ColonCancerCheck Primary Care Invitation Pilot project

Patient perceptions

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EDITOR'S KEY POINTS

- In 2008, Ontario launched a provincewide colorectal cancer (CRC) screening program, ColonCancerCheck (CCC), offering fecal occult blood testing through family physicians to eligible individuals at average risk. The CCC program recently completed a large-scale project, the CCC Primary Care Invitation Pilot, which tested the technical feasibility of large-scale mailed invitations for CRC screening from family physicians to eligible patients.

- Participants suggested the CCC program send the letter on behalf of the family physician. Other salient suggestions included bolder, stronger letter content and more detailed information; direct mailing of fecal occult blood tests, particularly for those who had previously completed tests; and direct communication of negative results, as it established positive "closure" to the screening experience.

- The first focus group appeared to be more proactive in initiating preventive procedures, while the second focus group appeared to be more reactive (delaying, hesitating, and procrastinating) in health orientation. These observations raise the intriguing question of whether different strategies to promote CRC screening participation should be used for distinct groups defined by their similarities in traits and personality types.

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Abstract

Objective To describe the perceptions of those who received invitations to the ColonCancerCheck Primary Care Invitation Pilot (the *Pilot*) about the mailed invitation, colorectal cancer (CRC) screening in general, and their specific screening experiences.

Design Qualitative study with 6 focus group sessions, each 1.5 hours in length.

Setting Hamilton, Ont; Ottawa, Ont; and Thunder Bay, Ont.

Participants Screening-eligible adults, aged 50 years and older, who received a Pilot invitation for CRC screening.

Methods The focus groups were conducted by a trained moderator and were audiorecorded and transcribed verbatim. The transcripts were analyzed using grounded-theory techniques facilitated by the use of electronic software.

Main findings Key themes related to the invitation letter, the role of the family physician, direct mailing of the fecal occult blood testing (FOBT) kit, and alternate CRC screening promotion strategies were identified. Specifically, participants suggested the letter content should use stronger, more powerful language to capture the reader's attention. The importance of the family physician was endorsed, although participants favoured clarification of the physician and program roles in the actual mailed invitation. Participants expressed support for directly mailing FOBT kits to individuals, particularly those with successful previous test completion, and for communication of both negative and positive screening results.

Conclusion This study yielded a number of important findings including strategies to optimize letter content, support for directly mailed FOBT kits, and strategies to report results that might be highly relevant to other health programs where population-based CRC screening is being considered.

Projet pilote invitant les patients des soins primaires à participer au programme ColonCancerCheck

Ce qu'en pensent les patients

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Résumé

Objectif Décrire les perception des patients des soins primaires invités à participer au projet pilote *ColonCancerCheck* (le *Pilote*) concernant la lettre d'invitation et le dépistage du cancer colorectal (CCR) en général, et décrire leur propre expérience du dépistage.

Type d'étude Étude qualitative à l'aide de 6 séances de groupes de discussion d'une durée d'une heure et demie chacune.

Contexte Hamilton, Ont; Ottawa, Ont; et Thunder Bay, Ont.

Participants Adultes admissibles au dépistage, âgés d'au moins 50 ans et ayant reçu une invitation du *Pilote* pour le dépistage du CCR.

Méthodes Les groupes de discussion, dirigés par un modérateur expérimenté, ont été enregistrés et transcrits mot-à-mot. Les transcrits ont été analysés au moyen de techniques de théorie ancrée dans la pratique, à l'aide d'un logiciel.

Principales observations Les thèmes clés identifiés portaient sur la lettre d'invitation, le rôle du médecin de famille, l'envoi postal de la trousse pour la recherche du sang occulte dans les selles (RSOS) et les autres stratégies pour promouvoir le dépistage du CCR. Plus spécifiquement, les participants ont suggéré que la lettre utilise un langage plus percutant pour capter l'attention du lecteur. Les participants ont souligné l'importance du médecin de famille, tout en souhaitant que les rôles respectifs du médecin et du programme soient clarifiés dans la lettre d'invitation. Les participants étaient d'accord pour que les trousses pour la RSOS soient postées directement aux personnes, notamment à ceux qui avaient déjà bien réussi à effectuer un test avec succès, et ils souhaitaient que les résultats positifs ou négatifs leur soient communiqués.

