

National Cancer Prevention Policy

2007–09



Screening to detect cancer early

Bowel (colorectal) cancer

B o w e l (c o l o r e c t a l) c a n c e r

Bowel cancer is the most common potentially fatal cancer in Australians and is expected to increase in incidence by more than 30% over the next five to 10 years as our population ages. Population-based screening for bowel cancer, currently being introduced in Australia, can reduce mortality by 30% to 40% in people screened.

Bowel cancer in Australia

Bowel cancer, also known as colorectal or large bowel cancer, is a major health problem in Australia. One in 18 men and one in 25 women is likely to develop the disease. In 2005, there were estimated to be 14,237 new cases of bowel cancer—7,765 in men and 6,472 in women—representing 14.5% of all new cases of cancer (excluding non-melanoma skin cancer). The incidence rate rises steadily with advancing age and most cases occur after the age of 50. Between 1991 and 2005, age-adjusted rates of bowel cancer incidence remained steady in men and slowly increased in women. In the 10-year period 2001–11, the number of new cases of bowel cancer is projected to increase by about one-third (AIHW, AACR, NCSG & McDerimid 2005).

In 2005, there were 4171 deaths in Australia from bowel cancer: 2330 in men and 1641 in women. Bowel cancer was the second most common cause of death from cancer over all, as well as being the third most common cause of death from cancer in men (after lung and prostate cancers) and the third most common in women (after breast and lung cancers) (ABS 2007). Between 1991 and 2005, the death rate for bowel cancer fell by 2.5% per annum for men and by 2.6% for women (ABS 2007; AIHW 2005). Despite the trend towards better survival, bowel cancer remains an important cause of premature death in Australia.

In Indigenous communities, where incidence rates are believed to be under-recorded, bowel cancer is the third most common cancer affecting men and the fourth most common affecting women (ABS & AIHW 2005). The survival rate from bowel cancer is lower for Indigenous than non-Indigenous Australians (Condon et al. 2004). It is also recognised that Aboriginal people and Torres Strait Islanders often have co-morbidities that may hinder the effectiveness of cancer treatments (Valery et al. 2006).

Can bowel cancer be prevented?

Evidence shows that bowel cancer is associated with a number of modifiable and unmodifiable risk factors.

Important risk factors that cannot be addressed through lifestyle or behavioural change include a personal history of bowel cancer, advanced adenoma, chronic inflammatory bowel disease or a strong family history of bowel cancer (ACN Revision Committee

2005). Two specific syndromes, which have a defined inherited genetic basis, are familial adenomatous polyposis (FAP) and hereditary non-polyposis colorectal cancer (HNPCC). HNPCC (also known as Lynch Syndrome) is also associated with an excess of cancers at other sites, including the endometrium and ovary. Clinical surveillance of individuals with these risk factors, as set out in The Cancer Council Australia's Australian Cancer Network *Clinical practice guidelines for the prevention, early detection and management of colorectal cancer*, is recommended.

Bowel cancer is also being increasingly linked to lifestyle and in recent decades, there has been considerable interest in identifying modifiable risk factors.

The main focus of research into preventable risk factors associated with bowel cancer has been in relation to diet (including nutritional supplements), body weight and lifestyle factors such as physical activity, intake of aspirin and other non-steroidal anti-inflammatory drugs, and smoking (ACN Revision Committee 2005). A comprehensive overview of diet and cancer, published in 1997, estimated that changes in diet and physical activity could reduce the incidence of bowel cancer by 66% to 75% (WCRF & AICR 1997). (See the chapters on alcohol, nutrition, obesity and physical activity for more information.)

Obesity, particularly central (around the waist) obesity, is an independent risk factor for bowel cancer and adenomas (IARC Working Group 2002; Maclnnis et al. 2004).

A number of studies have shown that smoking is a risk factor for bowel cancer and precancerous adenomas (Kune et al. 1992; Chao et al. 2000; Giovannucci 2001; Limburg et al. 2003; Anderson et al. 2003). The report from the Cancer Prevention Study II estimated that, in the US, approximately 12% of deaths from bowel cancer among both men and women were attributable to smoking (Chao et al. 2000).

