The role of general practitioners in managing patient participation in the National Bowel Cancer Screening Program: A qualitative study

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Background and purpose

The Australian National Bowel Cancer Screening Program (NBCSP) targets early detection through immunochemical faecal occult blood test (iFOBT) screening of eligible individuals. This study examined Western Australian general practitioner (GP) follow-up processes of patients returning positive iFOBTs through the NBCSP.

Methods

The study reports on qualitative descriptive findings from round one key informant interviews of a two-round Delphi study.

Results

Sixteen GP interviews were undertaken for the study. Analysis indicated patient contact comprised a non-urgent appointment within two weeks. Three themes were identified. All consenting NBCSP participants with a positive screen were referred for colonoscopy unless comorbidities or procedural risk were present. Inefficiencies occurred in the interfaces between general practice–based clinical software, the NBCSP and the National Cancer Screening Register. The GP–patient relationship played a part in facilitating NBCSP participation.

Conclusion

GP participants regarded the NBCSP as beneficial but highlighted inefficiencies in tracking patients, referring them for colonoscopies and registering their screening data.

BOWEL CANCER is the fourth most diagnosed cancer and has the second highest cancer mortality rate in Australia.[1] In Western Australia (WA), it is the most common internal cancer.[2] Current data compiled by the Western Australian Cancer Registry indicate that in 2019 there were 1326 diagnoses of and 408 deaths from bowel cancer, with one in 26 men and one in 37 women expected to have a diagnosis of colorectal cancer before the age of 75 years.[3] The disease typically develops slowly, and early detection might dramatically reduce the risk of mortality and morbidity.[1,4] Identifying microscopic blood in stool is highly effective in detecting bowel cancer in its early stages and is the aim of screening programs. The Australian Government introduced the National Bowel Cancer Screening Program (NBCSP) in 2006, which targets early detection through immunochemical faecal occult blood test (iFOBT) screening of asymptomatic individuals at average risk of bowel cancer. Between January 2021 and December 2022, 6 million eligible Australians were invited into the program and 40% participated, which was marginally lower uptake than 41% in the previous two-year period (2020–2021).[1] From July 2024, the program eligibility age was lowered from 50 years to 45 years, with individuals aged 45–49 years able to request their first kit from the National Cancer Screening Register (NCSR), while those aged 50–74 years are automatically sent a free kit in the mail. Kits are automatically mailed every two years after the previous screening test is completed. Where available, anyone aged 45–74 years may request a kit from their general practitioner (GP).[5]

Results from NBCSP iFOBTs are sent to the participant, the NCSR and – if nominated – the participant's GP.[6] In 2022, 6% of participants returned a positive screening test, and 86% of these individuals reported a follow-up diagnostic assessment.[1] Clinical advice recommends a participant who tests positive meets with a GP, which commences the 'usual care' phase of the bowel cancer diagnostic pathway. The 'usual care' phase refers to elements of the pathway that are delivered through general practice services wherein: 1) a patient consults a GP within two weeks of receiving notification of a positive iFOBT; 2) the GP refers the patient for colonoscopy; and 3) the NCSR is notified of the follow-up diagnostic assessment[7,8] by either the patient, the GP or the proceduralist. The authors could not identify any literature that establishes what processes enacted by GPs are at the commencement of 'usual care'. Accordingly, this study was commissioned to gain insight into processes and experiences of GPs as primary healthcare providers in WA regarding their follow-up protocols of their patients returning positive iFOBTs through the NBCSP and perceived efficacy of those processes.[9] Furthermore, interviews explored GP use of referral recommendations and guidelines as well as the integration of clinic software systems with the NCSR. It was intended that the study would qualitatively provide insight into current GP practices, which would guide future research directions.

Methods

The overarching study employed an explanatory, sequential mixed-methods design using a qualitative modified two-round Delphi technique.[9] Qualitative research within the context of this study does not seek to generalise the clinical behaviour of GPs. Instead, participants were selected purposively to provide their expertise in managing patients with a positive iFOBT.

This paper specifically reports on the findings of the qualitative first round of semi-structured interviews with a purposive sample of GPs in WA. Interview questions were based on relevant literature, including several key priority areas listed in the *WA Cancer Plan 2020-2025*.[10] The final interview schedule comprised eight interview questions (Appendix 1, available online only). A qualitative descriptive (QD) methodology guided the interviews. The QD method allows researchers to 'stay closer to the surface of the data' and to 'describe' events rather than applying a more interpretive approach to phenomena as with other qualitative methodologies.[11] The QD approach is most suited to this study as specific answers to the research questions are required to define and articulate the existing pathways and practices among GPs in following up positive iFOBTs.

