A qualitative evaluation of strategies to increase colorectal cancer screening uptake

Jill Tinmouth MD PhD FRCPC Paul Ritvo PhD S. Elizabeth McGregor PhD Danielle Claus MPA George Pasut MD MHSc CCFC Ronald E. Myers PhD Crissa Guglietti MA Lawrence F. Paszat MD MS FRCPC Robert J. Hilsden MD PhD FRCPC Linda Rabeneck MD MSc FRCPC

Abstract

Objective To obtain data that could be used to optimize the content and design of the targeted, mailed invitations that Ontario's provincewide colorectal cancer (CRC) screening program plans to use to increase screening uptake; to identify other strategies to increase CRC screening uptake; and to describe the effects of this qualitative work on a subsequent quantitative pilot study.

Design Qualitative study using semistructured focus groups.

Setting Four different Ontario communities.

Participants Six focus groups comprising a total of 62 participants.

Methods Six focus groups were conducted in 4 different Ontario communities. For 3 of the communities, participants were recruited from the general population by a private marketing firm, using random-digit dialing, and received a small honorarium for participating. In Sault Ste Marie, participants were convenience samples recruited from a large primary care practice and were not offered compensation. Responses were elicited regarding various strategies for promoting CRC screening. Findings represent all responses observed as well as recommendations to program planners based on focus groups observations.

Main findings Key themes identified included the importance of receiving a CRC screening invitation from one's family physician; a desire for personalized, brief communications; and a preference for succinct information in mailed materials. Strong support was indicated for direct mailing of the CRC screening kit (fecal occult blood test). Our findings substantially influenced the final design and content of the envelope and letter to be mailed in the subsequent quantitative pilot study.

Conclusion We report strong support from our focus groups for a succinct, personalized invitation for CRC screening from one's own family physician. We have also shown that qualitative evaluation can be used to provide decision makers with pertinent and timely knowledge. Our study is highly relevant to other public health programs, particularly other Canadian jurisdictions planning organized CRC screening programs.

EDITOR'S KEY POINTS

- Colorectal cancer (CRC) screening can reduce mortality but requires broad uptake to be effective. Ontario's provincewide CRC screening program plans to use large-scale targeted, mailed invitations to increase screening uptake. This study sought to solicit feedback on various strategies for promoting CRC screening, including the design content of mailed invitations.
- Participants were generally in favour of concise, individualized communications from their family physicians, although many thought that having the provincial cancer agency logo appear on the envelope of mailed invitations raised privacy concerns, and some believed that using the family physician's name was misleading.
- Participants were also supportive of having fecal occult blood tests directly mailed to them, providing some sort of priming strategy was used to prepare them for the test's arrival.

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Évaluation qualitative des stratégies pour augmenter l'utilisation du dépistage du cancer colorectal

Jill Tinmouth MD PhD FRCPC **Paul Ritvo** PhD **S. Elizabeth McGregor** PhD **Danielle Claus** MPA **George Pasut** MD MHSc CCFC **Ronald E. Myers** PhD **Crissa Guglietti** MA **Lawrence F. Paszat** MD MS FRCPC **Robert J. Hilsden** MD PhD FRCPC **Linda Rabeneck** MD MSc FRCPC

Résumé

Objectif Obtenir des données pouvant servir à optimiser le contenu et la forme des lettres d'invitation que le programme ontarien de dépistage du cancer colorectal (CCR) s'apprête à lancer à travers le province pour augmenter l'utilisation du dépistage; identifier d'autres stratégies pour augmenter l'utilisation du dépistage; et décrire l'effet qu'ont eu les données qualitatives obtenues sur une étude pilote quantitative ultérieure.

Type d'étude Étude qualitative à l'aide de groupes de discussion semi-structurés.

Contexte Quatre collectivités différentes de l'Ontario.

Participants Six groupes de discussion, pour un total de 62 participants.

Méthodes On a tenu 6 groupes de discussion dans 4 collectivités différentes. Dans 3 de celles-ci, les participants, qui avaient été recrutés dans la population générale par une firme de marketing privée par des appels téléphoniques au hasard, ne recevaient qu'une faible rémunération pour leur participation. À Sault Ste Marie, les participants avaient été recrutés par échantillonnage raisonné parmi la clientèle d'une grande clinique des soins de première ligne et ils ne recevaient aucune compensation. Les avis recherchés concernaient les diverses stratégies susceptibles de promouvoir le dépistage du CCR. Les opinions recueillies comprennent toutes les réponses obtenues ainsi que les recommandations des groupes de discussion à l'intention des responsables du programme.

