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Effectively Communicating Colorectal Cancer Screening Information to Primary Care Providers: Application for State, Tribe or Territory Comprehensive Cancer Control Coalitions

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Abstract

Background—Patients are more likely to be screened for colorectal cancer if it is recommended by a health care provider. Therefore, it is imperative that providers have access to the latest screening guidelines.

Purpose—This practice-based project sought to identify Kentucky primary care providers' preferred sources and methods of receiving colorectal cancer information to improve state comprehensive cancer control provider outreach initiatives.

Methods—Four focus groups were conducted with primary care physicians, nurse practitioners, and physician assistants. Discussion included preferred sources and methods of receiving updated screening guidelines, legislation, and statewide public awareness campaign materials.

Results—Providers ($N = 17$) identified their preferred methods for receiving colorectal cancer information as: routine emails from trusted sources (colleagues, professional societies and research, and advocacy agencies), scientific journals, existing conferences, and the media.

Discussion—When delivering colorectal cancer information to primary care providers, multiple approaches are needed. An ideal partner for dissemination of information is state comprehensive cancer control coalitions, considering their prioritization of colorectal cancer screening and existing networks of partners who were identified as trusted sources.

Translation to Health Education Practice—Assessment of primary care providers' preferred methods and sources of receiving colorectal cancer information informs strategies for practice among comprehensive cancer control coalitions.

BACKGROUND

Colorectal cancer is the second leading cause of cancer incidence and mortality among men and women combined in the United States.[1] In 2011, an estimated 141,210 new cases were diagnosed and 49,380 individuals will die from the disease in the same period.[1] In

Kentucky, the incidence and mortality rates for colorectal cancer are close to 20% higher than the national average. These elevated rates also hold true for specific subgroups in Kentucky including men, women, whites, African Americans, and Appalachian residents.[2] Nationally, Kentucky ranks second in colorectal cancer incidence (54.8 cases per 100,000) and mortality (20.7 deaths per 100,000).[3] Kentucky colorectal cancer screening rates are also suboptimal. In 2010, only 14% of Kentuckians age 50 and over reported having a blood stool test within the past two years; only 64% of adults age 50 and over reported ever having a sigmoidoscopy or colonoscopy.[4] Furthermore, in 2008 when Kentucky residents age 50 and over were asked as to their greatest barrier to colorectal cancer screening, lack of provider recommendation and "not thinking they needed one" were tied for first place at 27%.[5]

The importance of colorectal cancer screening in reducing incidence, morbidity and death from the disease has been well established.[6–8] However, a recent National Institutes of Health Consensus Panel, guided by an Agency for Healthcare Research and Quality Evidence Report, revealed systemic underuse, overuse, and misuse of colorectal cancer screening at the patient, provider, and healthcare system levels.[9,10] Importantly, the evidence report highlighted the lack of discussion between healthcare providers and patients concerning colorectal cancer screening.[11] Repeatedly, it has been documented that the primary influence on patients' uptake of colorectal cancer screening is a healthcare provider recommendation.[12–18]

In light of this research, it is essential that providers have access to the most accurate, up-to-date information on colorectal cancer in order to make appropriate screening recommendations, as well as engage in shared decision making with the patient regarding screening test options. This information should include: clinical screening guidelines for normal and at-risk populations; the benefits and limitations of established procedures as well as new technologies; knowledge of colorectal cancer public awareness campaigns; referral processes for free or low-cost screening programs; and news of any recent colorectal cancer-related legislation. Further, establishing ideal methods for learning about colorectal cancer information, identifying trusted sources and determining the frequency of such information is needed.