The review released from IARC in 2007 has confirmed that alcohol is a risk factor for the same cancers classified in 1988 and also for colorectal and breast cancer (IARC 2007). Aspirin has been shown to have potential in preventing bowel cancer (Sandler et al. 2003; Benamouzig et al. 2003; Chan et al. 2005). Findings from the Nurses' Health Study and the Women's Health Study indicate that the benefit is not evident until after more than a decade of regular aspirin consumption (Chan et al. 2005; Cook et al. 2005). Adverse effects of aspirin include acute upper gastrointestinal bleeding (Weil et al. 1995). After reviewing research into the effects of aspirin and non-steroidal anti-inflammatory drugs, the Australian Cancer Network stated that 'it is reasonable to consider aspirin as prophylaxis in adenoma bearers' but that 'aspirin has not had broad scientific approval for use as a colorectal tumour chemo-preventive in individuals at average risk, because of uncertainties about the optimal dosage and duration of use, and adverse effects' (ACN Revision Committee 2005).

General practitioners and their teams have an important role in bowel cancer prevention. As they see 86% of the Australian population every year, they 'have enormous potential to encourage patients to take greater responsibility for their health' (RACGP 2006). *Australian Doctor* surveyed 1246 Australians in 2006, with 56% reporting they would act on advice from their GP in relation to lifestyle changes such as losing weight, quitting smoking and doing more exercise: all shown to reduce the risk of bowel cancer (Howe 2006).

The Royal College of General Practitioners has published two key documents to support preventive work in general practice. The *Guidelines for preventive activities in general practice* (the 'red book') (RACGP 2005) is a guide listing who is most at risk, and evidence-based recommendations for screening or preventive care for a number of conditions including cancers. The other is *Putting prevention into practice: guidelines for the implementation of prevention in the general practice setting* (the 'green book') (RACGP 2006). While there is evidence to show the benefits of GP preventive activities, there are many barriers, including the lack of time in typical general practice consultations. Solutions

could focus on: how to use this time most effectively; the role of e-health measures such as follow-up, recall, and desktop prompts; non-GP measures such as practice nurse involvement; and non-clinical staff measures such as utilising waiting room opportunities.

Tests and programs for bowel cancer

Rationale

Population-based screening provides an important opportunity to reduce bowel cancer mortality and morbidity. The combination of prevention measures, such as those outlined above, and population-based screening, has even greater potential to reduce the impact of bowel cancer in Australia.

Research indicates that most bowel cancers develop from adenomatous polyps (adenomas); a small adenoma may grow into advanced cancer over an estimated 10 years. It should be recognised that it is common for middle-aged or elderly people to have one or more adenomas, most of which (estimated at around 19 out of 20) never progress to cancer.

Adenomas are described as 'advanced' when certain features, such as larger size (10 mm or more in diameter) are present. These features act as markers of greater likelihood of progression to cancer and greater risk for cancer elsewhere in the large bowel. Once cancer has developed, growth may occur gradually over 12 to 24 months or even longer. While the cancer remains confined to the bowel wall (stage A), surgical resection gives cure rates around 90% (ACN Revision Committee 2005).

Most people with advanced adenomas and many with early stage cancer experience none of the symptoms that would alert them or their doctor to the presence of bowel cancer. For people diagnosed with bowel cancer, the pathological stage of development of the tumour at the time of diagnosis, as well as the treatments that follow, will affect their prognosis. Survival rates for bowel cancer are strongly related to stage, with five-year case survival rates found in South Australia (where statewide data is available) to be:

- 88% for Stage A, when the cancer is contained within the bowel wall
- 70% for Stage B, when the cancer has extended through the bowel wall, but with no lymph nodes affected
- 43% for Stage C, when the cancer is present in the lymph nodes
- 7% for Stage D, when the cancer cannot be removed by surgery or has spread to other areas of the body.

There is an upward trend in these survival figures, due to a number of factors, including improvements in surgical technique and more widespread use of adjuvant chemotherapy and radiotherapy (ACN Revision Committee 2005).

The two objectives of bowel cancer screening are 1) to prevent cancer by identifying and removing precancerous, advanced adenomas and 2) to diagnose and treat early stage, curable cancer.

The evidence on screening for bowel cancer was reviewed in a report for the Australian Health Technology Advisory Committee (AHTAC 1997). The report concluded that the efficacy of screening based on the faecal occult blood test had been demonstrated, and that the best approach to mass screening of the Australian population required definition:

such as pilot studies to assess acceptance by the target population, feasibility and cost-effectiveness.

