

BMJ Open Patients' views on involving general practice in bowel cancer screening: a South Australian focus group study

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ABSTRACT

Objectives To explore patients' experiences of bowel cancer screening and its promotion, and perspectives on possible input from general practice for improving screening rates.

Design Qualitative focus group study underpinned by a phenomenological approach.

Setting Three general practice clinics in metropolitan South Australia.

Participants Thirty active general practice patients, aged 50–74 years (60% female) who were eligible for the National Bowel Cancer Screening Program.

Findings Factors affecting screening were described, with particular concerns regarding the nature of the test, screening process and culture. There were mixed views on the role for general practice in bowel cancer screening; some participants appreciated the current process and viewed screening as out of scope of primary care services, while others were in support of general practice involvement. Roles for general practice were proposed that comprised actions across the continuum from providing information through to reminders and the provision and collection of screening kits. With a view that multifaceted strategies are required to encourage participation, community-based solutions were suggested that centred on improving screening culture and education.

Conclusions There was a view among participants that general practice could play a useful role in supporting the uptake of the National Bowel Cancer Screening Program, however participants saw a need for multiple strategies at different levels and under different jurisdictions.

INTRODUCTION

Globally, bowel or colorectal cancer is the third most common cancer and the fourth most common cause of death from cancer.¹ The projection of bowel cancer mortality, using the WHO mortality database in 42 countries located in Asia, Europe, North America and Oceania shows an increasing trend up to year 2035, which is partly explained by changes in risk factors as well as population growth and ageing.¹ In Australia, bowel cancer is the third most commonly diagnosed cancer, and second most frequent cause of death from cancer.² According to the Cancer in Australia 2019 report, bowel cancer accounts for 6.4%

Strengths and limitations of this study

- Participants were recruited by general practitioners and general practice staff.
- Recruiting through general practices meant study participants had insight into interactions within this setting.
- There was potential selection bias towards individuals predisposed to using the kit, valuing health and having a good relationship with their practice.
- People with low English literacy, and poor health were excluded from the study.

of all cancer hospitalisations as primary diagnosis.² In 2008–2009, bowel cancer had the highest expenditure by the health sector in Australia, incurring a total expenditure of over \$A427 million that included associated costs for hospital-admitted patients, out-of-hospital expenses and pharmaceutical expenditures.³

Up to 90% of deaths from bowel cancer are preventable with early detection, indicating the significant benefit of effective prevention and screening programmes.⁴ National population-based bowel cancer screening programmes have been implemented in a number of high-income countries such as the UK, Canada and Australia, aiming to detect cancer lesions at early stages and prevent progression to invasive cancer.⁵ In Australia, the National Bowel Cancer Screening Program (NBCSP) was established in 2006, offering people aged 50–74 years free screening every 2 years using an immunochemical faecal occult blood test (FOBT), requiring two samples. The kit is completed at home and test results are returned to both the individual and their nominated health professional. Participants who return a positive result are advised to visit their general practitioner (GP) with the purpose of arranging colonoscopy examination. Programme data show that, in general, participation in the NBCSP is unacceptably low,



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especially among people receiving their first invitation, and disparities exist based on socioeconomic status, location, age and gender.^{6 7} The most recent NBCSP monitoring report shows that of the 4.1 million eligible people invited in 2016–2017, 41% participated in the programme and the rate remained the same as in 2015–2016.⁷ Modelling by Australian researchers has suggested that if these rates were at 60%, approximately 70 000 deaths could be prevented by 2055.⁸

