National Bowel Cancer Screening Program monitoring report 2008

7 August 2006–30 June 2008

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National Bowel Cancer Screening Program monitoring report 2008

7 August 2006–30 June 2008

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the Australian Government Department of Health and Ageing
for the National Bowel Cancer Screening Program**

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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ARIA	Accessibility/Remoteness Index for Australia
ASGC	Australian Standard Geographical Classification
ASR(A)	age-standardised rate standardised to the Australian 2001 population
ATSI	Aboriginal and Torres Strait Islander
CD	Census Collection District
CI	confidence interval (see Appendix C)
DoHA	Department of Health and Ageing
FOBT	faecal occult blood test
GP	general practitioner
ICD-10	International Classification of Diseases 10th revision
IRSD	Index of Relative Socioeconomic Disadvantage
NBCSP	National Bowel Cancer Screening Program
NHMRC	National Health and Medical Research Council
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
SES	socioeconomic status
SEIFA	Socio-Economic Index for Areas
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Symbols

–	nil or rounded to zero
. .	not applicable
n.a.	not available
n.p.	not publishable because of small numbers, confidentiality concerns or other concerns about the quality of the data

Summary

Introduction

The first phase of the National Bowel Cancer Screening Program (NBCSP) was implemented in August 2006 by the Australian Government, in partnership with state and territory governments following the success of the Bowel Cancer Screening Pilot Program which ran from November 2002 to June 2004.

Program goals

The major goals of the Program are:

- to reduce the incidence and mortality of bowel cancer through screening to detect abnormalities of the colon and rectum at an early stage, and
- where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment.

Program components

The NBCSP is being phased in gradually to help ensure that health services, such as colonoscopy and treatment services, are able to meet any increased demand. The first phase of the NBCSP offered immunochemical faecal occult blood tests (FOBTs) for:

- initial screening of people aged 55 or 65 years between 1 May 2006 and 30 June 2008 (referred to as the National Program)
- rescreening of those people who participated in the Bowel Cancer Screening Pilot Program (referred to as Pilot participants)
- screening of people who were invited to participate in the Bowel Cancer Screening Pilot Program but declined the invitation (referred to as Pilot invitees).

Program outcomes

This monitoring report is produced by the Australian Institute of Health and Welfare on the performance of the NBCSP for the period 7 August 2006 to 30 June 2008. Data were provided by the National Bowel Cancer Screening Program Register (the Register) maintained by Medicare Australia and are presented as indicators measuring program activity, performance, colonoscopy quality and outcome.

As the NBCSP comprises three population groups, analyses of the National Program implementation in 2006–08 and the Pilot Program rescreening and re-invitation during the same period are presented separately, following the overall outcomes.

Overall outcomes

Key facts

- There were a total of 1,010,073 invitations sent between 7 August 2006 and 30 June 2008. Of these 959,967 were to people aged 55 or 65 years and 50,106 to people involved in the Pilot study.
- After adjusting for lags between invitation and response using the Kaplan-Meier method, participation for those aged 55 or 65 years was estimated at 42.9%.
- The risk of bowel cancer increases with age (AIHW 2008). Participation in the National Program was 20% higher for people aged 65 years (Kaplan-Meier participation of 47.7%) than for people aged 55 years (39.9%).
- Males aged 55–74 years had a 57% higher age-standardised rate of bowel cancer incidence than females in 2005, yet were less likely to screen. The Kaplan-Meier rate of participation in the National Program was 39.2% for males compared with 46.7% for females.
- As at 30 June 2008, there were a total of 390,905 people who had a completed FOBT analysed by pathology.
- Of those people who completed a FOBT, 29,547 (7.6%) tested positive for blood in the sample, indicating that they should consult their primary health care practitioner for further investigation.
- Positivity rates were higher for males than females in all three target populations. Of those aged 55 or 65 years who completed a FOBT, 8.9% of males tested positive compared with 6.4% of females; a ratio of 1.4:1. This difference was similar to the 2005 age-standardised male:female bowel cancer incidence ratio of 1.44:1 (AIHW 2008).
- There were a total of 13,038 recorded visits to primary health care practitioners as a result of a positive FOBT during the period for all three target populations. Referral for colonoscopy was made in 90.8% of these consultations. A further 2.9% were referred for other investigations.
- There were a total of 18,986 people known to have undergone a colonoscopy following a positive FOBT for all three target populations. This number is higher than the recorded number of GP visits, indicating a level of under-reporting by primary health care practitioners. Actual colonoscopy outcomes were unknown for 3,003 of these people as no Colonoscopy or Histopathology Report form was available for them.
- Polyps, adenomas or cancer were detected in 58.4% of all positive FOBT results investigated by colonoscopy. The detection rate of adenomas was 12.6% and of cancers was 5.4%. A further 40.4% were polyps that were awaiting final classification from histopathology.