Guidelines for the prevention, early detection and management of bowel cancer, incorporating the Australian Health Technology Advisory Committee recommendations on screening, were developed by the Australian Cancer Network and endorsed by the National Health and Medical Research Council in 1999 (NHMRC, COSA & ACN 1999) and again in 2005 (ACN Revision Committee 2005).

Three screening tools for the early detection of bowel cancer are commonly available: the FOBT, sigmoidoscopy, and colonoscopy (ACN Revision Committee 2005). Two other tools—computerised tomographic (CT) colonography (also known as virtual colonoscopy) and faecal DNA testing—may have a future role in screening but are still undergoing evaluation (Van Dam et al. 2004; Cotton et al. 2004; Davies, Miller & Coleman 2005; Osborn & Ahlquist 2005).

Faecal occult blood tests (FOBTs)

Cancers in the large bowel have a tendency to produce low-grade bleeding (Macrae & St John 1982; St John et al. 1992). The detection of blood in small (often not visible) concentrations in the faeces provides the basis for use of FOBTs in screening for bowel cancer.

With FOBTs, blood can be detected through the chemical or immunochemical properties of haem and haemoglobin. The chemical tests, most of which use guaiac-impregnated slides as the test system, depend on detection of the chemical activity of haem. Certain foods and medications have the potential to interfere with test results so dietary modification may be required—usually avoiding red meat and vitamin C supplements for several days. The immunochemical tests utilise antibodies to human globin and are not affected by diet or medications. (For further discussion of the properties of the tests refer to Young, Macrae & St John 1996; Young et al. 2002.)

FOBTs are simple tests that can be done at home. Depending on the particular test, samples are collected from either two or three bowel actions. The samples are then sent to a laboratory for analysis to check for the presence of blood. As bleeding may be intermittent, the presence of blood in even one sample should be investigated by colonoscopy (see below).

Bowel cancer will be identified in 5% to 10% of those with a positive FOBT, an adenoma will be identified in another 20% to 35%, and bleeding will be due to a non-neoplastic cause such as haemorrhoids in the remainder. However, as shown by FOBT-based randomised controlled trials and other large studies, the likelihood of finding bowel cancer is between 12 and 40 times greater in a person with a positive FOBT than in someone whose test shows no evidence of bleeding (Mandel et al. 1993; Mandel et al. 1999; Alexander & Weller 2003).

A false negative result from the FOBT (i.e. no bleeding detected in a person who actually has bowel cancer or an advanced adenoma) may occur because of intermittent blood loss, uneven distribution of blood in the faeces or, in the case of chemical tests, because of intake of vitamin C supplements (Young, Macrae & St John 1996). The choice of FOBT also affects false negative rates, as different tests may have different thresholds for detection of blood, and therefore for cancer. The chemical test used in the European randomised controlled trials has a sensitivity for cancer of only 50% (Hardcastle et al. 1996; Kronborg et al. 1996) whereas many newer chemical and immunochemical tests have a sensitivity for cancer in the range 70% to 90% (Allison et al. 1996).

Periodic testing is recommended, as a negative (i.e. normal) result does not rule out the possibility of future development of bowel cancer. Evidence from the European randomised controlled trials, which used a low-sensitivity test repeated two-yearly for 10 years, suggests that this approach would lead to a reduction of 15% to 18% in mortality from bowel cancer among those offered screening (Hardcastle et al. 1996; Kronborg et al. 1996). The reduction in mortality was estimated to be 30% to 40% among those who actually performed the test (Jorgensen, Kronborg & Fenger 2002; Scholefield et al. 2002).

Sigmoidoscopy

Sigmoidoscopy involves tube examination of the rectum and the lower part of the colon (i.e. the section of large bowel closest to the anus). The sigmoidoscope may be rigid (best suited for examining the rectum) or flexible (reaching into the lower part but unable to examine the upper part of the colon).

Flexible sigmoidoscopy allows examination of the area where 55% to 60% of bowel cancers and advanced adenomas occur (AHTAC 1997). When abnormalities are detected, a tissue sample (biopsy) can be collected for pathological examination. The sensitivity for detection of neoplastic lesions depends on the proficiency of the sigmoidoscopist. Adenoma detection rates were shown to vary considerably between examiners in several large studies (Atkin et al. 2004; Pinsky et al. 2005), highlighting the need for comprehensive training and the auditing of outcomes. In 2005, an international task force issued detailed recommendations to assist with quality improvement (Levin et al. 2005).