PURPOSE

The Kentucky Cancer Consortium (KCC), Kentucky's statewide comprehensive cancer control coalition, received colorectal cancer supplemental funding from the Centers for Disease Control and Prevention's (CDC) Division of Cancer, Comprehensive Cancer Control Branch to be used for implementation of strategies identified in the Kentucky Cancer Action Plan.[19] One of the approved work plan strategies associated with the supplemental funding was to identify effective methods of dissemination of colorectal cancer screening messages and materials to primary care providers in Kentucky. In the past, KCC has attempted to reach out to health care providers with limited success. In an effort to improve effectiveness of future colorectal cancer information dissemination and outreach, KCC decided to query providers as to what communication methods and sources they would prefer in regards to colorectal cancer screening. The purpose, therefore, of this practice-based project was to better understand primary care providers' (i.e., physicians, physician assistants, nurse practitioners) preferred methods for receiving colorectal cancer prevention and screening information including screening guidelines, recent Kentucky-specific legislation, and efforts to launch a statewide public awareness campaign. We also inquired as to preferred sources of the information and how often the information should be distributed. Information gleaned from this line of inquiry serves as much needed baseline data to help inform statewide comprehensive cancer control efforts and establish best practices in cancer information dissemination to primary care providers.

METHODS

KCC asked healthcare provider partner organizations involved in statewide comprehensive cancer control (i.e., Kentucky Medical Association, Kentucky Health Care Improvement Authority, Centers for Rural Health, Kentucky Ambulatory Network, Kentucky Academy of Family Physicians, Area Health Education Centers) to assist with recruitment and local focus group logistics. These organizations, which serve physicians, physician assistants and nurse practitioners, are utilized by the provider community for conferences, publications, continuing medical credit, medical education, practice guidelines, and opportunities to participate in research.[20, 21] Partner organizations were contacted directly through in-person, telephone and/or e-mail correspondence. In response to KCC's inquiry, a Center for Rural Health in western Kentucky offered to assist with two focus groups which were held at a regional hospital during both daytime and evening hours; an Area Health Education Center in central Kentucky invited the project team to conduct a focus group during their regional conference at a local high school; and an osteopathic medical school instructor assisted with the eastern Kentucky focus group held at a regional hospital. While we received one explicit declination via e-mail from a Center for Rural Health, overall declination was assessed through non-response after our initial, and in some instances, repeated contact with the partner organizations.

KCC developed a one-page flyer for the three partners that was tailored with local contact information and logistics, and was distributed by the partner organizations via e-mail listservs, postal mail, and clinic mailboxes to their constituents and colleagues. As a result of the local partners' recruitment efforts, four regional focus groups spanning the state of Kentucky were conducted in May-June 2009. Participants were compensated with a $150 monetary gift. Each session lasted approximately 1.5 hours and participants traveled an average of 34 miles roundtrip to attend the focus groups.

After participants completed a brief demographic survey, the moderator, who was the same for all groups, initiated discussion by describing the overall purpose of the focus groups; presenting an overview of colorectal cancer disparities in Kentucky using the state cancer registry's 2008 special report on colorectal cancer;[2] and outlining documented facilitators and barriers to colorectal cancer screening from a patient, provider and health care system perspective, as identified in the literature.[12–14,22] With this background, the moderator – following a semi-structured interview guide – then presented participants with three scenarios: (1) 2008 updated colorectal cancer screening guidelines;[23,24] (2) two Kentucky Revised Statutes (KRS) requiring health benefits plans to provide coverage for colorectal cancer screenings and the establishment of a colon cancer screening program within the Department for Public Health to provide screening services to uninsured individuals age 50–64 and others at high risk;[25,26] and (3) the Kentucky Cancer Consortium's plans to launch a statewide colorectal cancer awareness campaign aimed at increasing screening among Kentuckians by prompting patients to talk to their healthcare providers about colorectal cancer screening (Table 1). After each scenario, discussion focused on the providers' reactions to three primary questions: (1) [Related to the described scenario], what are your preferred method(s) of receiving this information?; (2) [Related to the described scenario], from whom would you prefer to receive this information? In other words, who are your trusted sources?; and (3) How often would you like to receive information [Related to the described scenario]? While the questions were designed to be open-ended, the moderator utilized prompts to provide relevant examples of preferred methods and sources, and suggested frequencies of information distribution. The focus group concluded with an opportunity for the participants to provide any additional comments or questions. At each session two note-takers were charged with detailing discussions between the moderator and focus group participants. One note-taker was consistent among all four groups and the second note-taker varied depending upon KCC staff availability.

