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Bowel cancer screening in Australia in 2018: reducing mortality

Background

IN 1983, there were 7,158 new cases of bowel cancer reported in Australia. Thirty years on in 2013, that figure had more than doubled to 14,962. However, with a growing population, the chances of diagnosis before 85 remains at 1 in 13 for Australian women and 1 in 10 for men.[1]

Pleasingly, the mortality rate from colorectal cancer has halved over this same time period (see figure 1), from one in 25 adults dying from colorectal cancer before age 85 in 1984 to 1 in 51 in 2014.[1]

This significant reduction in mortality is due to many factors such as earlier-stage of diagnosis combined with advances in endoscopic, surgical, medical and oncological management.

The National Bowel Cancer Screening Program (NBCSP), which was launched in 2006, cannot yet claim to be a significant factor in the reduction in bowel cancer that has occurred over the past three decades.[2]

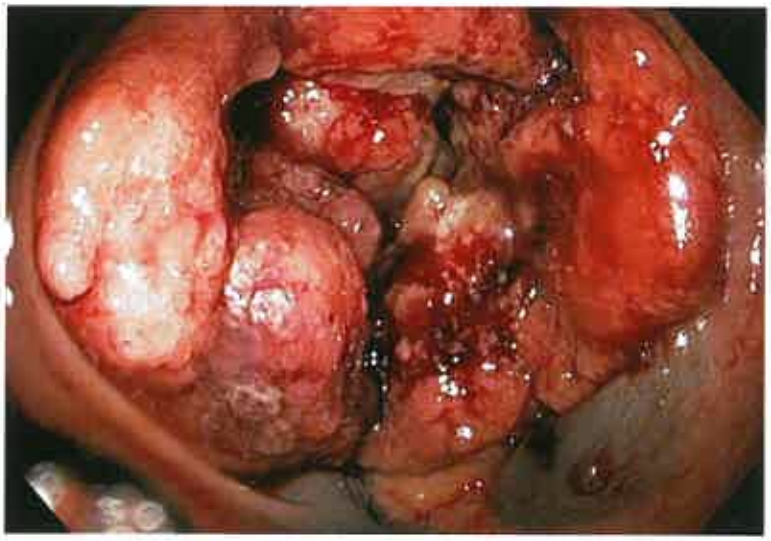

Figure 2. Advanced colonic cancer viewed via the colonoscope after biopsy and tattoo marking.

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However, this should change if overall NBCSP participation rates continue to rise. The NBCSP mails bowel cancer screening kits to all eligible 50-74-year-old Australian men and women to complete at home. This program is currently expanding and $95.9 million was provided in the 2014 Budget to accelerate this expansion. From 2019, all eligible will be invited to screen every two years.

The ages at which people will be sent a faecal occult blood test (FOBT) kit in the mail in 2018 are: 50, 54, 58, 60, 62, 64, 66, 68, 70, 72 and 74.

From 2019, those aged between 52 and 56 will be added to complete the two-yearly screening process from 50-74.[3]

While this trend of falling mortality rates and increase in provision of NBCSP FOB testing is good news, there is no room for complacency.

Of those who were invited to participate in the NBCSP between 1 January 2014 and 31 December 2015, only 39% undertook screening.[4]

This is despite the fact that 1 in 29 participants who returned a positive test and subsequently underwent a follow-up diagnostic assessment were diagnosed with a confirmed or suspected cancer (see figure 2).[4]

We know that earlier diagnosis results in better outcomes with a 15-25% relative risk mortality reduction.[5] This then raises the question — why there are not more participants in such a successful screening strategy?