Conclusion Cette étude a donné lieu à certaines observations importantes, concernant par exemple des stratégies pour optimiser le contenu des lettres, l'appui à l'envoi direct des trousses pour la RSOS et des façons de communiquer les résultats, des suggestions qui pourraient s'adapter à d'autres programmes de santé où on envisage un dépistage du CCR dans la population générale.

POINTS DE REPÈRE DU RÉDACTEUR

- En 2008, l'Ontario a instauré un programme provincial de dépistage du cancer colorectal (CCR), le ColonCancerCheck (CCC) qui, par l'intermédiaire des médecins de famille, offrait aux sujets admissibles présentant un risque moyen un test pour la recherche du sang occulte dans les selles. Le programme CCC a récemment réalisé un projet à grande échelle, le CCC Primary Care Invitation Pilot, dans le but de vérifier la faisabilité technique d'une lettre à grande échelle invitant les sujets admissibles à un dépistage du CCR par l'entremise des médecins de famille.
- Les participants ont suggéré que le programme CCC envoie la lettre au nom du médecin de famille. Parmi les autres suggestions pertinentes, mentionnons une teneur plus percutante de la lettre et une information plus détaillée, un envoi postal direct de la trousse de recherche du sang occulte dans les selles, surtout pour ceux qui avaient déjà effectué des tests, et la communication directe des résultats négatifs puisque cela confirmait la fermeture de l'expérience de dépistage.
- Le premier groupe de discussion semblait plus proactif pour mettre sur pied des mesures préventives, tandis que le second paraissait plus réactif (avec des retards, des hésitations et de la procrastination) en termes d'orientation sanitaire. De telles observations soulèvent une question inattendue, quant à savoir si les stratégies pour promouvoir la participation au dépistage du CCR devraient être différentes selon les caractéristiques et les types de personnalité de différents groupes.

Cet article a fait l'objet d'une révision par des pairs.
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Colorectal cancer (CRC) is the third most common cancer in Canada and the second leading cause of cancer-related death in both men and women.[1] Canadian rates of CRC are among the highest in the world; however, screening rates remain low, especially when compared with screening for other cancers such as breast and cervical cancer.[2] Screening is critical to prevent CRC-related mortality, as early detection is associated with improved expected outcomes. Colonoscopy, flexible sigmoidoscopy, barium enema, and fecal occult blood testing (FOBT) are used in CRC screening, although only FOBT[3-5] and flexible sigmoidoscopy[6,7] have been shown to decrease CRC mortality in randomized controlled trials.

Given these data, organized CRC screening programs are being implemented across Canada and worldwide.[8] In April 2008, Ontario launched a provincewide CRC screening program, ColonCancerCheck (CCC),[9] offering FOBT through family physicians to people at average risk of CRC, and colonoscopy to those at increased risk based on family history. Currently, patients must visit their family physicians to discuss CRC screening and to either obtain FOBT kits or be referred for colonoscopy, depending on their level of risk. At the time of program inception, only FOBT was supported by evidence from randomized trials, and it was the only CRC screening strategy endorsed by the Canadian Task Force on Preventive Health Care as having level I evidence to support its use in people at average risk.[10]

The CCC program recently completed the CCC Primary Care Invitation Pilot (the *Pilot*), which tested the technical feasibility of large-scale mailed invitations for CRC screening before provincewide implementation. Invitation letters were generated by the program on behalf of 102 participating family physicians and sent to all of their eligible patients (aged 50 to 74 years without a history of CRC, a record of recent FOBT in the previous 2 years, or colonoscopy in the previous 5 years). Through the Pilot, approximately 13 000 screening-eligible patients received mailed invitations requesting that they visit their family physicians to obtain FOBT kits or, if appropriate based on family history, referral for colonoscopy. Approximately one-fifth of those who were sent invitations completed FOBT kits within 6 months of the mailing. In earlier work published in *Canadian Family Physician*, we reported results from focus groups (FGs) with screening-eligible Ontarians and from FGs with physicians who did and did not participate in the Pilot.[11,12]

The aim of this study was to describe the perceptions of Pilot invitation recipients about the mailed invitation; their CRC screening experiences, particularly after receiving the invitation; and CRC screening and their thoughts on effective strategies to improve uptake.