In addition to attending and moderating the actual focus groups, all three authors independently reviewed and analyzed the focus group notes in order to extract descriptive, thematic information related to primary care providers' preferences for receiving colorectal cancer-related information. The results reported herein were refined through an iterative process of discussion, debate and consensus among the investigative team.

RESULTS

In sum, 17 primary care providers participated in the four focus groups (Table 2). Nine of the 17 providers were women (53%), all participants were non-Hispanic, White (100%), and the average age was 45 years. Professionally, eight participants were physicians (47%), six were nurse practitioners (35%), and three were physician assistants (18%). The providers had an average 15 years of medical experience, excluding school-based training. Eleven participants were in private practice (65%) with the remaining providers practicing in a variety of settings including: a federally-qualified health center, a rural health clinic, a health department, a hospital-based family practice clinic, and medical education/training.

All providers interviewed expressed a great deal of interest in receiving colorectal cancer prevention and screening guidelines, legislative updates and resources related to public awareness campaigns. There was overall agreement within and among focus groups and provider types on preferred methods of dissemination as well as trusted sources. Participants were familiar with the recently revised colorectal cancer screening guidelines; however, none of the respondents had seen the Kentucky Cancer Registry's 2008 special report on colorectal cancer or knew that legislation had passed in Kentucky creating a colorectal cancer screening program and an insurance coverage mandate.

Most preferred methods

Regardless of topic—new colorectal prevention and screening information, legislative updates, or public awareness campaigns – the preferred methods of receiving this information were uniform. Collectively, providers' preferred methods were:

- E-mail from trusted sources
- Scientific journals
- Regional and/or statewide professional conferences
- Media

Respondents emphasized the fact that although e-mail was one of the most preferred methods of communication, if it is sent from an unknown source or entity, it may be ignored or discarded due to the large volume of e-mails they receive. The participants emphasized the importance of e-mails coming from known and trusted sources so that they would pay attention to the content and information. Providers suggested that e-mails be delivered immediately following the announcement (e.g., guideline changes, legislation), and followed-up with periodic reminder e-mails. Providers indicated the preferred frequency of e-mails as once per month and noted that the content of the email should include a brief description of the topic at hand and a web link to more detailed information. E-mail was favored due to its perceived cost effectiveness and timeliness. Further, providers emphasized the need to receive news prior to the public in order to be prepared for subsequent questions from their patients. Preferred scientific journals were those that focused on primary care providers and their practice. The journals specifically mentioned in relation to colorectal cancer screening guidelines were: *Annals of Internal Medicine*, *New England Journal of Medicine*, and *CANCER*. Providers commented that the journals should contain a highlighted section that specifically draws attention to new guidelines. While not a journal per se, participants also mentioned the importance of Medscape (www.medscape. com), Medscape for Nurses (www.medscape.com/nurses) and UpToDate (www.uptodate.com). These websites provide access to a variety of resources such as medical journal articles, MEDLINE abstracts, medical news, major conference coverage, continuing education opportunities, and comprehensive drug information.

In addition to scientific journals and web-based clinical resources, the providers encouraged adding new colorectal cancer information to agendas at both regional and statewide professional conferences. While participants stated that they most often attend their own professional organization's conferences, the most appealing conferences provide continuing education and have low registration fees. Respondents noted that the provider's attention is more focused at a conference than in his/her busy office practice. Providers specifically called for expert speakers to travel to their area of the state which may be geographically isolated, such as the Appalachian Mountains or far western Kentucky, saving them a six to ten hour roundtrip drive to Louisville or Lexington and lost clinic hours.