Principales observations Parmi les thèmes clés identifiés, mentionnons l'importance d'être invité à participer au programme de dépistage du CCR par son propre médecin de famille; une préférence pour un texte court et personnalisé; et le souhait que le matériel posté comporte une information succincte. On suggérait fortement que le kit de dépistage du CCR (recherche du sang occulte dans les selles) soit posté directement. Nos observations ont eu une influence considérable sur la forme et le contenu de l'enveloppe et des lettres qui seront envoyées dans une étude pilote subséquente.

Conclusion Les opinions recueillies dans les groupes de discussion sont fortement favorables à une invitation pour un dépistage du CCR qui soit succincte et personnalisée, et qui provienne de son propre médecin de famille. Nous avons également démontré qu'une évaluation qualitative peut être une source de connaissances pertinentes et opportunes pour les responsables de programme. Cette étude est d'une grande pertinence pour d'autres programmes de santé publique, notamment pour d'autres compétences canadiennes qui planifient l'organisation de programmes de dépistage du CCR.

POINTS DE REPÈRE DU RÉDACTEUR

- Le dépistage du cancer colorectal (CCR) peut réduire la mortalité mais il doit être largement utilisé pour être efficace. Le programme ontarien de dépistage du CCR a comme objectif d'utiliser une invitation postée à la grandeur de la province pour augmenter son utilisation. La présente étude voulait obtenir un feedback sur différentes stratégies pour promouvoir le dépistage du CCR, incluant le type de contenu des invitations postales.
- Les participants étaient généralement favorables à des communications individualisées concises de leur médecin de famille, quoique plusieurs jugeaient que la présence du logo de l'agence provinciale du cancer sur l'enveloppe suscitait certaines inquiétudes par rapport à la confidentialité, alors que d'autres croyaient que l'utilisation du nom du médecin de famille portait à confusion.
- Les participants souhaitaient aussi que les kits pour la recherche du sang occulte dans les selles leur soient postés directement, à condition qu'on utilise une quelconque stratégie de présentation pour les préparer a les recevoir.

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 the world and the fourth leading cause of cancer-related death.[1] Screening is critical to prevent CRC-related mortality, as early detection is associated with improved prognosis. Colonoscopy, flexible sigmoidoscopy, barium enema, or fecal occult blood testing (FOBT) can be used to screen for CRC, although only FOBT has been shown to decrease CRC incidence and mortality[2-4] in randomized controlled trials.

Fecal occult blood testing is easy, safe, and economical (ie, inexpensive and requiring minimal human resources),[5] while colonoscopy or flexible sigmoidoscopy are more costly, risky, burdensome, resource-intensive, and not as well supported by the evidence. Among the 14 countries of the International Cancer Screening Network that have implemented organized national or regional CRC screening programs, 13 use FOBT or another stool-based test, while only Norway uses endoscopy (ie, flexible sigmoidoscopy).[6,7]

Recently, Ontario launched an organized provincewide CRC screening program, ColonCancerCheck. Through this program, FOBT is offered to those at average risk and colonoscopy is offered to those at increased risk based on family history. Family physicians play a critical role in the program and are responsible for patient outreach and education, initiating screening activities, and receiving and acting on results.

Canadian CRC screening rates are low. In 2008, just 40% of eligible Canadians were up-to-date with CRC screening using FOBT or endoscopy, and only 23% were up-to-date using FOBT alone.[8] Several strategies have been used to increase CRC screening uptake. According to a systematic review by the US Task Force on Community Preventive Services, client reminders (letters, postcards, or telephone calls to alert clients to obtain cancer screening) are effective.[9] ColonCancerCheck plans to issue mailed, targeted CRC screening invitations to eligible Ontarians, inviting them to contact their family physicians to arrange CRC screening. The most effective design and content of such targeted invitations, however, are unknown.

The aims of our study were to inform the content and design of a mailed invitation to participate in a CRC screening program, to identify additional strategies that might increase CRC screening uptake by eligible persons, and to apply the results from this qualitative work to a subsequent quantitative pilot study of mailed, targeted CRC screening invitations.

METHODS

We conducted semistructured focus groups (FGs) to explore the attitudes, beliefs, and emotional and behavioural responses of screening-eligible adults to possible materials (envelopes, letters, informational materials, FOBT kits) and strategies being considered for a large-scale mailed, targeted CRC screening invitation pilot study, which is intended for eventual provincewide implementation. Approval was obtained from the Research Ethics Board at Sunnybrook Health Sciences Centre in Toronto, Ont, and the Group Health Centre in Sault Ste Marie, Ont.