A more detailed summary of findings specific to each target population in the NBCSP for the period 7 August 2006 to 30 June 2008 follows.

National Program implementation in 2006–2008

Overview

Screening of people aged 55 or 65 years (referred to as the National Program) commenced on 7 August 2006 in Queensland and was progressively rolled out to the remaining states and territories, with all states and territories participating by April 2007.

Participation in the National Program

- There were 959,967 invitations sent to people aged 55 or 65 years between 7 August 2006 and 30 June 2008. Of those correctly invited to participate, 29,786 people (3.1%) opted off or suspended participation in the National Program for various reasons, including having been previously diagnosed with bowel cancer.
- As at 30 June 2008, there were 369,049 people who had agreed to participate in the National Program by completing a FOBT or Participant Details form.
- After adjustment for the lag between invitation and response using the Kaplan-Meier method, estimated participation at 38 weeks was 42.9% nationally, ranging among the states and territories from a high of 48.4% in Tasmania to a low of 34.6% in the Northern Territory. Estimated participation was 46.7% for females compared with 39.2% for males.
- Participation was significantly lower in Remote areas (35.5%) and Very remote areas (25.6%) compared with the crude national response rate (39.7%).
- There were 1,824 people self-identified as Aboriginal and Torres Strait Islander who participated in the National Program. Participation for Aboriginal and Torres Strait Islander peoples was estimated at 17.0% of those invited — this was less than half the participation rate for non-Indigenous people (38.6%).

FOBTs completion and GP consultations

- By 30 June 2008 there had been 379,551 FOBT kits returned for analysis. This included replacement kits sent to participants.
- The proportion of correctly completed FOBTs was 96.2%.
- The FOBT positivity rate was 8.9% for males, 6.4% for females and 7.5% overall. People in Remote (8.7%) and Outer regional areas (8.6%) recorded a significantly higher proportion of positive results than those recorded for people in Inner regional areas (7.9%) and Major cities (7.2%).
- Primary health care practitioners reported 11,813 consultations in relation to the National Program as a result of participants receiving positive FOBT results. This represented 43.2% of positive FOBT results for the period 7 August 2006 to 30 June 2008. This low reporting rate may be partially due to lags between receipt of a positive FOBT result and follow-up activity, but is also likely to be a result of under-reporting of follow-up activity by medical practitioners.
- Rectal bleeding prior to testing was reported in 11.7% of primary health care practitioner consultations; however, the majority of people (82.9%) reported that they had no symptoms prior to their positive FOBT result.
- Referral for colonoscopy or other examination was made in 93.8% of primary health care practitioner consultations after a positive FOBT result.

Colonoscopy results

- There were 17,265 (63.2%) National Program participants known to have had a positive FOBT result investigated by colonoscopy during the period 7 August 2006 to 30 June 2008.
- After adjustment using the Kaplan-Meier method for the lag between notification of a positive result and proceeding to colonoscopy, the estimated colonoscopy follow-up rate at 52 weeks was 72.4% nationally. However, this figure is likely to be underestimated as not all colonoscopies conducted as part of the NBCSP have been recorded in the Register.
- Of the 17,265 people known to have had a colonoscopy, 14,429 had outcome data recorded in the Register; 752 (5.2%) were found to have suspected or confirmed cancer and 1,784 (12.4%) had adenomas detected.
- A further 5,955 people (41.3%) had polyps detected at colonoscopy but histopathology results were not recorded in the Register at 30 June 2008. As their final identification had not yet been determined, the numbers of confirmed cancers and adenomas may be under-reported. The remaining 5,938 people (41.1%) were found to have no cancer or adenoma.

Pilot Program rescreening and re-invitations

Overview

The Bowel Cancer Screening Pilot Program ran between November 2002 and June 2004 at three sites: in parts of Melbourne and Adelaide and in Mackay, Queensland. People aged 55 to 74 years on 1 January 2003 were invited to participate. All people involved in the Pilot Program were invited to participate in the first phase of the NBCSP in order to assess rescreening rates and outcomes for those people undergoing repeat screening compared with those undergoing initial screening.