Providers also emphasized the need for involving the media in promoting both colorectal cancer prevention information as well as new screening guidelines. The emphasis on media speaks to the reach it has on the general public as well as health care providers. Providers also encouraged utilizing patients who have had polyps removed and/or colorectal cancer survivors in media campaigns to promote screening. This would offer an opportunity to tell their personal stories, and also raise awareness among first-degree relatives who may be at higher risk of developing colorectal cancer. Respondents suggested using Katie Couric's colonoscopy video and accompanying educational materials as a potential awareness strategy. Participants also recommended capitalizing on Kentucky "pride" in order to increase cancer screening. Essentially, if patients and providers were aware that Kentucky ranks higher than the national average for colorectal cancer incidence and mortality, they would be catalyzed to recommend and comply with screening.

Most trusted sources

The most trusted sources of information on colorectal cancer prevention and screening for the interviewed providers included:

- Medical colleagues
- Professional organizations / societies
- Research and advocacy agencies

The most trusted source for all the types of colorectal cancer information— screening guidelines, state legislation, and media campaigns—was consistently medical colleagues. In addition to colleagues, the participants highlighted the importance of professional organizations and societies as trusted sources of colorectal cancer information. Locally, this includes the Kentucky Academy of Family Physicians, Kentucky Academy of Physician's Assistants, Kentucky Coalition of Nurse Practitioners and Nurse Midwives, Kentucky Medical Association, and the Kentucky Nurses Association. The American College of Gastroenterology and the national bodies of their respective state professional societies were specifically mentioned as trusted national organizations. Research and advocacy agencies most commonly mentioned during the focus groups, as they relate to colorectal cancer screening information, were the American Cancer Society, Centers for Disease Control and Prevention, National Cancer Institute, and U.S. Preventive Services Task Force.

Information for patients

While not explicitly a discussion point of the focus groups, providers routinely mentioned needing reliable and accurate colorectal cancer information for their patients. For example, providers would like to have educational information readily available in their clinics to provide to patients when they recommend screening. This literature would highlight and reinforce the verbal information providers give to the patients regarding colorectal cancer prevention and early detection. Respondents requested posters for exam rooms as well as handouts for the patients, all including the message that colorectal cancer often has "no symptoms." In addition, participants wanted to include content highlighting patients' adherence to breast and cervical cancer screening, in the form of mammograms and Pap tests, as an example of the importance of colorectal cancer screening. Additional promotional ideas included: a traveling colon display, "Polyp Man" appearances from the American Cancer Society, interactive health kiosks, and electronic flashing freeway signs with health messages.

DISCUSSION

To our knowledge, this is the first project to explore Kentucky primary care physicians', nurse practitioners', and physician assistants' preferences for receiving colorectal cancer prevention and screening information, particularly as it relates to screening guidelines, legislation and public awareness campaigns. A previous study focused on physician and office staff perceptions of barriers to colorectal cancer screening in Kentucky; however, this study utilized Appalachian-based practices and included only one question regarding preferred methods for receiving additional information on colorectal cancer screening.[27] The results presented here suggest that effective dissemination of colorectal cancer information requires multiple approaches that include e-mail, scientific journal articles, professional conferences, and media campaigns. In addition, the information is well-received when delivered periodically by a trusted source such as medical colleagues, professional organizations and societies, and national research and advocacy agencies. Importantly, providers indicated that they would prefer receiving colorectal cancer updates prior to the public to be best prepared for questions they receive from their patients. The results of these focus groups can be used to better focus limited resources on reaching primary care providers with the most current colorectal cancer screening information, with the intention of increasing recommendation of screening to their patients. An ideal partner and venue to disseminate this information is through comprehensive cancer control programs nationwide. Funded by CDC, comprehensive cancer control programs have coalitions that include representatives from state, tribeal and territorial health departments, non-profit organizations, universities, health care provider groups, cancer survivors, and other organizations committed to reducing the burden of cancer—many of whom were identified as trusted sources by focus group participants. Comprehensive cancer control coalitions have expanded collective efforts to increase colorectal cancer screening in recent years in response to the low rates of screening, resulting in high rates of colorectal cancer incidence and mortality.[28] In addition, in 2009, the CDC began a colorectal cancer screening program that has awarded 26 states and tribes with funding to focus on population-level efforts to increase colorectal cancer screening.[29] A portion of these funds is to be used for individual-level provider education and improving systems and environmental changes in clinical offices.[28] Results from our project suggest an opportunity to expand the methods of provider education in these screening programs to include timely e-mails from trusted sources, the lectures of respected colleagues at regularly attended medical conferences and timely inclusion of updated screening information in medical journals. These approaches should be pilot-tested and evaluated in different community, state, tribe, or territorial settings in order to determine what works best in varying practice settings.