METHODS

Six FG sessions, each 1.5 hours in length, were conducted in Hamilton, Ont; Ottawa, Ont; and Thunder Bay, Ont, in September and October 2010. Each FG consisted of 8 to 12 participants, all CRC screening–eligible adults aged 50 years and older who received Pilot invitations for CRC screening. Participants received small honoraria ($75) to cover transportation, parking, and meal costs. Participants read, reviewed, and signed an informed consent form before the FG sessions. The study was approved by the Research Ethics Board at Sunnybrook Health Sciences Centre in Toronto, Ont.

Two FG sessions (FG1 and FG2) were conducted in each city; groups were sampled using records of CCC program FOBT completion after receipt of the mailed invitation. Focus group 1 participants received the mailed invitation and had a negative FOBT result within 6 months. Focus group 2 participants also received the mailed invitation but did not complete a program FOBT within the 6-month post-invitation period. Eligible persons who lived within driving distance of the 3 cities were identified. A random-digit generator determined the order in which the persons eligible for each group (by city) were called and recruited.

The FG sessions were conducted by a trained moderator (P.R.). During each FG session, the moderator asked participants about responses to the mailed invitation, factors that facilitated or prevented screening completion, and, where appropriate, their experiences with completing the FOBT and subsequent events. Participants were also asked about several screening promotion strategies aimed at increasing screening uptake.

The FG interviews were audiorecorded and transcribed verbatim, and analyzed using grounded-theory principles,[13] facilitated by use of electronic software (NVivo 8). The constant comparison method was used. The verbatim text was coded line by line by 2 qualitative analysts (C.G. and J.P.). During this process, the text was divided into "meaning units" and then clustered into broader, more comprehensive meaning categories. Several different thematic categories emerged representing varying attitudes and preferences of participants. The analysts compared their coded themes and recorded instances of agreement and disagreement. A κ statistic was calculated to measure interrater agreement for the coding of each focus group. The coded concepts were then categorized through an iterative analytic process in which categories and concepts were continuously revisited and compared until an internally consistent, refined organization and conceptualization of the data was achieved.[14] During the analyses of the 6 FG sessions, the judgment of 5 investigators (J.T., P.R.,

S.E.M., C.G., J.P.) was that saturation was reached; ie, a point where no further variations were detected in additional analyses of interview responses.

FINDINGS

In total, 58 Pilot invitation recipients participated in 6 FGs across the 3 cities. Thirty-two (55%) were women; the median (interquartile range) age was 60 (60 to 63) years. Overall, 49 (84%) had undergone previous CRC screening (ie, as a result of the mailed invitation or screening before or outside of the Pilot) (**Table 1**). Although the original intent was to compare responses from participants between the 2 FGs, the high prevalence of previous CRC screening (outside the program or before its launch) in the nonrespondent FGs (ie, FG2) precluded meaningful comparative analysis. The κ values comparing the coding of the 2 analysts ranged from 0.84 to 1 across FGs, with an overall value for the combined focus groups of $\kappa=0.95$, showing excellent overall interrater reliability.

Themes relating to the invitation letter including suggestions for improvement, responses to and experiences with the FOBT kit, direct mailing of the FOBT kit, and CRC screening promotion strategies were identified. Below, we summarize findings from the FGs relating to these themes, while **Table 2** provides representative quotes for each theme.

Invitation letter reaction

Receipt of the mailed invitation was modestly influential, as demonstrated by the inability of some respondents to recall the letter and by observations of other respondents that receipt merely added momentum to previously initiated screening processes. For some, the letter provoked unintended reactions including confusion and anxiety, as it was unexpected and "out of sequence" with recent physician interactions.

Some participants readily admitted to procrastination after letter receipt, discarding it without seriously considering its content, or filing and ignoring it. Delays and avoidance sometimes overlapped with confusion about letter content and purpose.

For other participants, the letter clearly raised awareness about screening and about completing the necessary tests with the assistance of their primary care physicians.

Suggestions about changing invitation letter format and content

Variable responses to the use of physicians' names on the invitation were observed. Some participants identified the physicians' names (on the letter and envelope) as the only factor that prevented them from discarding it, while others liked the physician endorsement because they trusted their physicians' advice. Still others clearly detected the letters were not written by their physicians and reported feeling confused and misled. Participants suggested the alternative of sending the letter "on behalf of your physician" to eliminate confusion and further legitimize CCC's role in communication.