Studies have investigated barriers to, and enablers of, bowel cancer screening uptake. Fatalistic views about cancer,^{9 10} procrastination,¹¹ lack of awareness of bowel cancer risk and knowledge about the screening programme,^{9 12} embarrassment and the unpleasant nature of the test^{11 13 14} are reported as key barriers to participation in bowel cancer screening. There are also studies examining the impact of the screening setting (ie, home vs healthcare facility) indicating that being asked to do a ‘home test’ reduces the perceived importance of screening, leading to delay or decline of the screening test.¹⁴ Studies from Australia and other countries strongly suggest that a GP’s endorsement and positive recommendation to patients to take part in bowel cancer screening is an enabler to screening uptake,^{9 12 14–17} explained by issues of trust in the medical profession and a sense of obligation.¹⁸ A study reviewing evidence on predictors of bowel cancer screening found GPs’ involvement in the decision to undertake screening to be the strongest predictor of participation, particularly for people with lower literacy levels.¹⁹

In the context of the Australian health system, GPs are well placed to promote the uptake of bowel cancer screening²⁰ and are central for the success of the NBCSP.²¹ The NBCSP Primary Health Care Engagement Strategy 2016–2020, developed by the Australian Government, encourages greater involvement with primary healthcare providers and GPs in the delivery of the NBCSP.²² As a result, a national action plan has been developed to detail the role of GPs including identifying eligible patients, encouraging those that receive a kit to participate, managing at-risk individuals and informing patients of national recommendations around screening as well as strategies to support general practice such as tools, resources and professional development.²² A gap is however visible in exploring people’s perspectives on the role of general practice and strategies that encourage screening participation through general practice interventions. Previous research has mainly involved patients/public in identifying barriers and enablers to screening.^{10 17 23} Given the high burden of bowel cancer, stronger engagement with patients is essential to explore their perspectives on the role of general practice, and the effectiveness and feasibility of GP-centred strategies that may positively impact on their decision to participate in screening.

This study aimed to better understand people’s perceptions of bowel cancer screening in Australia and the potential role of general practice within the broader context of

multifaceted strategies to improve screening uptake. The results from this study will contribute to the knowledge about general practice bowel cancer screening strategies which may have the potential to increase screening participation and to reduce bowel cancer prevalence and mortality.

METHODS

Participants and procedure

A qualitative study was conducted, based on focus group discussions with patients recruited from three general practices in metropolitan Adelaide, South Australia in December 2018. Four general practices were initially invited to take part in the study; three agreed. All practices were based in low socioeconomic areas of Adelaide according to the Australian Bureau of Statistics’²⁴ socioeconomic indexes for areas rankings (ie, second decile, where lower deciles reflect greater disadvantage). A purposive sampling method was employed whereby GPs and practice staff were asked to identify potential participants from their patient lists (based on professional experience and existing knowledge). Staff selected individuals who were eligible for the NBCSP (aged 50–74 years) and whom they perceived as likely to provide the most detailed insights into their experience of bowel cancer screening and the role of general practice. Exclusion criteria included insufficient understanding of English to participate in a focus group, poor health, cognitive impairment and recent personal and/or familial bowel cancer experience (to prevent potential distress). Each practice facilitated the provision of invitation letters (including both information sheet and consent form) from the researchers to 20 potential participants. The target was six to eight participants in each focus group,²⁵ with the decision to send invitations to 20 at each practice based on the response rates achieved in similar previous research.

Two focus groups were held in each of the three practices, facilitated by the first two authors. Individuals who agreed to participate (n=40, 67%) directly notified the researchers and confirmed their preferred focus group date. Ten individuals did not attend the focus groups therefore participants included 30 adults (practice 1: n=13; practice 2: n=4; practice 3: n=13), 60% female. Demographic details of the participants were not collected. Focus group questions centred on participants’ knowledge about bowel cancer; understanding of and experience with cancer screening; perceptions on current promotion of bowel cancer screening and thoughts on the role of general practice including the value of previously tested activities. While participants may have inadvertently revealed their screening status throughout the course of the focus group, to encourage open conversation without judgement the facilitators did not explicitly ask participants to declare how many times they had been individually screened. The focus groups were conducted in community centres local to each practice and ran for

an average of 75 min. With participants' permission, focus group sessions were audio recorded and subsequently transcribed in full. Each practice was reimbursed \$A1000 for their support with the recruitment and participants were provided with refreshments and a \$A25 gift voucher in recognition of their time and involvement in the study.