Limitations

It should be noted there are several limitations to the breadth and depth of these findings. Most notably, we are limited by the use of a convenience sample of providers recruited by three partner organizations who proactively volunteered to assist KCC with this project. We do not know which recruitment method (i.e., e-mail, mail, clinic mailboxes) was most successful in recruiting providers. It would be reasonable to assume that providers recruited by e-mail, also prefer e-mail as a means for receiving colorectal cancer information;

therefore, the results may be biased by these participants. Additionally, the project budget was limited, allowing for only three to five total focus groups. As a result, it was not possible to ensure equal distribution of provider types, gender, and age within and among provider types, practice settings, racial diversity, and geographic residence. We cannot generalize our results to the larger primary care provider population in Kentucky, nor to the population of providers other comprehensive cancer coalitions may work with in their own communities.

While a perceived imbalance of power among provider types (physicians vs. non-physicians) could potentially play out in focus group discussions, this was not observed in the current project. Instead, we consider the inclusion of multiple primary care provider types a strength of the project. Research suggests nurse practitioners and physician assistants are motivated and willing to promote colorectal cancer screening among their patients.[30] In Kentucky, these non-physician providers—which are recognized as primary care providers by Medicaid—help to alleviate access to care barriers in the state's 81 health professional shortage areas.[31]

As referenced earlier, KCC received colorectal cancer supplemental funding from CDC to conduct this project. The intent of this funding was to focus on improvements in public health practice rather than research-related activities. The funding guidelines influenced the investigative team's decision to keep each focus group to less than ten participants to comply with the Office of Management and Budget (OMB) Paperwork Reduction Act[32] and to forgo audio-recording the four sessions. Lack of focus group transcripts is a noted limitation. Similarly, while the two note takers did an exceptional job documenting the focus group discussions, they may have inadvertently missed pertinent information if more than one person was talking, for example. The moderator, while trying to remain neutral during the sessions, may have also inadvertently influenced providers' responses by providing examples of preferred methods or trusted sources through the use of prompts.

Despite these limitations, the inherent challenges to recruiting community-based providers,[33] and a small project budget, these four focus groups were held in three geographically and socioeconomically diverse regions of the state (i.e., eastern, central, and western Kentucky) and afforded 17 primary care providers from varying professional backgrounds an opportunity to share information in more depth than may have been possible through survey methodology, for example.

TRANSLATION TO HEALTH EDUCATION AND PRACTICE

KCC has had an active statewide Colon Cancer Prevention Committee since 2007. Utilizing results from this practice-based project, the committee is in the process of tailoring strategies and interventions to educate primary care providers with the latest colorectal cancer prevention and control information, as well as the most recent state and national colorectal cancer screening legislation. Funds from the Committee have already been utilized to disseminate Kentucky-specific colorectal cancer screening public awareness materials to local provider offices and clinics to increase ownership and support of the message. The

KCC Colon Cancer Prevention Committee intends to utilize project findings in one or more of the following ways:

Research, synthesize, and collate colorectal cancer-related messages from trusted sources, and supply them to professional organizations for dissemination to their membership as these entities routinely update and maintain their members' e-mail addresses.