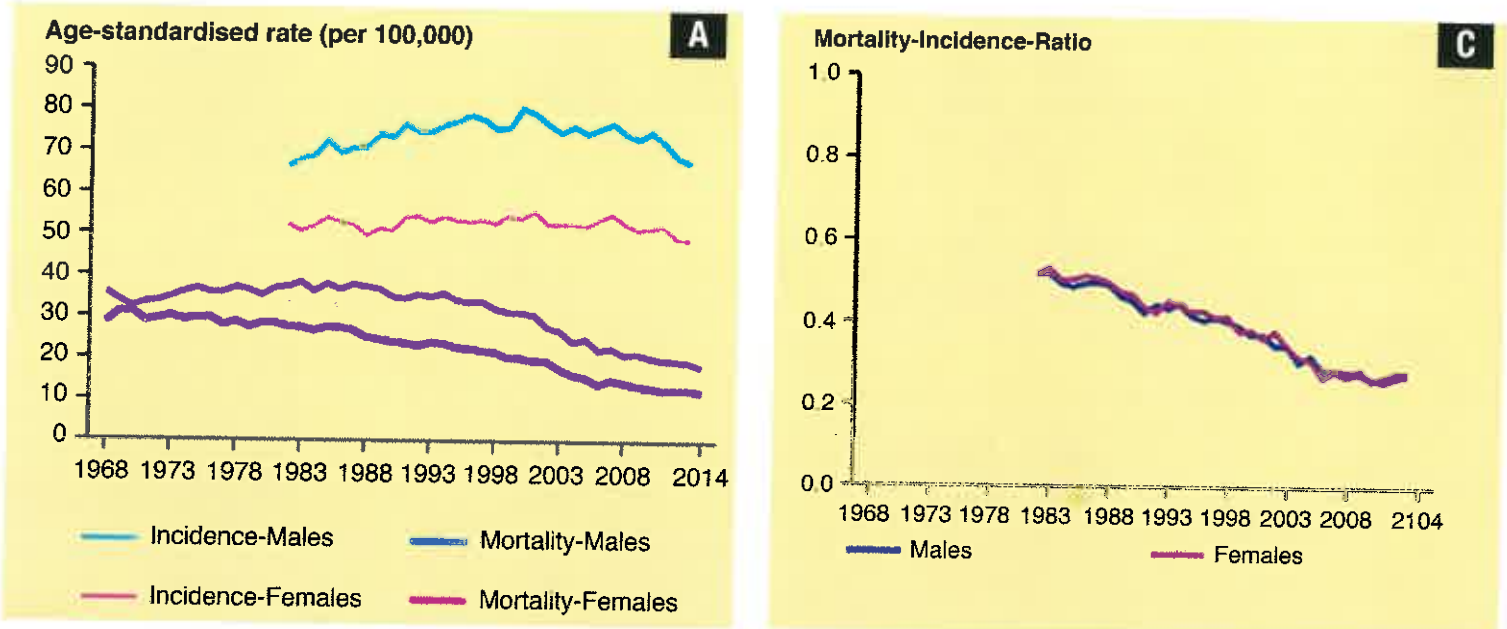

Figure 1. Age-standardised incidence and mortality rates by year and sex A. age-specific incidence (2013) and C. Mortality-to-incidence ratio by year and sex(c), of colon cancer. Source: AIHW Australian Cancer Incidence and Mortality. See bit.ly/2i8pBGU

Community bowel cancer screening participation rates

INTERNATIONALLY, Scandinavian countries seem to have the highest overall participation rates for bowel cancer screening, with Finland (67%) and Sweden (65%) having the best reported country participation rates.[6] Notably there was a significant gender difference in Finland, where 75% of women and 60% of men chose to participate. The US participation rate has remained steady at 60%, although some targeted local areas maintain an 80% participation rate.[7,8]

However, the Australian rates lag a long way behind other western nations. As at 31 December 2014, the NBCSP Register reported the average state and territory participation rate at 36%.[9] Among the states, SA had the highest documented participation rate at 42.5% with New South Wales the lowest at 33.2%.

Therefore, we believe Australian communities should aim higher and more than double their current screening participation rates to more than 90%. This would bring bowel cancer screening in line with current immunisation rates of above 90%.[10]

In the late 1990s, Australian Rotarians led the initial push for screening by providing kits. The RACGP Red Book soon followed, recommending a two-yearly FOBT from the age of 50 for people with average or slightly increased risk.[11] This has been a consistent RACGP recommendation for over two decades. It is pleasing to see the NBCSP catching up to this long-term RACGP recommendation with the provision of free biennially mailed FOBT kits to those aged 50-74.[3] This is also in line with the Australian Cancer Council (ACC) colorectal cancer guidelines published in October 2017.[12] These guidelines also reflect the same two-yearly recommendation for those at or slightly above average risk and biennial FOBT from 50-74.

For the first time, the RACGP, NBCSP and ACC are all making the same bowel cancer screening recommendations to reduce mortality rates.[5] This is in line with other international organ-based cancer screening programs, where a similar range of reductions in community mortality has been described. Whereas FOBT bowel cancer screening results in a 15-25% community mortality reduction, cervical cancer screening results in a 70% reduction, and breast cancer screening results in a 15% reduction.[5,13,14]

Techniques of bowel cancer screening

WITH convincing evidence that screening results in the early identification of colorectal cancer, leading to mortality reduction, the question becomes how to screen average risk individuals (population screening). Evaluating the screening options should take into account patient factors (convenience, ease of administration, access, availability and cost), as well as test performance characteristics, cost and harms.

There are two accepted broad options. The first is non-invasive stool-based tests in various forms while the second is direct visualisation with endoscopic equipment (flexible sigmoidoscopy and colonoscopy). Serum 'tumour

markers' such as CEA have no role in screening average risk individuals for colorectal cancer as they lack both sensitivity and specificity. The Australian FOBT bowel cancer-screening pathway is outlined in figure 3.