Analysis

Data analysis, combining transcript-based and note-based analysis, was informed by the phenomenological approach, with assistance from NVivo software.^{25 26} Using phenomenological principles allowed an understanding of participants' lived experience in their own voices, with facilitators' biases bracketed so as not to influence the findings.²⁷ Each facilitator took field notes during the session, with emerging themes discussed at the end of each group. These discussions informed whether any changes should be made to the questions asked in subsequent focus groups. At the conclusion of the data collection period, each facilitator derived 'meaning units' from the transcripts, their notes and experiences of the sessions. The two sets of meaning units were clustered to form themes. Transcripts were then reviewed based on these themes to identify 'significant statements', many of which are presented in the 'Results' section.²⁵

Patient and public involvement

Patients were not involved in the design of the study, but they were involved throughout the data collection phase. The focus group questions aimed to maximise opportunities for participants to share their perspectives on bowel cancer screening and strategies to enhance screening uptake. All study participants were provided with detailed information confirming the time commitment and process of participation to enable them to provide informed consent. Each participant received a phone call in the days prior to the group to confirm their attendance, clarify dietary requirements and answer any questions. Participants were not invited to contribute to the interpretation or writing of results but were provided (if they desired) a summary of the key findings. They were also informed that their general practice had received the summary and were encouraged to continue to speak with their GPs and broader personal networks about the value of bowel cancer screening.

RESULTS

Factors affecting screening, roles for general practice and strategies to increase participation were represented by three major themes emerging from the focus groups. Each of these is discussed in more detail, with illustrative quotes, in the following sections.

Factors affecting screening

Participants reported several factors influencing their decision to participate or decline invitation for bowel cancer screening. Enabling factors included

past experience (personal or familial) with bowel or other cancers, gratitude for free programmes, valuing screening, prioritising health, receiving encouraging advice from others, female gender and older ages. Commonly discussed barriers included lack of a supportive culture for bowel cancer screening; traditional upbringing in which bodily functions were not discussed; the nature of the FOBT and overall process; lack of urgency when the kit arrives in the mail; dislike of colonoscopies; tendency to be reactive and fear of a positive diagnosis (table 1).

The most significant barrier to screening expressed by participants related to the nature of the test: *"that is the wall, that is the block, is just doing the test"* (FG6/Male). Even those who were regular screeners acknowledged the unpleasant nature of the current test, although for these participants the outcome was more important than the process: *"It's embarrassing, it's unpleasant and it's totally essential"* (FG5/Female). Generally, barriers were related to an aversion to dealing with faeces, the physical task of collecting the sample (especially for those with mobility restrictions), the need for storage and the process of returning samples. Recent research exploring a blood test²⁸ was discussed with considerable support for this less invasive alternative: *"The sooner they get it in a blood test the better"* (FG2/Male).

Participants expressed confusion about the process, with people finding it difficult to distinguish between the NBCSP kits arriving in the mail which are provided by the federal government at no cost, and those provided by GPs which typically have to be paid for by the user. It must be noted that GPs generally provide the immunochemical FOBT, with instructions to provide two or three stool samples depending on the instructions from the manufacturer of the particular test used by the practice.²⁹

This confusion was compounded by the irregular arrival of kits; some participants had never received one, while others reported receiving them intermittently: *"I've only ever had two, one when I was in my early 50s and one when I was in my 70s, so that's a long way in between"* (FG6/Female). Participants were also unsure about the administration protocol; namely how many samples were required and whether these needed to be collected on strictly consecutive days.

There was concern that the NBCSP cut-off age was 74. In each focus group, questions were raised as to why this was the maximum age and what that might mean for those older than 74.