Recruitment and sample

Both purposive and snowball sampling techniques were used to recruit study participants.[12] Purposive sampling is a non-probability sampling approach whereby project participants are selected who have the greatest amount of information about and experience with the topic and who are relevant to the research topic or question.[12] Snowball sampling is a chain-referral method where initial project participants suggest and/or recruit others from their networks.[13] A purposive sample of GPs was recruited by advertising the study through existing WA primary health research networks, Rural Doctors Association, Rural Health West, WA General Practice Based Research Network (WAGPBRN), WA Primary Healthcare Alliance (WAPHA) and The Royal Australian College of General Practitioners (RACGP) noticeboard.

Snowball sampling was subsequently applied by asking those purposively sampled to identify other GPs who may be available and willing to participate in the study. Those interested in participating contacted the research assistant, who shared the project information sheet and answered any further questions. Consenting GPs were then interviewed at a mutually suitable time. Interviews were undertaken between June and September 2023. Each GP participant received remuneration for a completed interview, and those involved in the RACGP Continuing Professional Development (CPD) program were advised to self-record their time as Reviewing Performance time.

Data collection and analysis

Interviews were held via Zoom, over the phone or in person at the participant's preference and lasted between 20 and 45 minutes in duration. Interviews were recorded, transcribed and imported for analysis into QSR NVivo Version 14.[14] Data were analysed using template analysis (TA), which applies deductive and subsequent inductive coding of the data.[15,16] The process commenced with a priori themes (deductive) produced as part of the TA approach and using the question context from the interview schedule.[15,17] Following on from this, an inductive approach was employed for the data as the analysis progressed. A selection of the transcripts was analysed separately by another team member. All three authors/team members met to agree on a consensus regarding the analyses of the data and the final themes.

Trustworthiness and rigour

Trustworthiness of the research was achieved for credibility, dependability, confirmability, transferability and authenticity.[18] These criteria are described in Table 1, summarising how they were applied to this study. Credibility was demonstrated by a clear audit of the research processes and reporting on participants' engagement and the interview process. Dependability was achieved by

Table 1. Trustworthiness criteria for qualitative research and application of these in this study

Trustworthiness criteria	Application to this study
Credibility: Truth in representation and interpretation of participant views	• Reported on general practitioner participant engagement • Reported on interview process (Appendix 1) • Maintained an auditable research process
Dependability: Consistency of the data over similar conditions	• Undertook collaborative and parallel decision making by researchers • Audited interview transcripts by researchers
Transferability: Findings can be applied to other similar contexts	• Reported sufficient information on participants and the research context (Table 2)
Confirmability: Ability to demonstrate that the data represent participant viewpoints and not pre-existing researcher bias(es)	• Described the process of data interpretation • Demonstrated themes and participant experience through rich, direct quotation in reporting (Tables 3–5) • Maintained an auditable research process
Authenticity: Extent of faithful expression of participants' feelings and emotions	

showing consistency of the data over similar conditions through research team–based decision making with an audit of a sample of transcripts by three researchers. Confirmability and authenticity of the data represented varied participant viewpoints and not pre-existing researcher biases. This was demonstrated via description of the process for coding and analysing the data as well as the use of themes and seminal quotes within the findings. Finally, transferability of findings was achieved through adequate information on participant characteristics and the adherence to the research aims to allow readers to evaluate transferability in reporting.

Ethics approval

The study was approved by the Human Research Ethics Committee at Notre Dame (approval number 2023-005F).

Table 2. Attributes of round one GP participants and their practices

GP participant ID	GP participant gender	Years practising as a GP in Australia	Practice regional location	Practice clinical software	GP participant medical interests	GP participant predominant patient group
01	Male	40	Metropolitan Perth	Bp	Chronic illness, aged care	Older and ethnically diverse
02	Male	7	Metropolitan Perth	Bp	General health, skin	Mixed
03	Male	16	Metropolitan Perth	Bp	Not disclosed	Broad/diverse with a weighting towards older
04	Male	Not disclosed	Metropolitan Perth	MedTech	Not disclosed	Not disclosed
05	Male	Not disclosed	Metropolitan Perth	Bp	Not disclosed	Not disclosed
06	Female	30	Metropolitan Perth	Bp	Medical education, care of elderly, multimorbidity	Elderly
07	Male	Not disclosed	Metropolitan Perth	Bp	Not disclosed	Not disclosed
08	Male	14	Metropolitan Perth	Bp	Older adults, men's health, chronic disease management, injury management	Wide range
09	Female	30	Metropolitan Perth	Bp	Women's health, chronic disease	Diverse
10	Male	20	Metropolitan Perth	MD	Preventive health, geriatric medicine, balanced lifestyle	Older, ethnically diverse
11	Male	20	Metropolitan Perth	Bp	Prevention, cardiovascular disease, asthma, cancer screening	Male, older age, mostly Caucasian, socioeconomically diverse
12	Female	21	Metropolitan Perth	Bp	Family medicine, women's health, children's health	Families, older women, different demographics and ethnicities
13	Female	5	Metropolitan Perth	Bp	Paediatrics, general medicine, women's health, dermatology	Female
14	Female	36	Metropolitan Perth	Bp	Women's health, mental health, youth health	Nil predominant
15	Male	19	Metropolitan Perth	Bp	General practice	Adults, lean male, lean older
16	Male	Not disclosed	Metropolitan Perth	Bp	Not disclosed	Not disclosed