Focus group participants

Six 2-hour FG sessions were conducted in 4 communities in Ontario (large and small cities, representing different parts of the province) in June and July of 2009. Two single-sex FGs (1 each of women only and men only) were held in each of Toronto and Sault Ste Marie, and 1 with both men and women was held in each of Peterborough and Sudbury. In Toronto, Peterborough, and Sudbury, participants were recruited from the general population by a private marketing firm, using random-digit dialing and received a small honorarium ($75) for participating. In Sault Ste Marie, participants were convenience samples recruited from a large primary care practice and were not offered compensation. Informed consent was obtained by investigators before the actual sessions.

Each FG consisted of screening-eligible adults aged 50 years and older. Among the subjects recruited through random-digit dialing, we sought to balance the groups by age (<65 years, ≥65 years), employment status (working, retired, or at home), and previous screening experience (screened, never screened). We also endeavoured to ensure adequate urban-rural, educational, and ethnocultural representation.

Materials tested

All FGs were moderated by a psychologist (P.R.) experienced in conducting cancer-prevention qualitative interview studies. During each session, the moderator presented 4 different versions of screening invitations. The first letter was a full page, and the 3 other letters were shorter half-page versions. The shorter letters were paired with a separate multicoloured, double-sided brochure, a separate full-page fact sheet, or a 5-bullet fact box located beneath the text of the letter. While all letters included both the ColonCancerCheck program logo and family physician's name in an italicized font, none incorporated the physician's actual signature. In addition, different envelopes with various return-address options were presented. Using interview-guided questions, opinions and preferences regarding content and design of the materials were carefully elicited. Emphasis was placed on features that would most attract individuals to open mailed envelopes and read materials, as well as help them to comprehend key messages. Also, the moderator explored the content that would be

most understandable, informative, and effective in persuading them to pursue CRC screening. The moderator also sought responses to additional promotional strategies to increase screening uptake. The interviews were recorded and transcribed verbatim; detailed notes were also made during the sessions.

Data analysis

The demographic characteristics of the FG members were tabulated. Where appropriate, the median or the number and proportion were reported.

As the FG analyses were intended to inform a quantitative pilot study of materials and processes being considered for large-scale implementation, there were 2 analytic components: to responsibly guide the pilot study by responding to specific questions posed by program planners and to rigorously represent all findings. For the first component, which required rapid reporting to meet program planners' timelines, we relied heavily on our detailed notes and preliminary analyses to make recommendations. The nature of this process generally required advising a single option based on the level of support in the FGs rather than representing all findings as is more traditional in qualitative research.

For the second component, we used the verbatim transcripts of the interviews. The constant comparative method was used to identify key themes representing varying attitudes and preferences,[10] with the coding of the content of each FG carried out on a line-by-line basis to identify all phrases, key words, and expressed concepts. NVivo 8 qualitative analysis software aided the process of coding the comparisons between expressed concepts identified by participants.

FINDINGS

Focus groups

The characteristics of the 62 FG attendees are described in **Table 1.** For each topic explored (envelope, letter, and directly mailed FOBT kits), our analyses revealed several key themes. We have organized these themes under 2 headings: those that were incorporated into our advice to the pilot study planners and those that are included so as to represent all data collected.

Envelope content and design. Program planners were interested in the responses of FG attendees to screening invitations with return-address options that included the name of the family physician, the provincial colorectal cancer screening program, or both.

Advice to program planners: Based on FG responses, we recommended that only the family physician's name appear on the outside of the envelope. The key themes supporting this recommendation included that participants believed the physician's name indicated that the contents were important, but the combination of the physician and provincial program names elicited strong negative responses, including anxiety and privacy concerns.

> Obviously, if I see it's from my doctor, I'd want to see [it] right away." (FG 3, Peterborough)

> I like the idea of the doctor's name on it because that makes it more personal, and, quite frankly, whether it's good news or bad news, I want to hear it. (FG 5, Sudbury)

> There is so much junk mail that if your doctor's name is there you will open it right away. (FG 2, Toronto)

> [Having the provincial logo on the envelope is an] invasion of privacy as far as I'm concerned. You're telling too much. That's my personal business. Nobody else should know. (FG 3, Peterborough)

> This causes a lot of people ... even the postman [who] is gossiping at some time to your neighbours [to think] "There's something wrong with that guy." (FG 2, Toronto)

> If I saw the word ColonCancerCheck from my doctor, I wouldn't open that up for about a week. I wouldn't even call and I'd ditch the letter and make sure I ditch it in a good spot. I'd gradually work on trying to think about opening it, because I don't want to read what's on the inside .... That would scare the hell out of me. (FG 2, Toronto)

Representing all FG responses: Some participants also believed that receiving letters from their family physicians, even without the program name, would cause anxiety because communications were generally conducted by telephone.