Provide expert speakers for participation in regional and statewide professional meetings and conferences, providing continuing education credits. Plenary or breakout sessions could focus on recent colorectal cancer screening information and legislative opportunities.

Collaborate with primary care providers and their staff to facilitate dissemination of best practices to increase colorectal cancer screening. This may include the provision of timely education materials to patients and providers, as well as ready-made reminder/recall resources. The responsibility for tailoring and/or funding these resources would be the KCC Colon Cancer Prevention Committee, through both CDC funding and in-kind partner contributions, which is the foundation of comprehensive cancer control.

Identify and equip primary care providers and other specialists who are willing to speak with their colleagues about colorectal cancer, potentially traveling to geographically isolated communities in the state.

Garner resources to develop a coordinated colorectal cancer screening media campaign that will impact both the public and healthcare providers.

In closing, obtaining a direct assessment of primary care providers preferred methods, sources, and frequency of receiving colorectal cancer information informs strategies that can be implemented and evaluated in practice among comprehensive cancer control coalitions to impact colorectal cancer disparities. Considering that Kentuckians report their most significant barrier to receiving colorectal cancer screening is the lack of provider recommendation, the results of this project are most timely. Practical venues to reach healthcare providers with trusted and accurate colorectal cancer screening information is an essential component of the strategic comprehensive cancer control plan for our state.

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REFERENCES

1. American Cancer Society. Cancer Facts & Figures 2011. Atlanta: American Cancer Society; 2011. http://www.cancer.org/Research/Cancer-FactsFigures/CancerFactsFigures/cancer-factsfigures-2011 [Accessed July 25, 2011]
2. Kentucky Cancer Registry. Special Report: Colorectal Cancer in Kentucky, 2001–2005. Lexington, KY: Kentucky Cancer Registry; 2008.
3. National Cancer Institute. [Accessed February 9, 2011] State Cancer Profiles: Dynamic Views of Cancer Statistics for Prioritizing Cancer Control Efforts in the Nation, States, and Counties. 2011. http://statecancerpro-files.cancer.gov