Some participants suggested the letter content should use stronger, more powerful language that captured reader attention. For example, it could be highlighted that FOBT is a potentially lifesaving test that is free, painless, and done at home. Some participants wanted detailed CRC information (eg, on risks and disease prevalence), while others wanted further direction to help them choose the appropriate CRC screening test, indicating that the existing wording of the letter was confusing.

Fecal occult blood testing responses and experiences

Patients were motivated to undergo FOBT by personal health factors (screening-eligible age or older; family history of cancer and CRC; symptoms, eg, constipation), social factors (spouse screening or spouse urging; friend or relative cancer diagnosis; employee union reminder), and health system interventions (family physician recommendation; government-sponsored television commercials; receipt of mailed screening invitation).

Barriers to undergoing FOBT included distaste for handling stool, prolonged dietary restrictions, and anticipatory anxiety about possible colonoscopy.

The way test results were communicated affected participants' responses to their screening experiences. Direct communications of negative results (by letter or verbally) were preferred. Conversely, participants were dissatisfied with the frequently used method of *not* confirming negative results ("no news is good news"), as it fails to provide positive "closure" to the screening experience.

Direct mailing of FOBT kit

Enthusiasm for the convenience and time savings of directly mailed FOBT kits was observed, especially in individuals with previous experience completing FOBT. There was a general view that kit mailing would be less effective for "first-timers" and might result in lower rates of appropriate use. Others preferred receiving the kits directly from their physicians.

Screening promotion strategies

A number of strategies not currently used by CCC were mentioned, including use of the Internet (eg, Web-based patient testimonials), e-mail rather than postal mail, and targeting low-response groups such as men. Participants also suggested previously and currently used CCC strategies such as distribution at pharmacies and via family physicians.

Table 1. Characteristics of FG participants: *Percentages do not add to 100% owing to rounding.*

CHARACTERISTIC	HAMILTON FG1 (N = 11)	HAMILTON FG2 (N = 6)	OTTAWA FG1 (N = 10)	OTTAWA FG2 (N = 10)	THUNDER BAY FG1 (N = 11)	THUNDER BAY FG2 (N = 10)	TOTAL (N = 58)
Sex, n (%)							
• Male	7 (64)	2 (33)	6 (60)	4 (40)	5 (45)	2 (20)	26 (45)
• Female	4 (36)	4 (67)	4 (40)	6 (60)	6 (55)	8 (80)	32 (55)
Median (IQR) age, y	65 (61-69)	59 (55-60)	60 (53-70)	65 (59-66)	60 (58-68)	60 (58-66)	60 (60-63)
Working, n (%)							
• Yes	5 (45)	5 (83)	5 (50)	3 (30)	6 (55)	5 (50)	29 (50)
• No	6 (55)	1 (17)	5 (50)	7 (70)	5 (45)	5 (50)	29 (50)
Education, n (%)							
• High school or less	8 (73)	2 (33)	2 (20)	0 (0)	4 (36)	2 (20)	18 (31)
• Some college or university	0 (0)	1 (17)	1 (10)	0 (0)	2 (18)	1 (10)	5 (9)
• Completed college or university	3 (27)	3 (50)	7 (70)	10 (100)	5 (45)	5 (50)	33 (57)
• Unknown	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	2 (3)
Ethnicity, n (%)							
• White	11 (100)	6 (100)	9 (90)	8 (80)	10 (91)	8 (80)	52 (90)
• Native Canadian or aboriginal	0 (0)	0 (0)	0 (0)	0 (0)	1 (9)	0 (0)	1 (2)
• Mixed (black and white)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (2)
• South Asian	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	1 (10)	2 (3)
• Middle Eastern	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	1 (2)
• Asian	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	1 (2)
Type of previous screening,* n (%)							
• FOBT	8 (73)	2 (33)	7 (70)	3 (30)	5 (45)	4 (40)	29 (50)
• Colonoscopy	0 (0)	1 (17)	0 (0)	1 (10)	0 (0)	0 (0)	2 (3)
• FOBT and colonoscopy	2 (18)	0 (0)	3 (30)	4 (40)	0 (0)	1 (10)	10 (17)
• Screened, exact test not known	0 (0)	0 (0)	0 (0)	1 (10)	5 (45)	2 (20)	8 (14)
• None	0 (0)	3 (50)	0 (0)	1 (10)	0 (0)	2 (20)	6 (10)
• Previous screening history unknown	1 (9)	0 (0)	0 (0)	0 (0)	1 (9)	1 (10)	3 (5)

FG—focus group, FOBT—fecal occult blood testing, IQR—interquartile range.
*Patients were asked about any previous screening, not just screening related to the ColonCancerCheck Primary Care Invitation Pilot.