> I'd say "What the heck is wrong now that he's writing me?" (FG 5, Sudbury)

> If that was mailed to me from my doctor, I wouldn't open that up for a week, maybe a month. (FG 5, Sudbury)

Letter content and design. Additional questions pertained to the design and content of the letter (described above) to be sent during the planned quantitative study.

Advice to program planners: A key theme was that a brief, direct letter was preferred. Based on this strong preference and on the participants' specific reactions

Table 1. Characteristics of the focus group attendees, by group: *N* = 62.

CHARACTERISTICS	FOCUS GROUP					
	TORONTO, WOMEN (N = 12)	TORONTO, MEN (N = 12)	PETERBOROUGH* (N = 12)	SUDBURY (N = 12)	SAULT STE MARIE, WOMEN (N = 7)	SAULT STE MARIE, MEN (N = 7)
Men, n (%)	0	12 (100)	5 (42)	6 (50)	0	7 (100)
Median age, y	62.5	63.5	62	59	57	70
Marital status, n (%)						
• Married or common law	5 (42)	11 (92)	4 (33)	9 (75)	7 (100)	7 (100)
• Divorced or separated	3 (25)	0	4 (33)	0	0	0
• Single	3 (25)	1 (8)	2 (17)	1 (8)	0	0
• Widowed	1 (8)	0	1 (8)	2 (17)	0	0
Work status, n (%)						
• Full-time	4 (33)	4 (33)	3 (25)	1 (8)	1 (14)	1 (14)
• Part-time	0	1 (8)	4 (33)	2 (17)	0	2 (29)
• Retired	6 (50)	5 (42)	4 (33)	5 (42)	6 (86)	4 (57)
• Disability or unemployed	1 (8)	2 (17)	0	2 (17)	0	0
• Homemaker	1 (8)	0	0	2 (17)	0	0
Income, n (%)						
• < $20 000	2 (17)	1 (8)	0	1 (8)	0	0
• $20 000 to $40 000	4 (33)	4 (33)	5 (42)	3 (25)	0	0
• $40 000 to $60 000	2 (17)	3 (25)	3 (25)	3 (25)	6 (86)	5 (71)
• > $60 000	4 (33)	4 (33)	3 (25)	5 (42)	1 (14)	2 (29)
Education, n (%)						
• High school or less	2 (17)	2 (17)	4 (33)	7 (58)	5 (71)	7 (100)
• Some college or university	3 (25)	3 (25)	5 (42)	1 (8)	0	0
• Completed college or university	7 (58)	7 (58)	2 (17)	4 (33)	2 (29)	0
Ethnicity, n (%)						
• European descent	8 (67)	7 (58)	11 (92)	11 (92)	7 (100)	7 (100)
• West Indies	1 (8)	0	0	0	0	0
• African Canadian	2 (17)	0	0	1 (8)	0	0
• Dominican or Guyanese	1 (8)	0	0	0	0	0
• Indian	0	1 (8)	0	0	0	0
• Asian	0	1 (8)	0	0	0	0
• South Asian	0	3 (25)	0	0	0	0
Prior colon cancer screening, n (%)						
• Yes	8 (67)	5 (42)	5 (42)	7 (58)	7 (100)	7 (100)
• No	4 (33)	7 (58)	6 (50)	5 (42)	0	0
Type of prior screening, n (%)						
• FOBT alone	0	1 (8)	1 (8)	2 (17)	5 (71)	3 (43)
• Colonoscopy alone	5 (42)	2 (17)	2 (17)	0	2 (29)	3 (43)
• Sigmoidoscopy alone	0	0	0	1 (8)	0	0
• More than 1 test	3 (25)	2 (17)	2 (17)	4 (33)	0	1 (14)
• None	4 (33)	7 (58)	6 (50)	5 (42)	0	0

FOBT—fecal occult blood testing.
*Data are missing for 1 participant in the Peterborough focus group.

to the example letters provided, we recommended the shorter letter with the 5-bullet fact box.

> I'll go with [the brief letter] because it's nice and short and ... to the point. It has complete information. (FG 2, Toronto)

> I like the little boxes with the brief points. If you want to know more ... you can definitely find out more. When you get too many sheets, you tend to either ignore or drift over. When it's all on 1 sheet, you've got it right there. It's brief; it's to the point ... it says what it needs to. (FG 6, Sault Ste Marie)

Representing all FG responses: Again, the FG questions about the 4 letter options elicited a spectrum of responses. All versions received some support from participants; however, an important theme was that some

thought that all versions of the letters were misleading because their physicians did not actually personally write them.