Evidence from several case–control studies indicates that screening by flexible sigmoidoscopy should lead to a substantial reduction in the death rate from bowel cancer (Selby et al. 1992; Newcomb et al. 1992). Major randomised controlled trials using flexible sigmoidoscopy for screening are currently underway in the US, UK and Italy (Gohagan et al. 2000; UKSSTI 2002; Segnan et al. 2002). Progress results from the three trials show the screening procedure to be feasible, safe and well accepted (Weissfeld et al. 2005; Wardle, Miles & Atkin 2005; Segnan et al. 2002).

The Australian Health Technology Advisory Committee report stated that the evidence is sufficient to warrant consideration of sigmoidoscopic screening as an alternative (or a complement) to FOBT screening, but noted that mortality data from the randomised controlled trials will not be available for several more years (AHTAC 1997).

Colonoscopy

A colonoscope is similar to a flexible sigmoidoscope but is much longer. Interest in using colonoscopy as a screening tool relates to its ability to detect a very high proportion of bowel cancers and advanced adenomas by examination of the entire length of the large bowel. It allows biopsies to be taken from any suspected abnormalities as well as enabling most adenomas and some polypoid cancers to be completely removed during the examination.

Many studies have shown that colonoscopy has around 95% sensitivity for detection of cancer (Leaper et al. 2004; Robertson et al. 2005; Singh et al. 2006). The sensitivity for detection of adenomas varies according to their size and site within the large bowel (Rex et al. 1997). As with sigmoidoscopy, sensitivity for detection of lesions depends on the proficiency of the examiner, again highlighting the need for comprehensive training and the auditing of outcomes. In 2002, the US Multi-Society Task Force on Colorectal Cancer produced a detailed report on key performance indicators for colonoscopy (Rex et al. 2002).

Colonoscopy is the recommended follow-up test for those with positive findings at FOBT or screening sigmoidoscopy. It is also recommended as the primary tool for cancer surveillance in people with an increased risk of bowel cancer. When it is not possible to examine the total length of the bowel by colonoscopy, a CT colonography or barium enema should be performed.

The overall appropriateness of colonoscopy as the primary tool in population screening is much less certain. Acceptability of the procedure is limited by its invasive nature and the need for vigorous bowel preparation and sedation. The feasibility of providing colonoscopy for the five million Australians at average risk is also doubtful, given the high cost of the procedure, workforce and other logistic issues, and the required diversion of resources away from other health services.

Of even greater importance, there is no high level evidence to support use of colonoscopy in population screening (ACN Revision Committee 2005). In 2001, the Canadian Task Force on Preventive Health Care stated that there was insufficient evidence to include or exclude colonoscopy as an initial screening test in people at average risk (CTFPHC 2001). Similarly, in 2002, the US Preventive Services Task Force was unable to find direct evidence that screening colonoscopy was effective in reducing the bowel cancer mortality rate (USPSTF 2002).

The policy context

In 1999, in line with the Australian Health Technology Advisory Committee and the National Health and Medical Research Council recommendations, the National Cancer Control Initiative developed a proposal for a feasibility study for bowel cancer screening in the general population (NCCI 1999). The recommendations were formulated by an expert group that included representatives of the cancer councils. In response to this proposal, funds were set aside in the May 2000 federal budget to mount a four-year national feasibility study based on biennial screening using immunochemical FOBTs.

The Population Screening Section of the Department of Health and Ageing then assumed responsibility for planning the National Bowel Cancer Screening Pilot Study. The Health Insurance Commission (known as Medicare Australia), cancer councils, and many other interested groups participated in the planning process. Three pilot sites—Mackay in Queensland, and defined suburbs in Adelaide and Melbourne—were chosen for the feasibility study, which was conducted between November 2002 and June 2004. The Pilot Evaluation Report concluded that a nationally coordinated bowel cancer screening program in Australia would be feasible, acceptable and cost effective (Healthcare Management Advisors 2005).

In the 2005/06 federal budget, the Australian Government announced that it would provide \$43.4 million over three years (including \$7.8 million for the precursor pilot programs) to phase in a nationally coordinated, population-based bowel cancer screening program. The Department of Health and Ageing formed a new Bowel Cancer Screening Section to develop and coordinate the program.