4. Centers for Disease Control and Prevention (CDC). [Accessed February 9, 2011] BRFSS: Turning Information into Health. 2011. http://www.cdc.gov/brfss
5. Bennett JM, Kanotra S, Redmond J, Reffett S, Thomas-Cox S. Barriers to Colon Cancer Screening in Kentucky. J Ky Med Assoc. 2011; 109(3):55–62.
6. Kahi CJ, Imperiale TF, Juliar BE, Rex DK. Effect of screening colonoscopy on colorectal cancer incidence and mortality. Clin Gastroenterol and Hepatol. 2009; 7(7):770–775.
7. Neugut AI, Lebwohl B. Colonoscopy vs sigmoidoscopy screening. JAMA. 2010; 304(4):461–462. [PubMed: 20664047]
8. Atkin WS, Edwards R, Kralj-Hans I, Wooldrage K, Hart AR, Northover JMA, Parkin DM, Wardle J, Duffy SW, Cuzick J. Once-only flexible sigmoidoscopy screening in prevention of colorectal cancer: a multicentre randomised controlled trial. Lancet. 2010; 375(9726):1624–1633. [PubMed: 20430429]
9. Agency for Healthcare Research and Quality. Enhancing Use and Quality of Colorectal Cancer Screening. 2010. Accessed February 9, 2011http://www.ahrq.gov/clinic/tp/crcprotp.htm
10. Steinwachs D, Allen JD, Barlow WE, Duncan RP, Egede LE, Friedman LS, Keating NL, Kim P, Lave JR, Laveist TA, Ness RB, Optican RJ, Virnig BA. NIH State-of-the-Science Conference Statement on Enhancing Use and Quality of Colorectal Cancer Screening. NIH Consens State Sci Statements. 2010; 27(1):1–31. [PubMed: 20140035]
11. Holden DJ, Jonas DE, Porterfield DS, Reuland D, Harris R. Systematic review: enhancing the use and quality of colorectal cancer screening. Ann Intern Med. 2010; 152(10):W.668–W.235.
12. Klabunde CN, Vernon SW, Marion RN, Breen N, Seeff LC, Brown ML. Barriers to colorectal cancer screening: a comparison of reports from primary care physicians and average-risk adults. Med Care. 2005; 43(9):939–944. [PubMed: 16116360]
13. Zapka JG, Puleo E, Vickers-Lahti M, Luckmann R. Healthcare system factors and colorectal cancer screening. Am J Prev Med. 2002; 23(1):28–35. [PubMed: 12093420]
14. Wender RC. Barriers to screening for colorectal cancer. Gastrointest Endosc Clin N Am. 2002; 12(1):145–170. [PubMed: 11916157]
15. Mandelson MT, Curry SJ, Anderson LA, Nadel MR, Lee NC, Rutter CM, LaCroix AZ. Colorectal cancer screening participation by older women. Am J Prev Med. 2000; 19(3):149–154. [PubMed: 11020590]
16. Wee CC, McCarthy EP, Phillips RS. Factors associated with colon cancer screening: the role of patient factors and physician counseling. Prev Med. 2005; 41(1):23–29. [PubMed: 15916989]
17. Ye J, Xu Z, Aladesanmi O. Provider recommendation for colorectal cancer screening: Examining the role of patients' socioeconomic status and health insurance. Cancer Epidemiol. 2009; 33(3–4): 207–211. [PubMed: 19716780]
18. Coughlin S, Thompson T. Physician recommendation for colorectal cancer screening by race, ethnicity, and health insurance status among men and women in the United States, 2000. Health Promot Pract. 2005; 6(4):369–378. [PubMed: 16210678]
19. Kentucky Cancer Consortium. Kentucky Cancer Action Plan: A Blueprint for Cancer Prevention and Control in our State. Lexington, KY: Kentucky Cancer Consortium; 2011. http://www.kycancerc.org/cancer-action-plan.htm [Accessed July 25, 2011]
20. Rothman DJ, McDonald WJ, Berkowitz CD, et al. Professional medical associations and their relationships with industry: a proposal for controlling conflict of Interest. JAMA. 2009; 301(13): 1367–1372. [PubMed: 19336712]
21. National AHEC Organization. Programs Supporting Health Professionals. 2011 http://www.nationalahec.org/programs/Support-ingHealthProfessionals.asp.
22. Guerra CE, Schwartz JS, Armstrong K, Brown JS, Halbert CH, Shea JA. Barriers of and facilitators to physician recommendation of colorectal cancer screening. J Gen Intern Med. 2007; 22(12):1681–1688. [PubMed: 17939007]
23. Rex DK, Johnson DA, Anderson JC, Schoenfeld PS, Burke CA, Inadomi JM. American College of Gastroenterology guidelines for colorectal cancer screening 2008. Am J Gastroenterol. 2009; 104(3):739–750. [PubMed: 19240699]
24. Levin B, Lieberman DA, McFarland B, et al. American Cancer Society Colorectal Cancer Advisory Group. U.S. Multi- Society Task Force, American College of Radiology Colon Cancer

Committee. Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the U.S. Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology. CA Cancer J Clin. 2008; 58(3):130–160. [PubMed: 18322143]