Non-invasive screening options

FOBT has evolved from simple chemical detection (gFOBT, where guaiac is used in a reaction detecting the peroxidase activity of heme), through to the current NBCSP iFOBT (an immunohistochemical test designed to detect intact human haemoglobin — see figure 4). This evolution has improved specificity for colorectal cancer detection.[15]

FOBT in all its forms detects advanced lesions (cancer and highly dysplastic adenomas) more effectively than early lesions. This test does not detect lesions located in the right colon and a subset of adenomas (sessile serrated adenomata) as effectively (see figure 5).[16]

As FOBT is only a screening test, a positive test necessitates further investigations, mostly colonoscopic, (see figure 3). FOBT test performance suffers in patients with comorbidities that require the use of anti-platelet agents or anti-coagulation. False positive results occur more frequently in this setting. FOBT testing should not be used in those with a first-degree relative (diagnosed before the age of 60) with bowel cancer, as those patients require a five-yearly colonoscopy surveillance program which should commence 10 years before the age of onset of cancer in their affected first-degree relative. FOBT testing should also not be performed on patients with inflammatory bowel disease (IBD) as these FOBTs are likely to be positive.

Endoscopic screening for dysplasia in IBD necessitates IBD specialist input. FOBT should not be used to investigate patients with symptoms of bowel cancer, as these patients require a colonoscopy to investigate their symptoms, and not the screening FOBT as a diagnostic tool. Some confusion remains over the use of FOBT for post-polypectomy surveillance and it should be clear that a screening modality is not recommended in most circumstances once a diagnostic test has been undertaken and treatment completed (polyps removed).[17]

The NBCSP currently provides screening from 50-74, but a more recent study suggests that 45 may be a better starting point. GPs are advised to consider this new information when patients between 45 and 50 seek their opinion on when to start bowel cancer screening.[18]

Invasive screening options

Invasive, or endoscopic, evaluation of the colon is now proven to reduce both the incidence and mortality risk from colorectal cancer.[5,19-22] Endoscopic evaluation of the colon is able to detect lesions earlier in the adenoma to carcinoma pathway. Once identified (see figure 6), colonoscopic polypectomy (see figure 7) can remove these lesions, thus preventing many patients developing a cancer trajectory.

Therefore, colonoscopy offers a screening, diagnostic and therapeutic option in one test (see figure 8).

Endoscopic options involve the use of flexible endoscopic equipment to examine part of the distal large bowel (flexible sigmoidoscopy) or the whole of the large bowel (colonoscopy). While the NBCSP, RACGP Red Book and the ACC Australian guidelines do not incorporate either flexible sigmoidoscopy or colonoscopy into the average risk screening guidelines, other guidelines, including the United States Multi-Society Task Force on Colorectal Cancer, do.[19]