In August 2006 the Government confirmed that the National Bowel Cancer Screening Program would begin by inviting people who turn 55 or 65 years of age between 1 May 2006 and 30 June 2008, and those who were invited to participate in the pilot, to complete an FOBT in their own home and return it by post to a laboratory for analysis. (Australia Post gave its approval.) Following consultation with state and territory governments, invitations to eligible participants would be issued on either a postcode or birth date basis and delivered through the mail. Nearly one million people were expected to be invited to

participate in the initial phase; the first invitations were issued in Queensland on 7 August 2006.

A national bowel cancer screening register is set up within Medicare Australia. The register is responsible for issuing invitations and FOBTs, monitoring all data and arranging follow-up notifications for participants who receive positive FOBT results but do not have colonoscopies. It also runs the national Information Line.

According to the Government, program implementation will be incremental and influenced by funding availability and healthcare system capacity, including colonoscopy and surgical services in each state and territory. The results of the first phase of National Bowel Cancer Screening Program are expected to be reviewed prior to the 2008/09 federal and state/territory budgets. This review is expected to guide decisions about further implementation of the program.

The Cancer Council fully supports and applauds the Australian Government's introduction of a national bowel cancer screening program using faecal occult blood testing. As the program takes shape across Australia, the Cancer Council encourages all governments to ensure issues of access, quality and equity remain paramount. The availability of timely, high-quality colonoscopy following a positive FOBT will be an important issue affecting the success of the program, particularly in rural and remote areas where access may be limited.

Appreciating the need for gradual implementation in the first instance, the Cancer Council encourages the Australian Government to make the necessary commitments, to ensure that the program becomes available to as many at-risk Australians as possible, in the shortest possible time.

No upper age limit has been set for screening. Decisions about continued participation by the elderly are likely to be based on their personal preference and general state of health, and the perceived balance between benefits of screening and harms related to the follow-up investigations required in those with positive screening tests.

Screening for people at increased risk of bowel cancer

The Australian Health Technology Advisory Committee report on colorectal cancer screening noted that a national approach to population screening for people without symptoms would need to be complemented by a national policy for groups potentially at increased risk for bowel cancer: individuals with a family history of bowel cancer, or a personal history of bowel adenoma, bowel cancer or inflammatory bowel disease (AHTAC 1997). GPs are well positioned to determine bowel cancer risk on the basis of family history and to instigate appropriate management, again consistent with guidelines (RACGP 2005; ACN Revision Committee 2005; McMurrick, Dorien & Shapiro 2006).

The Australian Cancer Network *Clinical practice guidelines for the prevention, early detection and management of colorectal cancer* defines three categories of people in relation to risk for bowel cancer based on their family history of the disease.

- In the first category, people who have just one first-degree relative with bowel cancer are advised to have the same screening as those at average risk, provided their relative was diagnosed with cancer at or over the age of 55.
- The second category includes people with two or more first-degree relatives with bowel cancer (on the same side of the family) or one first-degree relative diagnosed under the age of 55 years. Because of their greater risk for cancer, screening is generally based on periodic (usually every five years) colonoscopy.

- The third category covers members of families with definite or suspected FAP or HNPCC. People with FAP usually have hundreds of small polyps throughout their bowel, some of which become malignant if not removed. HNPCC is not associated with polyposis but, like FAP, is caused by an inherited change in a gene. The place of genetic testing and recommendations about surveillance and prophylactic surgery are described in chapter 7 of the guidelines (ACN Revision Committee 2005).

Detailed recommendations for surveillance by colonoscopy in those with past bowel cancer or adenoma are also set out in the Australian Cancer Network guidelines.

Culturally appropriate communication

Announcements made with the 2005/06 federal budget stated that Aboriginal and Torres Strait Islander communities will be invited to participate in the screening program from age 45. The pilot evaluation showed that culturally and linguistically diverse communities and Aboriginal people and Torres Strait Islanders lacked awareness of bowel cancer screening issues. This was a major barrier against participation (Woolcott Research 2004). Culturally appropriate education and resources, as well as engagement with local health workers, will be needed to address the particular needs of these communities (Woolcott Research 2004) and to ensure that their participation, or non-participation, is based on informed choice.