I think why should it stop at 74, because even though the incidence may be less in a very aged population, then the ones that do get it end up spending weeks in hospital, weeks of treatment, thousands of dollars spent on them, instead of them doing a little kit which you know could be every two years—that is a drop in the ocean, even if they did the whole population, to what I'm sure it would cost when people are hospitalised. (FG6/Male)

Table 1 Factors affecting screening

Subtheme	Illustrative quote
Past experience (personal/family)	<i>That's why I'm really particular about doing any test that will clear me of cancer, because I've had so many scares. I know that you have to stay on top of it, and like I said, it's a matter of life and death. (FG5/Female)</i> <i>I think sometimes with what we've been through as a family, with dad having a colostomy, and I experienced our dad did not love this colostomy at all. And it made me even more aware, because everyone says I'm more like my dad than my mum... and then having all the tummy problems now, it does make me so much more aware of my health with my bowel, because you know if I don't feel right, I just think something is not right, you've got to have a check. It is very important. (FG6/Female)</i>
Gratitude	<i>I'm always sold on the fact that anything like these programs that we get given to us freely is worth considering doing. So, I've always participated in it and encouraged others to do likewise. (FG1/Male)</i>
Values	<i>Most cancers are insidious, and bowel cancer is one of the worst ones that, by the time you realise you've got it, it's too late. It's inoperable and inevitably it's a death sentence. So, to have that little bit of unpleasantness for a few seconds' worth vs your life, potentially, there's no contest as far as I'm concerned. (FG1/Female)</i>
Advice from family members	<i>Where the wife can say to the husband, you know, if you really love me, you'd do this for me. How much do you love me? (FG4/Male)</i>
Gender	<i>In my opinion, I would suggest that women probably have less deaths than men because of the fact that women are more inclined to screen. I mean, how many guys get prostate cancer because they don't want to go and have the test, which is so basic. (FG1/Female)</i>
Age	<i>This day and age a lot of young people are dying of completely preventable diseases, and it's only because they're 10-foot tall and bullet-proof. (FG6/Male)</i>
Screening culture	<i>You go to the doctor and ... they'll tell you your pap smear is due, your mammogram is due, but no one ever says anything about your bowel cancer screen. (FG6/Female)</i>
Upbringing	<i>Every two years I have pap smears and blood tests and all that sort of stuff, and that doesn't bother me. Talking about it to other people or other women doesn't bother me either. But I never would tell them what I do in the toilet. It's just, I guess it's just what we've been taught to do. (FG5/Female)</i>
Nature of the test	<i>But you've got to actually you know, put on gloves and touch poo... (FG6/Male)</i>
Screening process	<i>I've got two kits sitting home in the linen press, one is mine and one's my husband's. But we find it not everybody goes to the toilet two days in a row. With these screenings, you've got to have two days. That's our problem. (FG2/Female)</i>
Colonoscopy	<i>There's not enough information about the actual follow-up procedure and colonoscopy if you need it ... It's about the possibility of undergoing colonoscopy, to me, that's the issue, not the bowel screening. (FG3/Female)</i>
Urgency	<i>It's not a priority; it's just something that comes in the post, and then yeah, and then you forget about it. (FG4/Male)</i>
Reactivity	<i>It works with people at a regular health check and all that sort of stuff, you can do it, but with people who probably don't return those kits probably don't worry about things until they go wrong. (FG1/Male)</i>
Fear	<i>Sometimes it's the fear of the unknown, isn't it? People you know, think it's a good idea, and I will do it, but put it on the top of the fridge and I'll get to it later, and probably deep down they really don't want to do it because they don't want to know the results. (FG3/Male)</i>

Roles for general practice

Many participants supported the notion that the kits should be provided through general practice and that this would help screening rates.

I feel that, if the General Practice is involved, then like I said, it doesn't come across as a voluntary thing; because it comes in the post, you get the feeling you can do it, or you don't have to do it. It's not an important thing. But coming from a doctor, you're in that atmosphere of being in a doctor's surgery, and he hands you a pack, basically you're going to get home and you're going to do it. (FG4/Male)

Alternatively, other participants suggested several advantages to the mail-out approach because it allowed anonymity, privacy/discretion and did not require planning or scheduling from people.