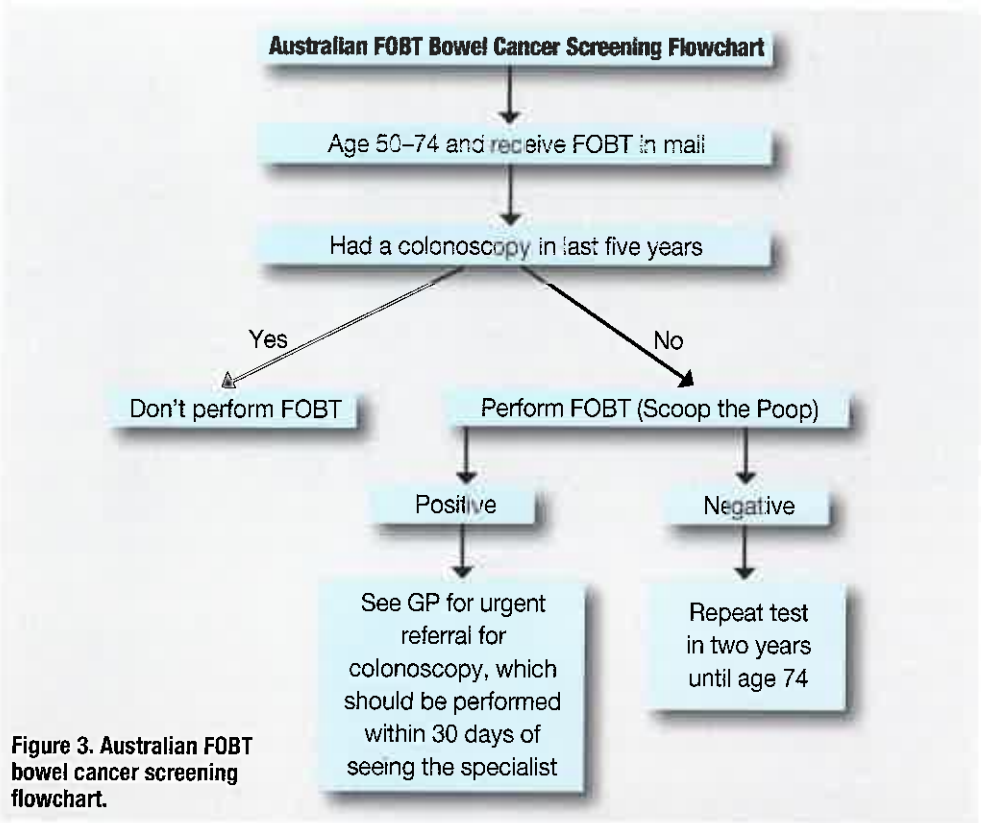

Figure 3. Australian FOBT bowel cancer screening flowchart.

Figure 4. National bowel cancer screening program kit.

Figure 5. Serrated sessile adenoma with cytologic dysplasia.

Figure 7. Tubular adenoma resection bed, after removal using endoscopic submucosal dissection.

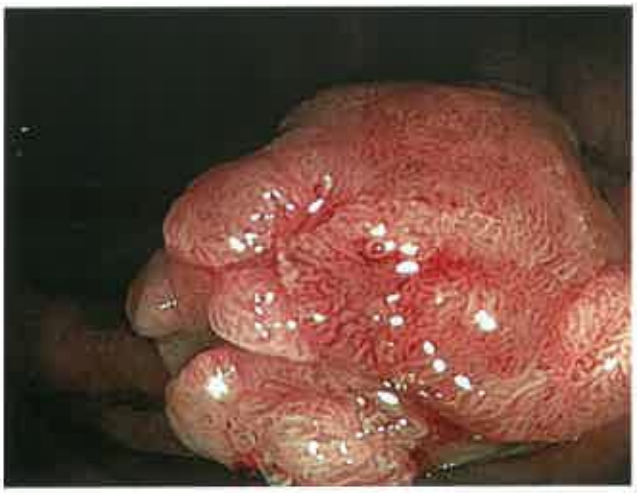

Figure 6. Large sessile tubular adenoma with high-grade dysplasia, before endoscopic removal.

Figure 8. A modern colonoscopy theatre.

Initial randomised controlled trials (RCTs) demonstrating a reduction in colorectal cancer mortality were conducted viewing the left hemi-colon with flexible sigmoidoscopy.[19-21]

Direct visualisation (in this case flexible sigmoidoscopy) has recently been shown to provide the best mortality reduction figures yet published for bowel cancer.[20] This study showed a convincing 66% reduction in mortality from distal bowel cancer (see figure 9) after 17 years of follow-up, again demonstrating further the mortality reduction benefit of endoscopic screening.

While the flexible sigmoidoscopy is not routinely used as a screening test in Australia, this technique is now used extensively in Britain and Scandinavia.

RCTs (CONFIRM, COLONPREV & NordICC) are now underway overseas to confirm this reduction when the left and right hemicolon are both examined, though multiple observational trials have already shown this to be the case.[23,29,30] In the current Australian practice environment, we believe that a partial examination of the colon has no role in screening and examination of the entire colon is appropriate.

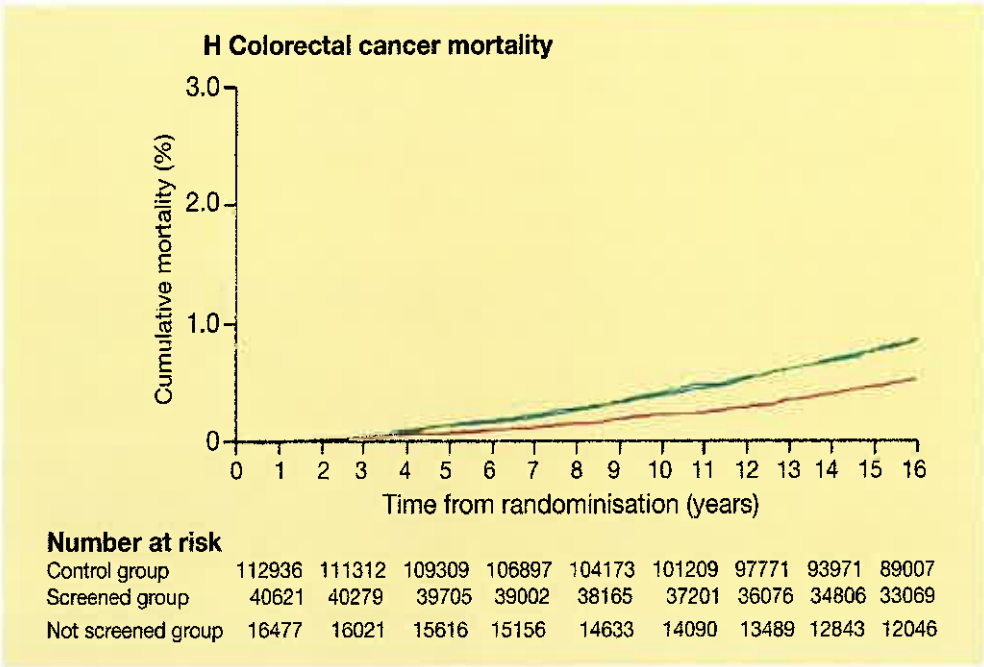

Figure 9. Mortality reduction from 17-year follow-up of NHS flexible sigmoidoscopy study.