The role of general practice

General practitioners (GPs) have an important role at critical points in the National Bowel Cancer Screening Program (DHA 2006). These include:

- determining the appropriateness of screening for individual patients (e.g. those with significant co-morbidities, or those who've recently undergone screening outside the national program)
- assessing high-risk individuals and managing them according to National Health and Medical Research Council guidelines
- receiving FOBT results where the participant has nominated a GP
- managing participants with a positive FOBT
- notifying the central registry of outcomes.

GPs also have an important role in recognising and assessing individuals with symptoms that could be related to cancer, and in whom diagnostic investigations (rather than screening) are required (ACN Revision Committee 2005; McMurrick, Dorien & Shapiro 2006). Symptoms include:

- bleeding from the back passage or any sign of blood in a bowel motion
- an unexplained and persistent change in bowel actions
- unexplained tiredness
- lower abdominal pain
- a persistent feeling of fullness.

A recommendation from a GP has been shown to enhance participation rates in bowel cancer screening using FOBTs (Cole et al. 2002). It has been shown to be the most highly rated attribute that would encourage participation in bowel cancer screening (Salkeld et al. 2003). Over 90% of a population group surveyed responded that they would be likely or very likely to have an FOBT every two years if a doctor recommended this (Epidemiology Services Unit 2004). Pilot program invitees who did not participate indicated they were

likely to do so if reinvited, especially if recommended by a GP (DHA 2005). Given this, it is not unreasonable to expect that a proactive approach by GPs in identifying their eligible patients and recommending their involvement in the screening program, may enhance participation rates. Whilst there is evidence that GPs support bowel cancer screening, GPs have also articulated a need for further education about this activity (Turner et al. 2006; Tong et al. 2004).

It is anticipated that the national screening program will increase awareness of bowel cancer and bowel cancer screening in the broader population, including those not currently eligible for the screening program. GPs will be in a position to respond to this demand by managing patients according to current guidelines (RACGP 2005; ACN Revision Committee 2005).

Potential benefits and adverse effects of bowel cancer screening

Potential benefits

As discussed earlier, bowel cancer screening using FOBTs has the potential to significantly reduce mortality from bowel cancer. Monitoring systems in South Australia found that only 15% of bowel cancers are detected at the earliest point, Stage A (AHTAC 1997). Thus an important potential benefit of screening is to detect early stage, curable cancers in those without any clinical evidence of disease (ACN Revision Committee 2005). A screening program also has the potential to detect advanced adenomas, allowing them to be removed before progressing to bowel cancer.

Thus, the benefits of bowel cancer screening are two-fold: providing opportunities for both prevention and early detection. It is predicted that a fully implemented screening program could save close to 2000 lives per year (Macrae 2005).

Potential adverse effects

Bowel cancer screening may result in adverse psychological and physical effects due to false positive tests. The potential adverse effects include anxiety induced by fear of having bowel cancer, anxiety related to diagnosis of lesions of doubtful clinical significance and complications of invasive diagnostic procedures (specifically colonoscopy). In several studies, anxiety due to positive test results was shown to decrease after investigation of the cause, with no evidence of long-term harm after screening (Lindholm et al. 1997; Wardle et al. 1999; Parker et al. 2002). The need to provide timely follow-up investigations following a positive result from an FOBT has important implications for the national program, as delays in the provision of colonoscopy may lead to high levels of anxiety.

The most significant adverse effect is the potential for physical harm linked to exposure to colonoscopy. Colonoscopy is performed as a day case procedure and usually requires sedation. It can produce severe complications such as perforation, haemorrhage or death and carries a remote risk of transmitting infections. In a review of six prospective studies of colonoscopy, about one in 1000 patients suffered perforation, three in 1000 suffered major haemorrhage, and between one and three in 10,000 died as a result of the procedure (Winawer et al. 1997). In two more recent studies, the findings were similar, overall morbidity being 0.4% (Dafnis et al. 2001; Gatto et al. 2003). A review of a large Australian hospital experience supported the conclusions of these other studies and reported a mortality rate of 0.004% in outpatients having the procedure (Viala et al. 2003).

Despite the possibility of adverse consequences of screening, distress generated by diagnosis of an advanced cancer when there has been no opportunity for early detection by screening also needs to be taken into consideration (ACN Revision Committee 2005).

Who should be screened?