I think it's better for the packets to be sent to the person's home because, number one, they don't have to apply for it, they don't have to go down to the doctor's office to get it, and they can do it in the privacy of their own home, in their own time, their own way, and yeah, it's anonymous. (FG5/Female)

Potential roles of general practice (table 2) centred on presenting information about the risks of bowel cancer and necessary steps in the screening process, providing and collecting screening kits and monitoring and sending reminders. Participants felt that people tended to ignore generic post but were more likely to pay attention to personal letters from their GP/practice; *"it's someone that you're familiar with rather than just somebody sends it to you in the mail"* (FG3/Female). The value of GP involvement centred on trust, respect, confidence, familiarity and the personal touch: *"they treat you as an individual"* (FG3/Female), *"and you're listened to"* (FG3/Male). Participants expressed respect for their doctor's expertise and felt that when a GP provided advice (ie, to complete a kit), people would feel accountable to their GPs for following the advice.

A number of participants felt that linking the screening completion with some of the existing financial payment systems or pairing the provision of a kit with a regular Medicare-funded health check with the GP or practice nurse may increase participation. One participant suggested: *"they need a scheme like the private health insurance thing where you get slugged in tax if you don't sign up"* (FG1/Male).

Strategies to encourage participation

Participants viewed bowel cancer screening quite differently to other forms of screening because it appeared that responsibility had been placed on the individual to decide whether to take part. Participants acknowledged value in greater involvement by general practice in the process but also noted practical limitations of the context in relation to staff turnover and difficulties associated with accessing preferred doctors. There was concern that

if GPs were involved in screening it would put increasing pressure on already overworked staff. There was a view that GPs had other priorities during an appointment and that health prevention was rarely the focus.

You don't always go to a regular GP these days because it's so hard to get in. You might go to three different doctors. (FG1/Male)

I get really concerned that GPs are overloaded now and that we can't really get through with what we need to sometimes with the short timelines. (FG1/Male)

If everyone's going to be coming in with their samples and everything... are we going to take the doctor's time away from patients that are needing it? (FG2/Female)

In discussing methods for improving screening, priorities centred on reducing fear of the process by explaining its simplicity, training the next generation to be prepared for screening, increasing understanding to enable informed choices, decreasing stigma and providing far-reaching information accessible to individuals who are not regular visitors to general practice.

It's a multiplicity approach, in my opinion to this issue. It's not just one approach, no. (FG6/Male)

Intergenerational strategies

One unique strategy focused on intrafamilial and intergenerational dynamics and the impact these relationships have on a broader screening culture. This emerged as both a need to educate young people so that they would be primed for screening later in life (thereby counteracting stigma); and as an opportunity for young people to encourage their parents and grandparents to participate in screening (transferring awareness and education generated at school into the home setting).

...preparing us to talk to our children so that when they grow up, they can talk to their children, so that it's all open. You know, we can say: well you need to have this test done and that test done, and the more we're open about it that takes away that fear, it takes away that stigma ... It just becomes a part of life, that these things have to be done. (FG4/Male)

Educational strategies

Content

The main strategy proposed to encourage participation was education (table 3). Participants emphasised the need for more information to be made available about screening and the FOBT and about bowel cancer, risk factors, symptoms and potential impact. Participants thought that the instructions that accompany the FOBT should be reviewed to ensure the process is described simply: *"do a diagram"* (FG4/Female). They also emphasised a need for more statistics to be publicly promoted. They were shocked by the information that bowel cancer is the