> This is not a letter from my doctor. If I open that up and find out it's a mass mailing by ColonCancerCheck .... I think you've played on my concern .... and my relationship with my doctor. You've used that to get me to open that letter. (FG 6, Sudbury)

> I would first go, "Wait a minute; my doctor doesn't write me? ... Have I gotten on some list somewhere?" Something like that. (FG 1, Toronto)

> Too short of a letter with little information? I need more information. (FG 2, Toronto)

Mailing the FOBT kit directly to those eligible for screening. While some organized CRC screening programs mail FOBT kits directly,[11,12] ColonCancerCheck currently asks patients to visit their family physicians to obtain kits. Both researchers and program planners were interested in FG attendees' reactions to direct mailing of FOBT kits.

Advice to program planners: We recommended that kit mailing be considered as a second phase of activity, as an important theme was that a "priming communication," such as a media campaign or a mailed notice about the campaign, should precede the direct mailing. Participants in more rural settings (ie, Sudbury, Peterborough) were most supportive of directly mailed FOBT, perhaps reflecting the inconvenience of traveling to the doctor and the relative paucity of doctors in these settings.

> If you're going to actually end up doing this anyway, then give them a little tip off .... When it comes, it's like, "Oh, okay. This is what I was told about." (FG 2, Toronto)

> You would have to send something back to the program saying "Yes, send me the kit." Then you would feel better about getting the kit, and then you'd be ready to do your own thing .... I just would feel better that I'm part of the decision-making process. (FG 2, Toronto)

Representing all FG responses: Participants emphasized the immediacy, practicality, and the universality achieved, including for patients without regular physicians, by direct mailing with adequate priming.

> Best idea you've had all day. (FG 5, Sudbury)

> Just to reach people do you think it could be an advantage? A lot of people don't know about it and there's, I'm certain, lots of people [who] don't have family physicians. I think it's more available and everybody [could] be reached. (FG 1, Toronto)

Effect of qualitative findings on quantitative pilot study

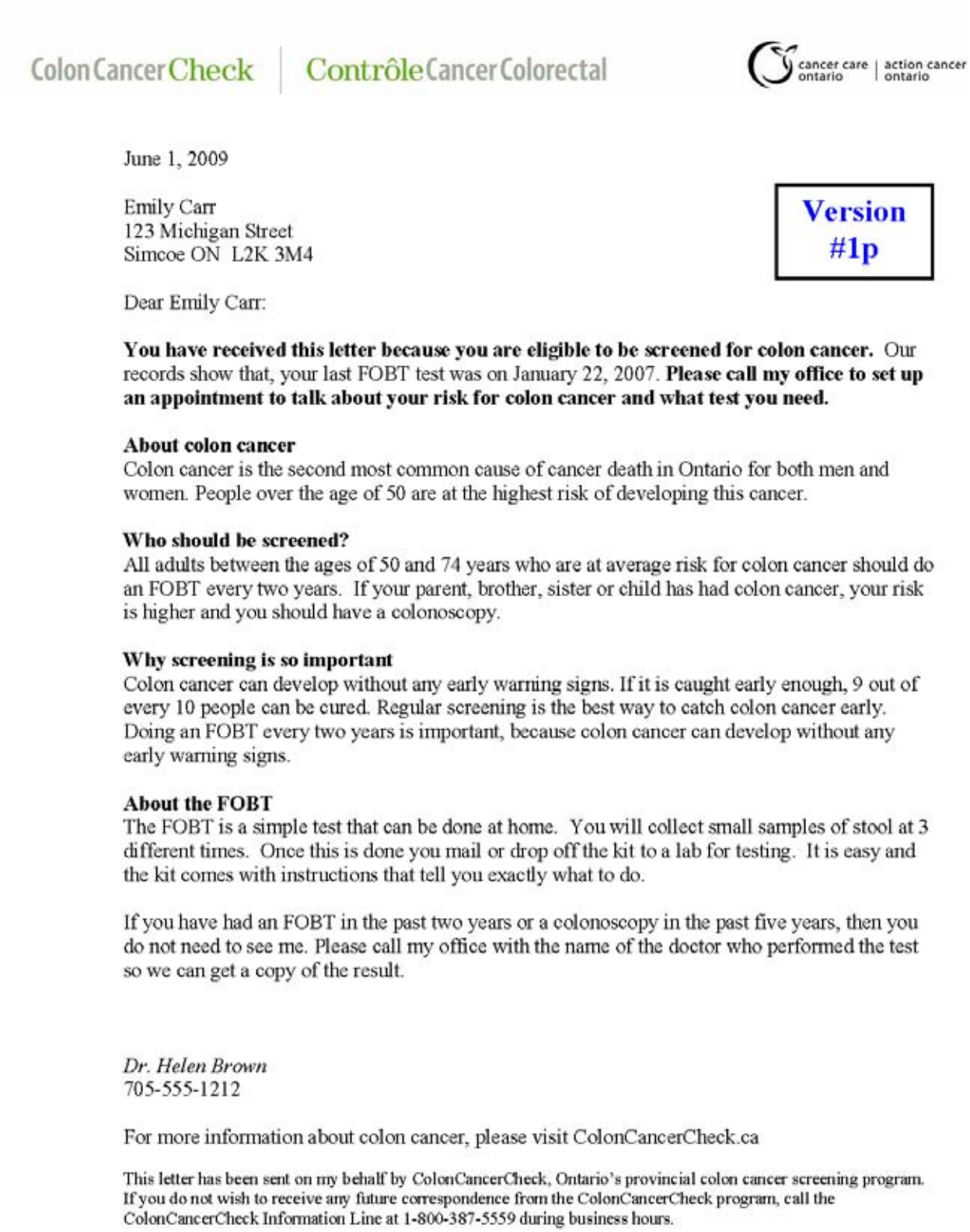
Before the study reported here was carried out, a longer, more detailed letter was planned for mailing in an envelope that carried the ColonCancerCheck logo along with the family physician's name (**Figure 1**). After our results were communicated to program planners, a revised letter (brief, with a bulleted fact box) was mailed in an envelope that carried the physician's name alone (**Figure 2**). Program planners had not originally intended to include FOBT kits in the mailing and did not do so as a result of our study. However, our findings stimulated considerable interest such that further studies of the use of directly mailed FOBT in more difficult to reach populations are planned.