However, a colonoscopy comes with inherent risks and cost. While the risk of the more common complications such as bleeding and perforation are less than 1 in 1000, this needs to be taken in the context that approximately one in 200 screening colonoscopies need to be performed to prevent one early death from colorectal cancer.[20]

Reasons why Australians should choose to undergo bowel cancer screening

PROVEN overall reduction in both colorectal cancer mortality and morbidity are the key common sense reasons why we need to increase our Australian bowel cancer screening participation rate.[5] However, even with the RACGP, NBCSP and ACC consensus, Australia is still struggling with its woeful 39% participation rate.[4,9] There are still over 4,000 adult deaths a year In Australia from a condition, which for many, is preventable.[1,5]

We feel this is an annual disaster of Titanic proportions (see figure 10). Yet too many clinicians and patients alike accept this significant preventable mortality as the current

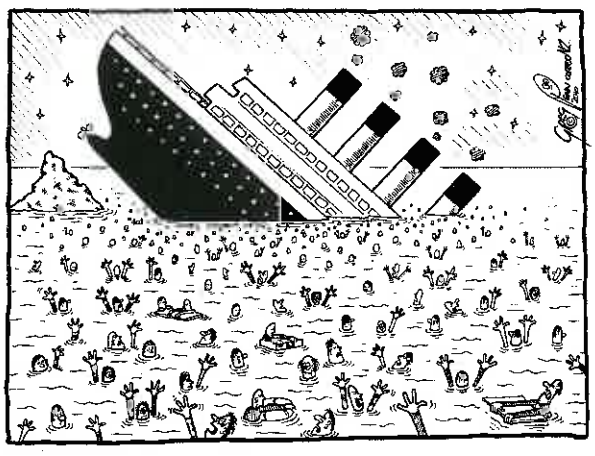

Figure 10. The Titanic.
When the Titanic went down in 1912, 1503 people died in one event. We know that bowel cancer screening with FOBT can reduce the mortality rate of bowel cancer by up to 25%.[5] Four thousand Australians die each year from bowel cancer, so effective screening could save almost as many as died when the Titanic went down.[1]

norm. In the authors' opinion, the premature and preventable death of over 1,000 Australians each year is not acceptable.

FOBT is cheap, readily available and increasingly becoming part of the disease prevention behaviour of a growing number of Australians. Testing can be performed comfortably in the privacy of one's own home, and once the minor technical aspects of this domestic platform are learned, it is easily repeatable over the ensuing years. With the new national consensus, there are now many good reasons to support biennial FOBT testing for those aged 50-74 at average or slightly above average risk of developing bowel cancer.

Reasons why Australians should choose not to undergo bowel cancer screening

THE three most common reasons for Australians choosing not to undergo free NBCSP FOBT bowel cancer screening are non-acceptability of the test, lack of knowledge regarding the benefits of the test, and fear that the test may tell them that they have cancer.

It is accepted that bowel cancer screening is a relatively new phenomenon and the next generation is likely to warm to this practice more than the current generation. A small proportion of patients do find the concept of stool testing unacceptable, and in a few cases simply repugnant. We do accept that this is a significant hindrance to some people deciding whether or not to participate.

Many medical practitioners may not clearly understand the substantial mortality reduction rates that are achieved with bowel cancer screening and, as a result, nearly all of our patients are ill- informed about the mortality reduction.

This lack of knowledge is also a significant factor in preventing many people from undergoing a test which is now mailed to them free of charge. Patients are also unwilling to participate in bowel cancer screening as they think this might tell them that they actually have bowel cancer, which they might perceive as bad news.

However, the one third of patients who return a positive FOBT and subsequently have a colonoscopy and polypectomy, will greatly reduce their chance of ultimately developing bowel cancer, particularly if large polyps are removed. This should be seen as good news for patients.

Further, in the small group of patients (less than 5%) who return a positive FOBT and a subsequent colonoscopic diagnosis of bowel cancer, early surgical and medical treatment has been shown to reduce the overall morbidity and mortality rate.[5,20]

This is again good news for the patient so we encourage GPs to take a positive view of FOB testing and to communicate this specifically in an encouraging fashion to patients who return a positive FOBT.