Bp, Best Practice; GP, general practitioner; MD, Medical Director.

Results

Sixteen participants completed the Delphi round one interviews (Table 2). Each participant self-identified as a GP, and more than two thirds identified as male (n = 11, 69%). All worked in general practices located in metropolitan Perth, WA. Best Practice (Bp) was the most popular general practice–based clinical software and was used by all but two practices, which instead employed MedicalDirector (MD) and Medtech.

Study findings from the interviews with GP participants revealed three key themes about the program relating to both practice and individual GP follow-up processes for patients with a positive screen. The broader interface with the NCSR and NBCSP at primary care level, along with the potential for the GP to have a central role in the NBCSP, were also explored more closely.

Theme 1: Perceptions of the NBCSP and patient management – balancing process and care

GP participants regarded the NBCSP as beneficial to the early detection and prevention of bowel cancer. They also believed that most NBCSP participants are those who are potentially at low risk of bowel cancer and are self-motivated with their health. Most GPs anecdotally reported fewer than 10 positive notifications per year, with minor fluctuations noted.

Once notified of a positive result, GP participants typically sought a non-urgent consultation with the patient within 2 weeks. They would usually select the 2-week time frame and avoid worrying a patient by labelling the follow-up ‘urgent’. This was particularly the case when the GP participant deemed the patient a ‘regular’ and was familiar with their medical history.

When asked about how they contacted patients and how many attempts at contact were made, GPs noted that they would engage multiple methods of contact until the patient attended the follow-up appointment. Most of those interviewed requested practice staff to contact the patient on their behalf via a phone call, posted letter or text message to the patient.

Some described how their approach may change if the patient is known to be anxious about their health or to have comorbidities. Furthermore, despite the ability to use text messaging, some GPs would prefer to call the patient directly, particularly if the GP’s knowledge of the patient’s medical status or personality indicated that a phone call from the GP rather than any other form of communication would be preferable. Others would proactively consider the most suitable ways of contacting an individual patient, thereby personalising the process.

In cases where they were not listed on the NBCSP form as the nominated GP for a patient, GP participants advised that they would address the management of patients in the same way.

A selection of GP participant quotes supporting Theme 1 is provided in Table 3.

Theme 2: Navigating the referral pathway – software, processing and systemic issues

GP participants advised that patients with a positive screen were typically referred for colonoscopy unless they did not consent for referral and/or had comorbidities that increased the risk of the procedure.

Private health insurance was the deciding factor in whether a patient was referred for colonoscopy via the public or private health systems. Colonoscopy delays and timeliness issues outlined by GPs were mostly in relation to referrals through the public health system, where they observed prolonged wait times for patients. Some spoke of problematic delays in public health systems due to ‘poor communication’ and challenges in the referral system, with a lack of clarity around which patient referral form was the correct one. However, despite the fact that there is a universally mandated public gastroenterology referral form used by the Central Referral Service, the potential for incorrect referral by not using the required form can result in rejections back to GPs and may be a factor leading to delays.

One GP believed that colonoscopies were not being undertaken in the time frame suggested by the state-level health authority. Two GP participants described their strategies to reduce delays in colonoscopy referrals. One way to reduce wait times was to send patients through to what one GP termed ‘peripheral hospitals’ (ie not a major, tertiary hospital), where colonoscopies were done ‘in a timely fashion’ (GP participant 08). Another spoke of recalling the patient quicker after receiving the positive test result and knowing that ‘the referral time can take longer’ (GP participant 15).