DISCUSSION

The objective of this qualitative study was to report on recommendations made to program planners conducting a quantitative feasibility assessment of a large-scale mailed invitation for CRC screening that is intended for eventual provincewide implementation. Our recommendations included that screening-eligible individuals should receive mailed CRC screening invitations from their own family physicians and that information should be presented in a succinct, clear, easily read format. Additionally, we identified direct mailing of FOBT kits, after a "priming communication," as a potentially powerful strategy to improve screening uptake. On each of these topics, we also reported on the full spectrum of FG responses.

Previous studies have used FG methodology to evaluate use of reminder letters and mailed materials to increase uptake of various preventive health services before their implementation[13] or following actual reminder mailings.[14-17] Several of these studies examined the design and content of materials being used for cancer screening,[13] including breast[14] and cervical[17] screening. Similar to our findings, these studies reported that FG participants preferred brief, personalized reminder letters with access to additional factual information, rather than more detailed letters. We found that having the family physician's name on the letter was particularly important; this is a finding that has been reported in 1 other study.[14] Our FG attendees preferred notification before receiving a direct mailing of FOBT kits. This finding is substantiated by a recent controlled trial, which found that a priming strategy elicited greater uptake of CRC screening compared with direct mailing of the kit alone.[18]

Figure 1. Planned invitation for colorectal cancer screening before the study



ColonCancerCheck | ContrôleCancerColorectal

cancer care ontario | action cancer ontario

June 1, 2009

Emily Carr
123 Michigan Street
Simcoe ON L2K 3M4

Version #1p

Dear Emily Carr:

You have received this letter because you are eligible to be screened for colon cancer. Our records show that, your last FOBT test was on January 22, 2007. **Please call my office to set up an appointment to talk about your risk for colon cancer and what test you need.**

About colon cancer
Colon cancer is the second most common cause of cancer death in Ontario for both men and women. People over the age of 50 are at the highest risk of developing this cancer.

Who should be screened?
All adults between the ages of 50 and 74 years who are at average risk for colon cancer should do an FOBT every two years. If your parent, brother, sister or child has had colon cancer, your risk is higher and you should have a colonoscopy.

Why screening is so important
Colon cancer can develop without any early warning signs. If it is caught early enough, 9 out of every 10 people can be cured. Regular screening is the best way to catch colon cancer early. Doing an FOBT every two years is important, because colon cancer can develop without any early warning signs.

About the FOBT
The FOBT is a simple test that can be done at home. You will collect small samples of stool at 3 different times. Once this is done you mail or drop off the kit to a lab for testing. It is easy and the kit comes with instructions that tell you exactly what to do.

If you have had an FOBT in the past two years or a colonoscopy in the past five years, then you do not need to see me. Please call my office with the name of the doctor who performed the test so we can get a copy of the result.