Table 2 Roles for general practice	
Subtheme	Illustrative quote
Patient education to minimise risk	<i>I think some organisation ought to take some responsibility for general education on how to minimise the risks. Whether that's a GP's role, the Practice Nurse role or the Cancer Council role, but there simply isn't enough. People don't know enough about how to minimise their risk. (FG3/Female)</i>
Presenting information	<i>I think it would make people more aware anyway when they go in for any appointment, when they're getting towards 50, the GP to start talking to them about it, or you know, you should be doing a bowel cancer screen. (FG1/Male)</i>
Providing kits	<i>I know it might take extra time for the doctor, but if they send a whole heap of packs to the doctors, and the doctor just hands it— 'oh, by the way, you're concluding your appointment, here's a pack, I want you to do this'. (FG4/Male)</i>
Monitoring and follow-ups	<i>Then your GPs could also keep a monitor of that, and then you know, when you go into see them for whatever reason, or if you don't, they could just give you a courtesy call and say, you're up for this, how about it? (FG3/Female)</i>
Collecting kits	<i>I think really the majority of us at our age now see our GPs regularly. I think it should be something that the GP, because a lot of people feel that, oh, I can't send that through the mail, as well. I've spoken to some people, and that's been their reason for not doing it, because of what goes through the mail. So maybe it should be put back to your GP on your regular check-up, and every two years they say, right, here's a bottle, give us a sample and we'll get it tested. A lot of people would feel a lot more comfortable with that. (FG3/Male)</i>
Pairing screening with regular health checks	<i>Your GP, they've got access to testing facilities, so you know one of your regular check-ups every two years, your GP should say, right, here's your bottle, give us a sample and we'll test it. Because they test you for everything else. (FG3/Male)</i>
Personalising screening	<i>It would make it less impersonal, wouldn't it, if the GP was involved. (FG3/Female)</i>
Providing accountability	<i>It's still sitting on the dresser, three years I think it is now. I received that one in the post and ... then I had to do one through the doctor anyway and I prefer to do that. Because I think, it's been given by your doctor, you've got to do it. There's no putting it off. If your doctor says you've got to do it, you've got to do it. (FG4/Male)</i>
Offering expertise	<i>You take a car to a mechanic. You go to the doctor because he's studied and should know what he's on about, and you take it as gospel. (FG4/Male)</i>

Table 3 Key elements of educational campaigns

Category	Subtheme	Illustrative quote
Content	Screening process	<i>Some people will prefer to I think have (information) beforehand, and some people prefer it with the kit, to be truthful. Because there are those people that like to know what is coming, and some people just think, oh, what's this, and they don't mind. They might throw that other letter aside and forget about it. But I think they need to have the demonstration on that letter, if you do send it out before. You can say to them, look, it's not messy; you won't have to touch anything, because I think that's what goes through people's mind if they've never done one before. (FG4/Female)</i>
	Statistics	<i>Then they want to put that on there, on that ad. Only 30% of you people who should be sending it back have sent it back. Thank you for sending them back. We have saved so many lives through it. (FG4/Female)</i>
	Personal stories	<i>Some of the consequences, and not just 'my mum had it'. Okay, she had it, and she died, but— (FG1/Male) What we went through as a family... and what might have avoided this. (FG1/Male)</i>
	Emotional triggers	<i>With a younger person being there discussing it as well: have you had your bowel cancer test, mum? Have you had your bowel cancer test, dad? I want you to live forever. You know, it has to work on the emotions. A lot of people don't want to know about common sense. But everybody loves somebody somewhere, and they don't want to miss, lose them. (FG4/Female)</i>
Source	Real people	<i>You have to let them know—have honest people speaking about their experiences, not actors and actresses, because they don't know, they don't know. They need to have like a group like this speaking. (FG4/Female)</i>
	Healthcare providers	<i>(Nurses), they're always so more personal and they could explain the kit more... don't panic, you just do this, this, and this, whereas you read it in the book and it's never the same. (FG3/Female)</i>
	Health services	<i>Because a lot of people do go to the chemist on a regular basis. They've got even the young people. (FG1/Male)</i>
	Public facilities	<i>Putting notices up, you know like the women have got posters up in the ladies' toilets about pap smears, etc; put posters up in the men's toilets. Because they're bound to see it. (FG4/Female)</i>
	Schools	<i>... telling the younger generation. It's sort of warning them. Because if you can get them when they're kids, and even if it was going into schools or classrooms, and not getting bogged down in too much detail, but just a warning of how bad—because, I mean, let's face it, they warn you: don't get sunburnt; look both ways before you cross a road. It's commonplace how we tell our kids. Maybe we ought to start telling them, you know, as you get older, you're going to need to do this and that to keep yourself healthy. (FG5/Female)</i>
	Media	<i>I think the best media is TV, isn't it? The Australian Government, bowel screening ad, I think that's the quickest way to get it across. (FG4/Male)</i>
Face-to-face	<i>Face-to-face is always better, because if you watch something on TV, you sort of can just switch off and not take much notice, but if you're sitting in a room and they can push the benefits of doing it, you're probably more likely to listen. (FG1/Male)</i>	
Format	Large	<i>But it needs to be a big poster that sits there staring you in the face while you're sitting in the doctor's room, and you're not going to miss it. (FG1/Male)</i>
	Graphic	<i>They do it with the lung cancer, don't they? They show you disgusting photographs of lungs, or of people that are dying of lung cancer. I think they do need to frighten people a bit more. (FG6/Male)</i>
	Humorous	<i>Maybe that's the only way that we can actually get it out in the open, if it's something that we can make fun of or that can make us laugh, or because let's face it, as essential as our motions are ... it's sort of like your own private thing. (FG5/Female)</i>
	Regular intervals/consistent messaging	<i>I reckon they probably need to do it on a more regular interval, because I can't remember the last time I've seen anything up in lights, on telly or anything like that. (FG1/Male)</i>