GP participants identified issues regarding general practice–based clinical software integration with the NCSR. One consequence of this was that the NBCSP GP Assessment Form – which provides information about

Table 3. Quotes to support Theme 1

Quote	Study participant
‘I think [the NBCSP is] pretty well organised. I think it’s worthwhile. I think the evidence is there that it’s a useful thing to do.’	GP participant 04
‘The vast majority of people who do these tests are otherwise reasonably well, with a roughly normal life expectancy … and [have] self-selected themselves as motivated people.’	GP participant 11
‘So, one of the things to convey to the patients is not to panic about it if they do get a positive result, it could be a number of different reasons as long as they’re seen within a timely manner, I guess if they come within a few weeks.’	GP participant 12
‘I would usually email the nurse and say this patient needs to be followed up and they would write a letter or ring. Now we’ve switched across to a new system that is text messages based where the patient clicks on a link and [you] can actually see that they’ve viewed your message.’	GP participant 03
‘It’s a mixture. Usually I do a telephone call, although it’s partially personality based on the patient, because some people are going to freak out, and they need a telephone call to tell them the process, and some who have less health anxiety and our receptionist calling or a text message is enough to prompt an appointment.’	GP participant 15

patients with a positive screen to the NCSR[8] – continued to be predominantly submitted as a hard copy via fax or mail despite the availability of an electronic submission process.

Some GPs adopted innovative means to track the screening status of patients, such as using a software application that alerted them if a patient was overdue for screening and holding files for patients to monitor whether they had attended a follow-up appointment.

A selection of GP participant quotes supporting Theme 2 is provided in Table 4.

Theme 3: Essential support – program uptake, GP–patient relationship and incentives

Most GP participants described the importance of the GP–patient relationship and identified it as an important factor in encouraging patients to participate in the NBCSP and follow up their results. They also expressed a clear understanding of patient reluctance to screen for bowel cancer, with highlighted issues such as low participation rates often attributed to aversion to the test itself and limited awareness of bowel cancer.

Some GPs with regular patients for whom they are the nominated GP felt they could play an important part in encouraging greater NBCSP participation. In addition, they articulated the trust patients placed in them and the importance of being able to provide the necessary time and care to guide their patients through the screening process.

Although GP participants appreciated that theirs was a unique relationship with their patients and one that heavily influenced patient decision making, many also emphasised the issues regarding time limitations during standard patient consultations to discuss the importance of, and participation in, screening programs such as the NBCSP. One GP believed more practitioner incentives would signify that their time and expertise was valued and may boost NBCSP uptake.

Most GPs acknowledged the benefit of greater availability of test kits to facilitate patient participation through their direct encouragement and support. Being able to provide kits immediately to patients was considered an effective strategy to facilitate uptake in the program; however, many GP participants were unaware that this option is available via the NCSR alternative access to kits model[19] and suggested better promotion and additional information about the initiative was required.

A selection of GP participant quotes supporting Theme 3 is provided in Table 5.

Table 4. Quotes to support Theme 2

Quote	Study participant
'Most of the time colonoscopy is the gold standard for us to ascertain exactly what's caused the positive result.'	GP participant 10
'If there were less waits, if the system was better resourced, there were more people able to do colonoscopies so that they happened in a timelier manner.'	GP participant 11
'We get a referral and then it comes back because we needed to use another form, so you need to do it twice. It's quite annoying that the more times you have to do things twice, the more you waste your time. The public system is under pressure, but it's not helped by this increased administrative load by the referring practitioner.'	GP participant 16
'I'm a bit cynical to be honest about those "Just click on this and go automatically here and fill out the details yourself because it's so much easier". Easier for who? Quite possibly not for the GP, because it's very easy to pull out a form and just fax it off, and often there seems to quadruple the number of questions, once you don't have to actually … involve a form and paper.'	GP participant 06
'I use another application that sits over the top of Best Practice that has like the traffic light system … it does detect if someone has done a bowel cancer screening in the last two years. If the patient comes in and it's red, then I'll be like, "Have you done the bowel cancer screening kit the last two years?"'	GP participant 03
'… when the results come in, we have a holding file for those results, and I leave that notification in that holding file … If something doesn't happen and they haven't come in within a couple of weeks or seen someone else, I would – and I am assuming that the patients are getting the letter at the same time as me, I'm assuming there's no real gap with the notification arrival times – then I send a letter or a SMS to that patient saying could they come and make a non-urgent appointment to discuss their results.'	GP participant 09

Discussion

This study was completed as the first phase of a two-round Delphi study that explored processes and perceptions of GPs with patients who have a positive screen.[9] The interview findings highlighted three key themes as well as some individual perspectives from GP participants regarding the realities of follow-up for patients with a positive screen. In general, the GP–patient relationship was regarded as central to managing the system for patients following a positive iFOBT result. Multiple contact attempts were made until a patient with a positive screen was booked for a follow-up appointment whereby the approach may be personalised. Similarly, although all eligible, consenting patients with a positive screen were referred for colonoscopy, whether they were referred to public or private health systems depended on whether a patient held private health insurance.