Dr. Helen Brown
705-555-1212

For more information about colon cancer, please visit ColonCancerCheck.ca

This letter has been sent on my behalf by ColonCancerCheck, Ontario's provincial colon cancer screening program. If you do not wish to receive any future correspondence from the ColonCancerCheck program, call the ColonCancerCheck Information Line at 1-800-387-5559 during business hours.

Figure 2. Invitation for colorectal cancer screening after the study

ColonCancerCheck | ContrôleCancerColorectal

cancer care ontario | action cancer ontario

June 1, 2009

Lawren Harris
456 Superior Street
Lindsay ON K2L 3M4

Version #2p

Dear Lawren Harris:

You have received this letter because you are eligible to be screened for colon cancer. Our records show that, you have never had an FOBT or we do not know when you had your last FOBT.

All adults between the ages of 50 and 74 years who are at average risk for colon cancer should do an FOBT every two years. If your parent, brother, sister or child has had colon cancer, your risk is higher and you should have a colonoscopy.

Please call my office to set up an appointment to talk about your risk for colon cancer and what test you need.

I look forward to hearing from you soon.

Dr. George Black
705-555-1212

GET THE FACTS. GET CHECKED.

- Colon cancer is the second most common cause of cancer death in Ontario
- Colon cancer can develop without any early warning signs.
- If it is caught early enough, 9 out of every 10 people can be cured.
- Regular screening is the best way to catch colon cancer early.
- The FOBT is a simple test that can be done at home.

For more information please visit www.coloncancercheck.ca

This letter has been sent on my behalf by ColonCancerCheck, Ontario's provincial colon cancer screening program. If for any reason, you do not wish to receive future correspondence from the ColonCancerCheck Program, simply call the ColonCancerCheck Information Line at 1-800-387-5559 during business hours.

The qualitative project reported here was intended to guide a subsequent, quantitative pilot study of mailed, targeted CRC screening invitations; as such, it illustrates an often unacknowledged role of FG methodology in clinical research. While an increasing number of researchers identify qualitative methods as their primary research strategy, these methods are also often used to inform the design and structure of initiatives targeting large-scale populations. In the latter instance, FGs play a critical role, but results are often not reported in scientific publications. This study demonstrates that qualitative methodology can be applied in pragmatic and scientifically rigorous manners simultaneously. To support both goals, we reported on the themes that supported advice regarding further program planning as well as reporting all other key themes identified in our comparative analysis. While this approach deviates from the theoretical foundations of qualitative analyses, we were able to translate relevant and timely high-quality research knowledge to program planners in order to considerably affect the structure of a real-world program.

Although we attempted to represent the diversity of responses to various CRC screening strategies and our participants represented a variety of perspectives (eg, region, income, previous screening experience), we recognize that our sample was predominantly white and spoke English sufficiently well to participate. Therefore, our findings might not be generalizable to certain groups.

Conclusion

Consistent with other studies of preventive health interventions, we found strong support for a succinct, personalized invitation for CRC screening from the family physician. This paper illustrates the importance and feasibility of using qualitative research to provide meaningful, effective, and timely guidance for public health programs, and is particularly relevant to other Canadian jurisdictions planning organized CRC screening programs.

Dr Tinmouth is a staff physician at Sunnybrook Health Sciences Centre in Toronto, Ont, Adjunct Scientist for the Institute for Clinical Evaluative Sciences, and Assistant Professor at the University of Toronto. **Dr Ritvo** is Associate Professor in the School of Kinesiology and Health Science and the Department of Psychology at York University and a Scientist for Cancer Prevention and Control at Cancer Care Ontario in Toronto. **Dr McGregor** is Research Scientist in Population Health Research at Alberta Health Services Cancer Care and Adjunct Associate Professor in the Department of Community Health Sciences and Preventive Oncology at the University of Calgary. **Ms Claus** is Director of Prevention and Screening Policy at Cancer Care Ontario. **Dr Pasut** is Vice-President of Prevention and Screening at Cancer Care Ontario. **Dr Myers** is Professor and Director of the Division of Population Science in the Department of Medical Oncology at Thomas Jefferson University in Philadelphia, Pa. **Ms Guglietti** is a doctoral candidate in the School of Kinesiology and Health Science at York University. **Dr Paszat** is a staff physician at Sunnybrook Health Sciences Centre, Senior Scientist at the Institute for Clinical Evaluative Sciences, and Associate Professor at the University of Toronto. **Dr Hilsden** is Associate Professor in the Department of Community Health Sciences and the Department of Medicine at the University of Calgary. **Dr Rabeneck** is Senior Scientist at Sunnybrook Health Sciences Centre and at the Institute for Clinical Evaluative Sciences, Professor at the University of Toronto, and Medical Director of the Ontario Colorectal Cancer Screening Program.