second most common cause of cancer death in Australia and that only 30%–40% of eligible people complete the kit. Participants felt that sharing this type of content would help improve people's understanding.

Similarly, they highlighted the value of personal stories that make bowel cancer and its consequences for individuals and their families real. There was a frequent view that drawing on emotions is a valuable way of driving activity, whether that be through the use of graphic images (eg, colostomy as a result of bowel cancer) or prompting children to request their parents participate. Furthermore, drawing on the Australian sense of humour was discussed as a potential mechanism.

Sources

Many different sources of information were deliberated on, with general practices, hospitals and pharmacies frequently mentioned. Participants also emphasised the need to access people's attention in places where they might have time while waiting for services (eg, waiting rooms, public transport).

The vets, libraries, train stations and trains. People are sitting there (FG4/Female)...

Wherever the general public go (FG4/Male)...

Wherever there's meetings... wherever people congregate (FG4/Male)

Public facilities were seen as important and included all of cinemas, pubs, pools, gyms, churches, libraries, shopping centres, workplaces, schools and other community centres (eg, Men's Sheds, Country Women's Association, Rotary Clubs). In addition, mainstream and social media platforms were identified as common sources of health information, from newspapers (local and national), to advertisements, medical programmes, morning shows, and talkback radio programmes.

Format

In terms of the format of information, face-to-face education was the highest priority: *"Because seeing things is much better than just hearing things or reading things"* (FG4/Female), although it was acknowledged that communication formats would likely differ according to the target population (eg, younger people by social media, older people more written/verbal strategies). Participants spoke about information sessions run by communities or GPs as potential avenues for opening up conversations about bowel health. Furthermore, roadside billboards, shopping centre booth handouts and pamphlets from healthcare providers were all considered valuable ways of displaying information. Participants determined that materials must be made available in multiple languages and information be disseminated regularly rather than a one-off campaign.

DISCUSSION

Using a qualitative research method, this study engaged with patients attending three general practices in low

socioeconomic areas of South Australia for their views on bowel cancer screening, and priorities and activities for improving screening participation, in particular the role of general practice. Given the Australian Government's desire for greater GP involvement with bowel cancer screening,²² this study provides valuable information, from patients' perspectives, on potential activities that could be used to inform future initiatives. The findings from this study may also be applicable to other countries that have population-based bowel cancer screening in place.