The NBCSP recently lowered the eligible commencement age to 45 years[5] in response to emerging evidence reflected in the 2023 update to the National Health and Medical Research Council–endorsed *Clinical practice guidelines for the prevention, early detection, and management of colorectal cancer: Population screening*.[4] This change in clinical advice has the potential to increase reports of underscreening given the tendency for lower uptake of population screening in younger cohorts.[20] This draws attention to the importance of GP endorsement of screening programs such as the NBCSP. Studies both in Australia and overseas have found the endorsement and encouragement of a GP influences the uptake of screening practices among the community.[20–22]

The relationship of trust by patients was also highlighted during interviews, and some GPs considered the potential for anxiety in some patients following a positive screening result and would take mitigating steps. A Dutch study by Bertels et al[23] also highlighted the crucial role the GP has with anxious patients, noting that GPs would use strategies to avoid inducing stress in such patients.

The promotion of the NBCSP and the importance of screening was considered somewhat sufficient and effective; however, GPs cited time limitations for focusing on motivating patients to participate. In addition, GP participants found mechanisms to navigate systems and advocate on behalf of their patients. They were also committed to remaining updated and informed regarding patient progress through the NCSR and pathways to treatment.

The general practice electronic interface with the NCSR and NBCSP was highlighted as an area for improvement. The need for better systems integration between NBCSP and general practice–based clinical software, with a suggestion of a critical exploration of the current systems to uncover what may be lacking, is a starting point. The GP participants in this study also expressed a desire to have greater involvement in screening initiatives. However, it was suggested that recognition as an integral part of the system – with their time taken into account – and more consistent access to the NCSR through improved interface with general practice–based clinical software also needed to be considered. Ultimately, this highlights a number of opportunities for increased engagement and education with general practices, especially given that both MD and Bp are software tools that can be integrated with the NCSR.

In general, GP participants regarded the NBCSP as useful in detecting early signs of bowel cancer but noted that uptake could be improved among those potentially at greater risk of the disease. Although many agreed that GP endorsement of the NBCSP and practice dissemination of information would encourage participation among patients, the lack of time for ‘in-consult discussions’ led to missed opportunities. Consideration of the limited time factor for GPs is crucial to any future success of the NBCSP and similar bowel cancer screening programs. The relationship GPs have with their patients provides insight into improving efficacy of the program and ultimately reducing the burden of bowel cancer in Australia.

Table 5. Quotes to support Theme 3

Quote	Study participant
‘I often ask the patient … once they hit the age of 50, if you had received the information from the government. Most of them say, “Yes, I’ve received it, it’s still there, I haven’t done it … you know, it’s too much effort” … I do encourage them to go ahead and do it but sometimes they say, “Oh, I misplaced them” and I say “Okay, do you mind if I request for you?”’	GP participant 05
‘I had to explain it to a patient who found it all so overwhelming, the paperwork and instructions.’	GP participant 16
‘… I have a very long-standing patient database … So if they get a call from me saying you need to come in, they come in … they think that if I give it weight then they think maybe I should give it weight … takes a prod from me when I notice it hasn’t happened.’	GP participant 04
‘… provide incentives for patients, for GPs, being proactive at recruiting people to the process and following it up.’	GP participant 04
‘I am not aware of which access process our clinic uses. We have kits in the clinic which we can provide to patients directly.’	GP participant 02

GP, general practitioner.

Limitations

It is acknowledged that using a qualitative approach to this topic cannot be generalised to wider and larger populations, nor should this be the aim of a qualitative study. However, it is intended that the ‘thickly descriptive’[24] information obtained from a purposive sample of GPs with an in-depth knowledge of the phenomenon provides a different perspective on the topic. Further to this, diversity in the study sample was limited by all GP participants being from metropolitan Perth, WA, and the reliance on snowball sampling for recruitment. Data collection concluded prior to the reduction in eligibility age for NCBSP participation and thus does not include comment on this change. Generalisability of results Australia wide is also limited, particularly regarding follow-up of patients through varying state-based health systems, as the study was carried out in one state.

Conclusion

In general, GP participants regarded the NBCSP as beneficial to the early detection of bowel cancer and acknowledged that they played a key role in program participation. However, their experience in managing screened patients highlighted inefficiencies in tracking patients across several health systems, referring them for colonoscopies and registering their screening data. Further research is recommended.

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