Table 2. Participants' attitudes toward the ColonCancerCheck Primary Care Invitation Pilot

THEME	SELECTED QUOTATIONS FROM FG PARTICIPANTS
Invitation letter reaction	• I don't remember ... I have everything filed and I went through the medical file and I can honestly say that, as far as I know, 100% I did not see this letter. (FG1, Ottawa, Ont) • My doctor for the last 2 years has been mentioning that I should do one of those kits and I'm a procrastinator and I don't go and pick it up. I saw this [letter] and I thought, "Oh yeah, I've got to pick that up." (FG2, Thunder Bay, Ont) • My doctor just said you're at that age and you should go get this done ... he's pretty knowledgeable so I thought, "Yeah, this is a good idea." So when it [the letter] came in the mail, I read the stuff. So it reinforced me. His opinion reinforced the process. (FG1, Thunder Bay) • [It] came out of the blue. I'm wondering why the doctor that ... never talks to you much ... sends ... a letter saying you should come in and talk about ... colonoscopy. I was in a ... state of panic: "What's going on here; what isn't he saying?" (FG2, Thunder Bay) • What threw me off was, "Please call my office for an appointment," because I had just been there and thought, "Who's this letter from, actually?" (FG2, Hamilton, Ont) • [I did] exactly what I do to any mail-out I get, I put it in a little pile ... and never see it any more. (FG1, Hamilton) • I wouldn't have even brought it up to my family physician if I hadn't received the letter. That's what I needed—a trigger. (FG2, Hamilton) • I remember getting it and it was very clear and I acted on it. (FG1, Ottawa)
Suggestions about changing the invitation letter format and content	• If the doctor's name hadn't been on the bottom I'd ... give it a toss. (FG1, Thunder Bay) • The fact that your own doctor's name is on there, makes it a little more personal. (FG1, Hamilton) • [I found it] very confusing that it's coming from my doctor ... [it] should be coming ... from Cancer Care Ontario ... and ... say, "On behalf of your doctor." (FG1, Ottawa) • Put ... in the first paragraph ... [that] it's a simple test that can be done at home. (FG1, Hamilton) • If the letter is going to work, it's got to be more scary ... powerful ... you need to give people something to grab onto at the very beginning like ... that this simple little test could save your life. (FG1, Ottawa) • I like lots of information. There wasn't enough information in this for me. (FG1, Thunder Bay) • I still was wondering how prevalent it [colorectal cancer] was and I was thinking it would be nice to know that ... to know it [screening] was something that would make a difference or not. (FG1, Thunder Bay) • It says I've missed the FOBT ... and then you should have a ... colonoscopy. Now it says if you're at risk ... you really should have [a colonoscopy] but if I'm average do I still get one? (FG2, Thunder Bay)
FOBT responses and experiences	**Motivators to use FOBT** Personal health factors • [I am] getting older ... a few years ago I didn't want to ... but now I do. (FG1, Thunder Bay) • I have family that has colon cancer. (FG1, Thunder Bay) Social factors • My wife wanted me to. (FG2, Hamilton) • [I have] relatives that had cancer ... and my husband's sister died of colon cancer ... so did his father. That's enough ... fear ... for me to do the screening ... going to be safe [rather] than sorry. (FG1, Thunder Bay) • I needed a little push, which I got from my union and I got from this letter. (FG1, Hamilton) Health system interventions • My physician ... directed me to have the stool test. (FG1, Ottawa) • My doctor just gave me this kit, I did the test and ... put it in the mailbox. (FG2, Thunder Bay) • I saw the commercial on TV, so I asked my doctor for the envelope to do the stool test. (FG1, Ottawa) • I can honestly say I would have never have gone if I didn't get this letter ... it was a trigger that reminded me. (FG1, Ottawa) **Barriers to FOBT** • Once you got past the yuck factor ... it was pretty simple. (FG1, Hamilton) • I didn't really like the whole process ... I thought, "That's disgusting." (FG2, Hamilton) • What bothered me more was what I could eat or not eat. (FG1, Hamilton) • It's like a fear thing ... if I do the FOBT and something shows up ... then I have a colonoscopy. (FG2, Hamilton) **Receiving results** • I don't remember getting the results. (FG1, Ottawa) • I thought since I sent in the test that I would get results but then I thought, "Well, maybe my doctor got the results," and since she never ... they never call if it's negative. (FG1, Ottawa) • The first time I had ... [FOBT] done and he [physician] called me into the office to say it was negative and I said, "Well, that's a waste of time." So, this time when I did get [the results] in the letter form, I felt it was better because I wasn't wasting up valuable doctor time. (FG1, Ottawa)