The findings from this study reinforced the important role that GPs can play in supporting the uptake of the NBCSP in Australia. This finding is consistent with evidence from our earlier research³⁰ and other studies^{16,31} illustrating that GPs could offer support with education, advice, monitoring and active screening. The current results underscore the importance of the personal touch, trust, confidence, familiarity, expertise and personal accountability that make GP recommendations to patients particularly influential. From the perspective of the GP, however, this individualised approach to a recommendation for bowel cancer screening is very different from the concept of 'population-level screening' proposed through the NBCSP.^{32,33}

There were concerns around GPs' time and other limitations related to access to preferred GPs and staff turnover. Literature shows other challenges for GPs including poor reporting systems to follow-up outcomes and screening for those not currently eligible for the national programme.³¹ Given the multiple clinical and administrative tasks for GPs, it is crucial to identify models of GP engagement in a centrally organised bowel cancer screening programme such as the one in Australia, to ensure effectiveness, efficiency and quality.

This study also revealed the need for multiple activities at different levels and under different jurisdictions (eg, personal, familial, community, government). It was valuable to look beyond the practice boundaries for other strategies for improving screening. Lewin's equation³⁴ suggests that behaviour is a function of a person and their environment. In this study, family (ie, upbringing) and social (ie, screening culture) environments emerged as particularly strong elements in participants' experiences of bowel cancer screening. The notion of intrafamilial and intergenerational activities proposed by participants to improve screening speaks to the need to change the current environment, improve acceptance across the lifespan, reduce stigma and enhance the bowel cancer screening culture in Australia. School-based programmes have been successful in improving preventive behaviours related to obesity or skin cancer thus lessons from these models could potentially be applied to inform intergenerational bowel cancer campaigns.^{35,36} Furthermore, the Australian Government has recently invested in a national bowel cancer screening advertising campaign across TV, radio, social media and outdoor advertising.³⁷ The content, source

and format ideas presented here offer potentially useful insights for this new campaign.

The study has some strengths and limitations. The recruitment of study participants through general practices was a point of strength. This means that the sample comprised individuals who had insight into interactions with healthcare providers and the conditions within which they work. This sample was therefore able to offer a unique perspective on activities for GPs in improving bowel cancer screening. One of the study limitations was the potential selection bias in the sample towards people predisposed to using the kit, valuing health and having a good relationship with their practice. Most participants were active screeners and those that were non-screeners may have felt unable to share wholeheartedly given the majority of screeners in each group. It would have been valuable to have more voices of non-responders but unfortunately individuals who are not willing to participate in screening are often not willing to discuss it either. It is also one of the challenges of recruiting through general practices that individuals may not feel comfortable fully disclosing to practice staff that they have not participated in screening. Furthermore, people with low English literacy, and poor health who are likely to need greater support and education were excluded from the study. The diversity of the Australian population means that tailored approaches at different levels need to be developed to ensure equity in bowel cancer screening.

There would be benefit in conducting research in the future with a broader sample that included diverse population groups and those without a regular GP. It would also be valuable to attempt discussions with a larger group of non-screeners to gain further insight into the activities that may affect their decision to screen. Future research could also centre on identifying which general practice non-screening patients would be most likely to be influenced by general practice engagement (eg, based on attitudes). In addition, based on suggestion from participants, future research should look to younger age groups to canvas their views on screening. Similarly, intergenerational interventions should be trialled to investigate the development of screening culture within families and communities. Furthermore, regarding practice-based activities, roles for practice nurses in encouraging screening should be explored. Findings from the current study add to the broader evidence base around priorities for interventions to improve bowel cancer screening. The next step may therefore be using co-design with policy makers, healthcare providers and members of the public^{38–40} to create an intervention likely to maximise benefits for bowel cancer screening in Australia.

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Contributors LB collected, analysed and interpreted the data and was the main contributor to the manuscript. CM co-facilitated the focus groups and made a significant contribution to the data analysis phase and writing of the results section. LR and RR conceived the project as Chief Investigators on the grant that funded this work, with significant input into both the design of the study and the writing of the manuscript. All authors read and approved the final manuscript.

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