Clarke et al cite six theoretical domains that influence bowel cancer screening uptake: 'environmental context and resources', 'beliefs about capabilities', 'beliefs about consequences', 'emotions', 'social influences' and 'knowledge'.[24]

Fear of cancer is a significant deterrent to people considering any form of bowel cancer screening, but the clinical studies are clear on the benefits.[5]

However, clinicians practicing in this area know that polypectomy and early diagnosis of bowel cancer continue to lead to much better long-term outcomes. Choosing not to participate in bowel cancer screening ignores its benefits.

Clarke et al also noted that male non-users were often fatalistic, misinformed and less knowledgeable about cancer and FOBT screening compared with other groups.

The Finland gender difference quoted earlier confirms the authors' clinical Australian experience that many men simply do not understand the benefits of FOB testing.[6] This

Suggestions for engineering change

GIVEN the evidence outlined, we believe GPs are central to engineering a societal change to further promote and facilitate FOBT bowel cancer screening so the participation rate rises above 90%. We suggest the following changes:

1. As a priority, all clinicians involved in bowel cancer management at primary, secondary and tertiary levels need to fully comprehend the indisputable Level 1A clinical evidence that FOBT screening successfully reduces death rates.
2. We need more national discussion about the benefits of FOBT screening while simultaneously developing more screening materials aimed at tackling negative attitudes. These materials need to recognise male/female differences.
3. Medicare should be funding extra resources to general practices to directly encourage all eligible men and women to participate in screening. A Medicare rebatable item for the time spent by GPs and practice nurses would be particularly beneficial. An additional, or alternative option, may be to include bowel cancer screening as an expanded part of the Practice Incentives Program (PIP).
4. Local population screening systems could also be set up through local primary health networks to further encourage bowel, breast and cervical cancer participation.
5. We would like to see the NBCSP, BreastScreen Australia and the National Cervical Screening Program all work together with combined mail-outs advising of timely simultaneous participation in bowel, breast and cervical cancer screening for women of eligible ages.
6. We would like to see large employers of middle-aged men and women introduce an annual work-based cancer screening survey and education program aimed at reporting back to employees the percentage of those in their workplace who are undergoing screening to encourage a specific target of over 90% participation in the workplace (with testing performed in the home).
7. We suggest the introduction of high school health education programs to both teach teenagers the evidence-based mortality benefits of bowel, breast, and cervical cancer screening programs, and encourage students to take this disease prevention message back to their parents and grandparents at home.
8. Governments should consider tax incentives for people participating in the government-funded screening programs. Offering a 10% tax rebate for those participating in cancer screening programs would represent a significant step forward in increasing the participation rate, decreasing the bowel cancer mortality rate and subsequently decreasing the national financial cost of this disease to the community. This would justify the tax rebate.
9. We would ask all general practices to review their protocols and practices and assess how they could support the NBCSP. In particular, the display of brochures, flyers and posters promoting bowel cancer screening are valuable. Further, sending letters to all 49-year-olds in their practice recommending bowel cancer screening using the NBCSP letter template is an option. Utilising nurse practitioners to ring patients to promote screening has also been shown to be successful.[25,26] This could also be funded by Medicare.
10. We would like to encourage all GPs to consider setting up a recall system for patients for a preventive health check based on their practice/patient register. This would allow patients to specifically attend their GP for a chronic disease prevention appointment. We suggest that this starts with patients aged 45–49 in their practice given this is an opportune time to review cancer screening as well as medical (specifically hypertension, diabetes and obesity) disease prevention. One option for funding this could be to use Medicare items 701, 703, 705 and 707 for "a health assessment for people aged 45-49 who are at risk of developing chronic disease".

means we have failed to adequately convey the benefits of screening to Australian men.

On the other hand, Clarke et al noted that female non-users expressed negative attitudes, beliefs and emotions towards FOBT screening and were over-confident about their health.

They concluded that negative attitudes and emotions to screening dominated non-user decision-making. Again, our clinical experience confirms that Australian women often have different reasons from their male counterparts for not undertaking bowel cancer screening, and we need to successfully address these differences if we are to increase the participation rate.

The future

THERE are large studies currently being undertaken overseas (CONFIRM, COLONPREV &NordICC) to ascertain the role of colonoscopy alone as a bowel cancer screening tool.[23] We predict that colonoscopic screening will eventually overtake the two-yearly FOBT as the preferred form of community bowel cancer screening.

The current US guidelines recommend a 10-yearly colonoscopy in those aged 50-70 with an average risk.[19] However, we believe the colonoscopy is likely to become the international standard of care for bowel cancer screening, eventually becoming five-yearly commencing from 45 through to 75, or even up to 85 in people showing strong longevity.