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THEME	SELECTED QUOTATIONS FROM FG PARTICIPANTS
Direct mailing of FOBT kit	• If ... kits are sent ... directly, you'd have a lot more people participating. (FG1, Hamilton) • If it [the kit] would come in the mail, I'd say, "Oh, I got this, I'd better do it." (FG1, Thunder Bay) • If they sent me the kit the first time I wouldn't have done it ... because I've done it once, I'll do it again. (FG1, Thunder Bay) • My doctor gets me all the tests ... more tests than I want already and I don't need this. It's a waste, sending it to me. (FG2, Ottawa)
Screening promotion strategies	Strategies that would be novel to the ColonCancerCheck program • If you use the educational system to get the information out, also you're going to reach the parents of these children that are [minority] ethnic cultures. (FG2, Ottawa) • Gyms and sporting areas. That's big ... getting fit again. Health clubs, gymnasiums ... (FG1, Ottawa) • The Internet. That's what everybody's looking at. (FG1, Hamilton) • What about ... e-mail, with a link to a website that has some testimonials of people that had the test, didn't have the test, what it feels [like]. (FG2, Hamilton) • They are the minority so maybe something specific to get males to go might be [a possible strategy]. (FG2, Thunder Bay) Strategies previously or currently used by program • Oh, maybe part of the medical ... just automatically give you the kit at your yearly medical. (FG2, Thunder Bay) • When you're standing at the pharmacy waiting for your prescription to be picked up, if something like this could be there. (FG2, Ottawa) • If you could have them hand them [FOBT kits] out with the prescriptions, put one in with the prescriptions. (FG1, Thunder Bay) Birthday invitation • Sure, I think that would be a good idea because a lot of people ... reach 50 and they don't realize that that's the time you start all these preventative tests. There's a whole list of things you could do when you turn 50 [that] would be good. (FG1, Thunder Bay) • It kind of smacks of Cracker Barrel ... [a] little cheesy. (FG2, Hamilton)

FG—focus group, FOBT–fecal occult blood testing.

Feedback on specific strategies

Specific feedback was sought for a recent CCC program initiative, an initial invitation letter timed for the 50th birthday of the recipient. Responses were mixed, with some participants indicating support, emphasizing the importance of an invitation at a time in life when people take steps to sustain long-term health. Other participants believed that individuals, primed for a more light-hearted celebration, would find such "invitations" intrusive.

DISCUSSION

Given evidence supporting use of screening invitations,[15] attention has shifted to the content and format of the promotion methods used.[16,17] In this study, the invitation letter was frequently the first systematic, direct communication to the participant on the importance of CRC screening. While the letter's influence appeared modest within the FGs, low levels of screening awareness prevail in Ontario[18-20] and letter content changes could increase uptake. It is notable that direct mailing of FOBT kits and the direct communication of negative testing results was endorsed by participants.

Motivational role of family physicians

Previous work by our group[11] and others,[21-24] as well as the findings of this study, reinforces the important motivational role of family physicians in CRC screening. These findings closely follow "matchup theory," which supports congruence between the product endorsed and the endorser.[25,26] The family physician, according to this theory, constitutes the professional best suited to understanding the screening method and its appropriateness for individual patients. However, in this study, we found the Pilot's approach to conveying the family physician's endorsement (ie, electronic signature and name appearing on the envelope) required modification. Participants suggested the CCC program send the letter on behalf of the family physician. Other salient suggestions included bolder, stronger letter content. While participants varied as to the amount of detailed information preferred (some reported confusion from too much information while others requested more detail), these findings were incorporated into the CCC program by refining letter wording to deliver a single, strong message that urged readers to see their doctors to be screened. The need for more detailed information was addressed by including a separate (detailed) brochure with the letter and by directing readers to the CCC program website. These modifications align with guidelines for invitation letters issued recently by the European Commission.[27]