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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. **Dr Ritvo** moderated the focus groups and shares first authorship with **Dr Tinmouth**.

Competing interests

None declared

Correspondence

Dr Jill Tinmouth, Sunnybrook Health Sciences Centre, 2075 Bayview Ave, Room HG40, Toronto, ON M4N 3M5; e-mail **jill.tinmouth@sunnybrook.ca**

References

1. Center MM, Jemal A, Ward E. International trends in colorectal cancer incidence rates. *Cancer Epidemiol Biomarkers Prev* 2009;18(6):1688-94.
2. Mandel JS, Church TR, Bond JH, Ederer F, Geisser MS, Mongin SJ, et al. The effect of fecal occult-blood screening on the incidence of colorectal cancer. *N Engl J Med* 2000;343(22):1603-7.
3. Hardcastle JD, Chamberlain JO, Robinson MH, Moss SM, Amar SS, Balfour TW, et al. Randomised controlled trial of faecal-occult-blood screening for colorectal cancer. *Lancet* 1996;348(9040):1472-7.
4. Kronborg O, Fenger C, Olsen J, Jørgensen OD, Søndergaard O. Randomised study of screening for colorectal cancer with faecal-occult-blood test. *Lancet* 1996;348(9040):1467-71.
5. Wilson JM, Jungner G. *Principles and practice of screening for disease.* Geneva, Switz: World Health Organization; 1968.
6. International Cancer Screening Network. *Inventory of colorectal cancer screening activities in ICSN countries, May 2008.* Bethesda, MD: International Cancer Screening Network; 2009. Available from: **http://appliedresearch.cancer.gov/icsn/colorectal/screening.html**. Accessed 2009 Oct 8.
7. Hoff G, Grotmol T, Skovlund E, Bretthauer M; Norwegian Colorectal Cancer Prevention Study. Risk of colorectal cancer seven years after flexible sigmoidoscopy screening: randomised controlled trial. *BMJ* 2009;338:b1846. DOI: 10.1136/bmj.b1846.
8. Wilkins K, Shields M. Colorectal cancer testing in Canada—2008. *Health Rep* 2009;20(3):21-30.
9. Baron RC, Rimer BK, Breslow RA, Coates RJ, Kerner J, Melillo S, et al. Client-directed interventions to increase community demand for breast, cervical, and colorectal cancer screening: a systematic review. *Am J Prev Med* 2008;35(1 Suppl):S34-55.
10. Flick U. *An introduction to qualitative research.* Thousand Oaks, CA: Sage Publications; 2006.
11. Malila N, Oivanen T, Malminiemi O, Hakama M, Malila N, Oivanen T, et al. Test, episode, and programme sensitivities of screening for colorectal cancer as a public health policy in Finland: experimental design. *BMJ* 2008;337:a2261. DOI: 10.1136/bmj.a2261.
12. UK Colorectal Cancer Screening Pilot Group. Results of the first round of a demonstration pilot of screening for colorectal cancer in the United Kingdom. *BMJ* 2004;329(7458):133. Epub 2004 Jul 5.
13. Ornstein SM, Musham C, Reid AO, Garr DR, Jenkins RG, Zemp LD. Improving a preventive services reminder system using feedback from focus groups. *Arch Fam Med* 1994;3(9):801-6.
14. Kaczorowski J, Karwalajtys T, Lohfeld L, Laryea S, Anderson K, Roder S, et al. Women's views on reminder letters for screening mammography. Mixed methods study of women from 23 family health networks. *Can Fam Physician* 2009;55:622-3.e1-4. Available from: **www.cfp.ca/cgi/reprint/55/6/622**. Accessed 2010 Dec 7.
15. Ornstein SM, Musham C, Reid A, Jenkins RG, Zemp LD, Garr DR. Barriers to adherence to preventive services reminder letters: the patient's perspective. *J Fam Pract* 1993;36(2):195-200.
16. Anderson KK, Sebaldt RJ, Lohfeld L, Karwalajtys T, Ismaila AS, Goeree R, et al. Patient views on reminder letters for influenza vaccinations in an older primary care patient population: a mixed methods study. *Can J Public Health* 2008;99(2):133-6.
17. Karwalajtys T, Kaczorowski J, Lohfeld L, Laryea S, Anderson K, Roder S, et al. Acceptability of reminder letters for Papanicolaou tests: a survey from 23 family health networks in Ontario. *J Obstet Gynaecol Can* 2007;29(10):829-34.
18. Cole SR, Smith A, Wilson C, Turnbull D, Esterman A, Young GP. An advance notification letter increases participation in colorectal cancer screening. *J Med Screen* 2007;14(2):73-5.