We are still waiting for the CONFIRM, COLONPREV & NordICC results and if these return the expected beneficial results, we will have to make some hard decisions about a whole new workforce which will need to be funded, equipped and trained to conduct this screening on a national basis. Further, we are unable to predict the future screening roles of biomarkers, DNA probes, colonic capsules, and miniature robots, which might walk themselves along the colon and attend to biopsy and polypectomy.

These yet-to-be invented tools might form the basis of bowel cancer screening methods of the future. In the interim, FOBT is recommended for screening by Australian guidelines and is readily available. A colonoscopy is also available and is recommended for screening in the American guidelines.[19]

The current message is clear though: either screening FOBT or screening colonoscopy can be used to defeat colorectal cancer well before it reaches a lethal stage.[5,15]

Case studies

Case study one: diagnostic test accuracy

GINA, 52, attends for her regular cervical screening appointment. She has received a reminder letter from the practice.

On discussion, you discover that she has not used the National Bowel Cancer Screening Program FOBT sent to her in the mail. However, she has had her mammogram through BreastScreen Australia.

She says that both she and her husband have thrown out the kits because they don't like the idea of "touching their poo".

You show Gina your sample kit, explain that there is a brush, and reassure her that she doesn't have to touch the poo. She agrees to call up for another kit and tries to convince her husband to do the same thing.

Gina returns three months later with a positive result, which she received in the mail, and asks what the next step is. You refer Gina to a general surgeon.

Within 30 days of seeing the specialist she has undegone a colonoscopy and polypectomy, with removal of one benign 15mm tubular adenoma.

Five years later, Gina's follow-up colonoscopy confirms two additional small benign colonic polyps that are also uneventfully removed. Gina is well, with no gastrointestinal symptoms. The outcome here could have been different without screening.

Case study two: tumour markers for screening

Phil, 52, presents to a new GP asking for a check-up. He asks for "the blood tests to rule out cancer". He had a PSA and other serum marker tests done by his previous GP. He claims to be too busy to do the home kit from the government and believes the blood tumour marker tests to be more accurate anyway.

He has no family history of bowel cancer but asks for the tests just to "keep an eye on my health". The GP advises Phil that the tumour markers do not have a role in the screening for bowel cancer and recommends that he does the FOBT using the kit.

Phil, like many Australian men, decided not to use his free FOBT sent to him in the mail. He had no symptoms until several years later when he returns concerned about some mild PR bleeding. A colonoscopy confirms a highly dysplastic rectal tubulovillous adenoma which is removed by a specialist gastroenterologist using a new technique called endoscopic submucosal resection (see figure 7). Phil is fortunate that the tumour can be completely removed endoscopically. This is not always the case, as many patients present with significant tumour spread at time of endoscopic diagnosis (see figure 2).

Case study three: missed/prevalent lesions and surveillance intervals

Ron and his wife Sharon are both 50. They present together, seeking advice about bowel cancer after Ron received his FOBT screening kit in the mail.

Ron has a family history of colon cancer. He had a normal colonoscopy five years ago and thinks he will just throw this kit away in light of the normal colonoscopy. Sharon has an uncle with bowel cancer. She had a screening colonoscopy three years ago. The colonoscopy was clear and no polyps or abnormalities were found. She has been advised to have another colonoscopy now and asks if she can perform an FOBT instead.

The first step in discussion with Ron and Sharon is to ascertain whether they have any GI symptoms warranting investigation. If they are truly asymptomatic then the discussion regarding various options for screening is somewhat complex. It is important to note that one method of screening needs to be chosen, but not both methods.

The risk of colorectal cancer is higher if a first-degree relative is diagnosed with colorectal cancer before 60. Therefore, both the age of diagnosis and the relationship to the patient are important in determining a screening strategy.

The next step involves assessing the quality of the index colonoscopy. If this was a high-quality colonoscopy with no detected adenomas then screening colonoscopy is not currently advised for 10 years.[18]

Ron and Sharon have other options including exiting a visual method of screening and using non-invasive stool-based testing.

Ron and Sharon should be made aware that polyps are 'frequently' missed during colonoscopy.[28] You also need to discuss the risks of false positives and negatives. These need to be balanced with the risk of harm (adverse events) as a result of endoscopic screening (approximately 1:1000).

Conclusions

WE are now making good headway in reducing the lethal impact of bowel cancer but we need to do more. We need to re-evaluate the way we view bowel cancer screening, and consider new methods to engineer societal change in this regard.

Specifically, we need to institute individualised and systematic disease prevention programs to match our immunisation rates with our bowel cancer screening rates. GPs, specialists and the public at large all need to work together to achieve a greater than 90% participation rate in bowel cancer screening if we are to actively prevent the early demise of many Australians from bowel cancer.

