available within the past 10 years, and a lag typically occurs between the time that conclusive evidence is published and the time when a practice is widely recommended and then widely adopted.<sup>59–61</sup> The range of CRC screening options also may have led to confusion regarding CRC coverage strategies. Policy makers and insurers may be unfamiliar with current guidelines and perceive that experts have not yet agreed on fundamental aspects of CRC screening, not recognizing there is broad consensus concerning the value of regular screening beginning at age 50 years. The federal government's decision to cover CRC screening under Medicare beginning in 1998 will likely encourage other insurers to follow suit, just as the trend in state and federal decisions to require reimbursement for mammography stimulated increasing coverage of breast cancer screening.

### ***Emphasizing incentives***

Health professionals should be aware that in 2002 CRC screening is considered to be a "standard of care" practice.<sup>62</sup> Current CRC screening guidelines recommend routine screening at various test specific intervals for asymptomatic persons at average risk (i.e., no CRC symptoms and no relevant personal or family history) beginning at age 50 years.<sup>5,13,14</sup> A comparison of these guidelines for average risk adults (Table 1) reveals that the recommendations are remarkably similar.

The Health Plan Employer Data and Information Set (HEDIS) is a widely used method of tracking the performance of health plans regarding selected health interventions. This information is gathered for employers, but also is available to the press and research

organizations and is widely distributed to health plan members and providers by health plans and potential members.<sup>63</sup> To our knowledge, CRC screening is not currently part of HEDIS, but the feasibility of its inclusion is being studied. A CRC screening measure reported in HEDIS would be a powerful incentive to both managed care insurers and participating providers to implement measures to increase CRC screening rates. Public information "report cards" comparing the CRC screening rates of competing insurers or provider groups could foster consumer awareness of CRC screening as well as heighten awareness of which providers were committed to screening. More creative incentives have been proposed, including the provision of tax incentives to insurers or even individuals that participate in CRC screening programs. For instance, if screening prior to age 65 years provides protection well into the period after the onset of Medicare coverage, some portion of the savings could be the basis for corporate and individual tax savings.

### ***Enhancing system capacity, assuring quality, and addressing cost***

It is difficult even for well intentioned clinicians to implement CRC screening guidelines on their own because of individual patient-related, practice-related, and capacity-related barriers.<sup>64,65</sup> Primary care and specialist physicians, nurses, physician assistants, and professional office staffs should work together to implement a screening program because no one segment of the provider workforce can carry the entire burden of a national screening policy for CRC. Furthermore, models for provider roles for CRC screening, for which there may be a number of effective alternatives, are a high priority.<sup>66–68</sup> Failure to provide CRC screening to adults age  $\geq 50$  years (or younger individuals at increased risk) puts patients' lives at risk and may constitute grounds for medical-legal action.<sup>69</sup> Establishing systems that enable health care providers to offer screening to patients not only contributes to improved health status but also reduces liability exposure for failure to diagnose CRC during a period when public awareness of the effectiveness of CRC screening is increasing.

Surveillance systems to monitor important aspects of CRC screening are needed and should be implemented at the community, state, and national level, including information regarding insurance coverage, provider and public utilization of screening, and population subgroups currently less likely to be screened.<sup>64,65,70,71</sup> The CDC and the ACS have conducted surveys of screening in the general population and the National Cancer Institute, in collaboration with the CDC and the Center for Medicare and Med-

icaid Services (CMS), recently completed a survey of providers.<sup>72</sup> Surveillance of quality assurance measures and the application of auditing models used for other screening modalities should be adapted for use with performance of CRC screening.

The availability of simpler, less expensive screening and diagnostic tests would make CRC screening more appealing.<sup>73</sup> Promising CRC screening modalities currently on the horizon may include advances such as detection of gene mutations in stool, and virtual colonoscopy.<sup>74-76</sup> However, the public and health care professionals must be strongly encouraged not to postpone screening for CRC when proven testing strategies already are available and are significantly underutilized.<sup>77</sup>

#### ***NCCRT recommendations for health policy***

The NCCRT will encourage all purchasers and health insurance plans to offer adequate reimbursement for the CRC screening strategies recommended in the guidelines in Table 1: the NCCRT will produce a formal report describing the economic, legal, and practical implications of CRC screening; the NCCRT will identify and highlight successful CRC screening initiatives; the NCCRT encourages the National Committee for Quality Assurance (NCQA) to add a CRC screening measure to HEDIS at the earliest opportunity; and the NCCRT will encourage health systems to incorporate tracking systems, reminder systems, and provider incentives to improve CRC screening utilization rates in their members. In addition, the NCCRT will promote CRC Roundtables at the state level, ideally as part of state cancer plans.

#### **Conclusions**

Despite persuasive evidence regarding the value of early CRC detection, screening rates among U.S. men and women are unacceptably low.<sup>78</sup> Public awareness of the importance of CRC screening is increasing, although it remains low, and a significant percentage of primary care providers likewise are not fully informed or prepared to assist patients to assess risk and reach informed decisions or to offer screening routinely. The numerous obstacles include logistical barriers, availability of competent personnel, costs, and insurance coverage that also restrict options. Some of these barriers are overcome more easily than others, and as each is overcome, the potential to reduce CRC pain, suffering, and death increases.

The goal of the NCCRT is the accelerated development of collaborative initiatives that would not be feasible or likely for any member organization to pursue alone. The NCCRT recognizes that the challenge of CRC warrants a comprehensive solution and a mis-

sion-oriented approach. It is a challenge that must be met at the national and local levels, and the NCCRT and similar local assemblies of key organizations can contribute to achieving these national goals more rapidly.

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