Direct mailing of FOBT kits

Although the Pilot did not directly mail FOBT kits to individuals, participants supported direct mailing, particularly for those who had previously completed tests. In controlled trials, direct mailing of FOBT kits has had variable results.[28-30] However, organized programs in Finland, the United Kingdom, and Denmark have shown good FOBT uptake (57% to 70%) using direct kit mailing[31-33] and their reported uptake rates exceed that of Ontario (31% in 2008),[18] where direct mailing is not systematically used. Ontario is considering mailing FOBT kits to those who have been screened in the past and who are due for repeat screening—a strategy supported by the findings of this study.

Management of screening results

A key novel finding concerned the management of screening results. Participants appeared motivated by direct communication of negative results, as it established positive closure to the screening experience. In contrast, a commonly used approach (ie, not communicating negative results) elicited fewer favourable responses owing to the ambiguous conclusion of the screening event. This finding supports the recent College of Physicians and Surgeons of Ontario policy statement[34] that even normal results should be reported to the patient if further follow-up (eg, repeat FOBT in 2 years) is required and advises caution to those physicians who use a "no news is good news" policy for reporting results to patients. Our findings and the College of Physicians and Surgeons of Ontario statement follow basic reinforcement theory, in which provisions of reward elicit higher frequencies of target behaviour.[35,36] While the negative results of CRC screening might not be considered a conventional reward, negative results represent an immediate confirmation of health. The screening experience heightens and stimulates the individual's perception of disease risk but he or she is rewarded and reassured by receiving the negative results (positive closure).

Lack of thematic differences represented in the 2 types of FGs

While we defined the 2 FGs in our study according to their responses to the mailed invitation, the analyses yielded no clear thematic differences in attitudes toward CRC screening between the 2 groups. This is likely owing to many participants in the nonrespondent group (ie, FG2) having had previous (outside of program or remote) experience with CRC screening. This "contamination" might represent a form of volunteer bias in that persons who agreed to participate in the FGs were more likely to have had some previous experience with CRC screening.

Psychological differences observed between the 2 types of FGs

Despite our inability to elucidate clear thematic differences between the groups in terms of attitudes toward CRC screening, we observed possible personality and trait differences. Our observations were that the first group (FG1) appeared more proactive (in initiating preventive procedures) while the second (FG2) appeared more reactive (delaying, hesitating, and procrastinating) in health orientation. Others have also linked screening-related attitudes and behaviour to specific traits.[35-38] For example, trait differences in fear and anxiety predicted prostate cancer screening behaviour in men[37] and 3 personality factors (extraversion, conscientiousness, and openness) were associated with reduced perceived cervical cancer screening barriers in women.[38] The differences observed in the current study might be attributable to differences in both trait anxiety and stable personality factors between the 2 groups. These observations raise the intriguing question of whether different strategies to promote CRC screening participation should be used for distinct groups defined by their similarities in traits and personality types. However, further study is still required to better understand these groups and how they might be approached differently to improve response rates.

Limitations

There were several study limitations. The span of time that elapsed between actual receipt of the invitation letter and the FG sessions was approximately 10 months, which could partly explain some of the participants' failure to recall the letter. Furthermore, we assumed that our recruitment strategy would yield more truly screening-naïve patients; however, as noted above, many participants in FG2 had undergone previous CRC screening outside the CCC program. Also, although we endeavoured to ensure adequate ethnocultural representation, our FG participants were predominantly white and spoke sufficient English to participate. Therefore, our findings might not be generalizable to certain groups. Finally, all FG participants had family physicians, which necessarily excludes patients without regular physicians; these "orphan" patients constitute a particularly important target group for future screening promotion efforts.

Conclusion

Our study has yielded potentially important findings. While some themes were identified in earlier work,[11,12] the current qualitative study further refined and clarified themes, specifically about optimizing letter content, supporting directly mailed FOBT tests (targeting previous FOBT users in particular), and providing guidance on optimal result reporting to patients. Finally,

our findings also support an approach to screening promotion that recognizes the need to tailor strategies to specific subgroups of screening-eligible adults. However, further work needs to be done in this area before specific recommendations can be made.

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Contributors

All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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