The good news of bowel cancer screening to communicate to patients

- Bowel cancer screening significantly reduces the community death rate from bowel cancer
- For patients who return a positive FOBT and then undergo a colonoscopy:
  - Many will show no precancerous polyps or tumours
  - More than one-third will have precancerous polyps removed
    AND these patients will be much less likely to subsequently develop bowel cancer
  - Around 5% will have a bowel cancer identified,
    AND these patients will be much less likely to subsequently succumb to their bowel cancer
    IF it is picked up early through bowel cancer screening

Key points

- Earlier diagnosis results in better outcomes in bowel cancer, reducing mortality by 15-25%.
- Participation in the National Bowel Cancer Screening Program has been low.
- Community screening programs have demonstrated reduced mortality.
- GPs are well placed to introduce strategies to increase bowel cancer screening participation rates in their local area.
- Medicare item numbers for health assessments may be utilised to facilitate increased participation in bowel cancer screening.

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How to Treat Quiz

Bowel cancer screening in Australia in 2018

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1. Which THREE statements regarding bowel cancer are correct?

a) The mortality rate from colorectal cancer has halved in Australia over the past three decades.
b) The National Bowel Cancer Screening Program mails bowel cancer screening kits to all eligible 50—74 year old Australian men and women for them to complete at home.
c) Only 39% of those invited to participate in the National Bowel Cancer Screening Program undertook screening between 1 January 2014 and 31 December 2015.
d) The National Bowel Cancer Screening Program has had a significant impact on the bowel cancer mortality rate since launching in 2006.

2. Which THREE statements regarding bowel cancer are correct?

a) Earlier diagnosis results in better outcomes, with a 15-25% relative risk mortality reduction in bowel cancer.
b) Scandinavian countries seem to have the highest overall participation rates for bowel cancer screening.
c) One in 39 participants who returned a positive FOBT and subsequently underwent a follow-up diagnostic assessment were diagnosed with a confirmed or suspected cancer.
d) Both the RACGP and Australian Cancer Council recommend two-yearly FOBT screening for those aged 50-74 at average to higher risk.

3. Which ONE cancer screening program has produced the greatest reduction in community mortality?

a) Cervical cancer screening.
b) FOBT bowel cancer screening.
c) Flexible sigmoidoscopic screening.
d) Breast cancer screening.

4. In which THREE circumstances is FOBT not recommended?

a) In those with a first-degree relative (diagnosed before the age of 60) with bowel cancer.
b) Patients with inflammatory bowel disease.
c) As a screening tool in those at risk of bowel cancer.
d) To investigate patients with symptoms of bowel cancer.

5. Which THREE statements regarding techniques of bowel cancer screening are correct?

a) Evaluating the screening options should take into account patient factors as well as test performance characteristics, cost and harms.
b) Non-invasive, stool-based testing is an accepted bowel cancer screening option.
c) Serum 'tumour markers' are an essential initial investigation, as a negative result obviates the need for riskier invasive endoscopic examination.
d) Direct visualisation with endoscopic equipment is an accepted bowel cancer screening option.

6. Which TWO statements regarding the method of bowel cancer screening are correct?

a) FOBT detects early lesions more effectively than advanced lesions.
b) FOBT has proven very useful in post-polypectomy surveillance.
c) The iFOBT is more specific then the gFOBT for colorectal cancer detection.
d) False positive FOBT results occur more frequently in patients taking anti-platelet agents or anti-coagulants.

7. Which THREE statements regarding invasive screening options are correct?

a) Colonoscopy offers a screening, diagnostic and therapeutic option in one test.
b) Endoscopic evaluation of the colon reduces the risk of both incidence and mortality from colorectal cancer.
c) Direct visualisation in bowel cancer screening provides the best mortality reduction figures.
d) Flexible sigmoidoscopy is a viable alternative as a screening method for those who require screening and do not want to use the FOBT kits.

8. Which TWO domains are cited as reasons for not undergoing bowel cancer screening?

a) Beliefs about consequences.
b) Lack of faith in medical science.
c) Beliefs about capabilities.
d) Needle phobia.

9. Which THREE statements regarding reluctance to participate in bowel cancer screening are correct?

a) Fear of cancer is a significant deterrent to people considering any form of bowel cancer screening.
b) A large proportion of patients do find the concept of stool testing unacceptable, and in a few cases, simply repugnant.
c) Research has shown males to be misinformed and less knowledgeable about cancer and FOBT screening compared with other groups.
d) Females who do not use bowel cancer screening have been reported as being over-confident about their health.

10. Which TWO Medicare items may be suitable to assist with increasing patient participation in bowel cancer screening?

a) 701
b) 702
c) 703
d) 704

CPD POINTS

- We have a new How to Treat website (www.howtotreat.com.au) where you can read this article and take the quiz to earn CPD points.
- Each article has been allocated 2 RACGP QI&CPD points and 1 ACCRM point.
- RACGP points are uploaded every six weeks and ACCRM points quarterly.

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