Randomised controlled trials at the population level indicate that screening tests for faecal occult blood reduce overall mortality from colorectal cancer in populations selected on the basis of age. These have shown benefit for people aged 45–50 years and upward. Cost-effectiveness studies also demonstrate that age influences cost-effectiveness. Together with the observation that risk increases four-fold between ages of 40 and 50 years, these lead to the recommendation that screening of average risk people should commence at age 50 years (NHMRC 2005).

Although the National Health and Medical Research Council guidelines do not suggest an upper age for screening, it is common for population-based screening programs to do so. There is no clear evidence on the best age to cease screening for bowel cancer. In the randomised controlled trials using FOBT, the upper age at the time of entry ranged from 75 (Kronborg et al. 1996) to 80 years (Mandel et al. 1993). With increasing age, bowel cancer becomes more prevalent, but the potential for years of life saved through screening decreases. In addition, follow up colonoscopies may be less well tolerated among the elderly and participation is likely to drop off after the age of 70 (Hardcastle et al. 1996). Further cost-effectiveness research is needed to establish an appropriate upper age for the National Bowel Cancer Screening Program.

Aims

The Cancer Council aims to maximise participation of eligible people in the bowel cancer screening program and contribute to developments in knowledge to improve that program.

What we want to achieve	How The Cancer Council Australia and its members (the state and territory cancer councils) will do this
Increased awareness among the general public and key health professional groups of the links between bowel cancer and nutrition, physical activity, obesity, alcohol consumption and smoking cessation	<p>Advocate for a whole-of-government approach incorporating social marketing, policy reform and research, administered through a partnership involving all jurisdictions and peak health bodies (the success of the integrated National Tobacco Campaign of the late 1990s provides an excellent example on which to draw)</p> <p>Ensure key messages are promoted to the public and relevant health professionals in publications, presentations, programs, media statements and where opportunities arise</p> <p>Promote and/or develop primary health resources, specifically for general practice, to improve evidence-based interventions by health professionals</p>
A high-quality, well resourced national bowel cancer screening program capable of reaching 70% two-yearly participation of people over 50 years of age by 2012	Advocate for a whole-of-government agreement to a comprehensive, evidence-based screening program with adequate funding to reach the target population

What we want to achieve	How The Cancer Council Australia and its members (the state and territory cancer councils) will do this
<p>A process of quality assurance and continuous improvement in the national bowel cancer screening program</p>	<p>Advocate for the development of mandatory national training and accreditation standards for colonoscopy provision</p> <p>Advocate for government to build a formal, ongoing evaluation mechanism into the program to ensure regular monitoring and periodic evaluation. Evaluation should address:</p> <ul style="list-style-type: none"> • overall outcomes relating to the impact of the program on bowel cancer mortality and morbidity • economic outcomes relating to the cost-effectiveness of the program and barriers to optimising participation among the target population • process outcomes relating to the performance of the program against its stated objectives • potential barriers to evaluation, notably fast-tracking cancer registrations to facilitate timely evaluation of program outcomes • sufficient resources to enable stated objectives to be achieved • periodic review of the target screening age group <p>Support professionals such as general practitioners to contribute to the program's efficiency and effectiveness</p>
<p>Sufficient workforce capacity to ensure colonoscopy wait times for a positive FOBT are under 30 days (for both screening program participants and those who have screened outside the program)</p>	<p>Advocate for increase government funding and service redevelopment initiatives to increase colonoscopy capacity and ensure wait times are minimised</p>
<p>Maximum participation of eligible people in bowel cancer screening</p>	<p>Advocate for government support, including adequate funding, to ensure targets for participation are met, while maintaining a focus on equity and access. Priority should be given to maximising the participation of Australian Aboriginal and Torres Strait Islander communities and people of culturally and linguistically diverse (CALD) backgrounds, as they are likely to be under-screened</p> <p>Assist in developing tailored communications strategies, to promote and foster participation among specific population groups (e.g. Aboriginal and Torres Strait Islander and CALD communities)</p>
<p>Referral to appropriate treatment services and collection of information about the outcome of treatment</p>	<p>Recognising the importance of providing consistent high quality care for people diagnosed with bowel cancer in Australia:</p> <ul style="list-style-type: none"> • support or advocate for examination of the extent to which people diagnosed in the screening program are being treated in accordance with the NHMRC Clinical practice guidelines for the prevention, early detection and management of colorectal cancer (2005) • encourage data collection that includes stage and outcome measures as well as qualitative information on patient experience

References

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