25. Kentucky Revised Statute. 304.17A-257. Coverage Under Health Benefit Plan for Colorectal Cancer Examinations and Laboratory Tests. 2008
26. Kentucky Revised Statute. 215.540. Definitions for KRS 214.540 to 214.544 – Establishment and limitation of Colon Cancer Screening Program. 2008
27. Kelly K, Phillips C, Jenkins C, et al. Physician and staff perceptions of barriers to colorectal cancer screening in Appalachian Kentucky. Cancer Control. 2007; 14(2):167–175. [PubMed: 17387302]
28. Seeff L, Major A, Townsend J, et al. Comprehensive cancer control programs and coalitions: partnering to launch successful colorectal cancer screening initiatives. Cancer Causes Control. 2010; 21(12):2023–2031. [PubMed: 21086035]
29. CDC. [Accessed February 9, 2011] Colorectal Cancer Control Program. 2011. http://www.cdc.gov/cancer/crccp/about.htm
30. Shaheen NJ, Crosby MA, O’Malley MS, et al. The practices and attitudes of primary care nurse practitioners and physician assistants with respect to colorectal cancer screening. Am J Gastroenterol. 2000; 95(11):3259–3265. [PubMed: 11095351]
31. Kentucky Coalition of Nurse Practitioners and Nurse Midwives. Nurse Practitioners and Nurse Midwives Provide Quality, Cost Effective Care but Barriers to their Practice Decrease Patient Access to Care. 2011 http://www.kcnpnm.org/?page=white_paper.
32. CDC. [Accessed July 25, 2011] Minimize Paperwork Burden and Protect Privacy. 2010. http://www.cdc.gov/od/science/integrity/reducePublicBurden/
33. Asch S, Connor SE, Hamilton EG, Fox SA. Problems in recruiting community-based physicians for health services research. J Gen Intern Med. 2000; 15(8):591–599. [PubMed: 10940152]

Table 1

Scenarios, Questions and Prompts of Semi-Structured Interview Guide

	Scenarios	**Questions**	**Prompts**
Scenario A	The American Cancer Society, Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology as well as the American College of Gastroenterology recently published updated colorectal cancer screening and surveillance guidelines with a focus on colorectal cancer prevention.	Were you aware of these **new guidelines** and the prominent focus on prevention through screening?	N/A
		What are your **preferred method(s)** of receiving up-to-date colorectal cancer prevention and screening information [such as updated screening guidelines, colorectal cancer screening legislation, and public awareness campaigns]?	Textbooks, journal articles, conversations with colleagues, CME opportunities at conferences or online, academic detailers or educational facilitators, mailings such as newsletters, e-mail, text messages, websites
Scenario B	Kentucky Revised Statute 304.17A-257 requiring health benefit plans to provide coverage for colorectal cancer screenings, effective January 1, 2009, in accordance with ACS guidelines. Kentucky Revised Statute 214.540-544 establishing a colon cancer screening program within the Department of Public Health to provide screening services to uninsured individuals age 50 to 64 and others at high risk.	[Related to updated screening guidelines, colorectal cancer screening legislation, and public awareness campaigns], **from whom do you want to receive this information?** Who are your **trusted** sources [for updated screening guidelines, colorectal cancer screening legislation, and public awareness campaigns]?	American Cancer Society, National Cancer Institute, Kentucky Cancer Consortium, medical organizations or professional societies such as Kentucky Medical Association, pharmaceutical companies, the media, insurance companies, local health departments, government, hospitals, etc.
Scenario C	The Kentucky Cancer Consortium plans to launch a colorectal cancer public awareness campaign aimed at increasing screening among Kentuckians wherein patients will be prompted by the awareness campaign to talk with their physicians about colorectal cancer screening.	**How often would you like to receive** colorectal cancer prevention and screening information related to [updated screening guidelines, colorectal cancer screening legislation, and public awareness campaigns]?	Daily, weekly, monthly, quarterly, 2/year, once a year, as soon as there is new information

Table 2

Participant Characteristics by Focus Group

	Central Kentucky (n = 4)	Western Kentucky (n = 6)	Western Kentucky (n = 5)	Eastern Kentucky (n = 2)	Total (N =17)
Physician	1	4	1	2	8
Nurse Practitioner	1	2	3	--	6
Physician Assistant	2	--	1	--	3
Men	1	3	2	2	8
Women	3	3	3	3	9
Average Age	48 years	52 years	37 years	43 years	45 years
Non-Hispanic, White	4	6	5	2	17
Private Practice	2	5	4	--	11
Other Practice Setting	2	1	1	2	6
Average Years of Medical Practice	20 years	22 years	6 years	11 years	15 years