The NBCSP for Pilot participants and invitees began in Mackay in August 2006 and in Adelaide in late January 2007. In Melbourne the NBCSP for Pilot participants and invitees began in May 2007.

A total of 50,078 invitations to participate in the NBCSP were sent to eligible people originally involved in the Pilot study. Of those, 2,054 people opted off or suspended participation in the NBCSP for various reasons, including having been previously diagnosed with bowel cancer.

Pilot participants invited to rescreen

Pilot participants are defined as those people who screened in the Pilot program and have been invited to rescreen in the NBCSP.

- There were 24,006 invitations to rescreen sent to eligible Pilot participants between 7 August 2006 and 30 June 2008.
- Over 79% of Pilot participants accepted the invitation to rescreen. This proportion does not account for the lag between invitation and response and underestimates true participation. There was no difference in rescreening proportions between males and females.
- The proportion of correctly completed FOBTs was 95.5%.
- The FOBT positivity rate for Pilot participants was 8.8%. This is most likely higher than that of the National Program (7.5%) due to the older age cohort for participants in the Pilot Program (participants were aged 55 to 74 years as at 1 January 2003 for the Pilot compared with 55 and 65 for the National Program).
- The age-standardised positivity rate was significantly higher for males (9.9%) than for females (8.1%).
- There were 1,169 Pilot participants with positive FOBTs recorded as having had a colonoscopy to investigate the FOBT result.
- Of these, there were 71 people (6%) with suspected or confirmed cancer, and 173 people (15%) with adenomas. However, there were 372 people (32%) with polyps detected at colonoscopy that had not had final histopathology results received by the Register by 30 June 2008. Therefore, final cancer and adenoma numbers may change once more histopathology results are recorded. The remaining 553 people (47%) had no cancer or adenoma detected.

Pilot non-respondents re-invited to screen

Pilot non-respondents (invitees) are defined as those people who were originally invited to screen in the Pilot program but declined. These people have also been re-invited to screen in the NBCSP.

- There were 24,018 eligible invitees from the Pilot Program re-invited to screen in the NBCSP between 7 August 2006 and 30 June 2008.
- Only 21.1% of Pilot invitees accepted the invitation to screen; this was significantly lower than for previous Pilot participants. This proportion does not account for the lag between invitation and response and underestimates true participation.
- The proportion of correctly completed FOBTs for Pilot invitees was 92.7%, which was lower than for Pilot participants who underwent rescreening (95.5%).
- The age-standardised positivity rate for Pilot invitees was 11.7%. This was significantly higher than for Pilot participants who underwent rescreening (8.9%).
- The age-standardised positivity rate was 13.2% for males compared with 10.2% for females. This difference was not statistically significant.
- There were 385 Pilot invitees with positive FOBTs recorded as having had a colonoscopy to investigate the FOBT result. Of these, there were 37 people (10%) with suspected or confirmed cancer, and 66 people (17%) with adenomas. However, there were 126 people (33%) with polyps detected at colonoscopy that had not had final histopathology results received by the Register. Therefore, final cancer and adenoma numbers may change once more histopathology results are recorded. The remaining 156 people (40%) had no cancer or adenoma detected.
- The proportions of people with adenoma and cancer were higher in those people who underwent screening for the first time compared with Pilot participants who underwent rescreening. However, due to small numbers, this was not statistically significant.

1 Introduction

The Australian Institute of Health and Welfare (AIHW) produces annual monitoring reports for the Australian Government Department of Health and Ageing (DoHA) to assist in management of the National Bowel Cancer Screening Program (NBCSP). These reports analyse data extracted from the National Bowel Cancer Screening Program Register maintained by Medicare Australia and provide an overview of screening participation and outcomes. This report builds on the previous report, covering all data collected since the commencement of the NBCSP. It covers participation, FOBT results, follow-up investigations, colonoscopy quality and outcomes relating to the period 7 August 2006 to 30 June 2008. It is the second annual report for the NBCSP.

The first section outlines the aims and broad structure of the report. Subsequent sections present analyses covering successive key points on the screening pathway (see Appendix A). Data on incidence of bowel cancer to 2005 and mortality due to bowel cancer to 2006 are also presented.

Background

The goals of the NBCSP are to reduce the incidence of, and mortality due to, bowel cancer through screening to detect abnormalities of the colon and rectum at an early stage; and, where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment.

In Australia in 2005 the risk of being diagnosed with bowel cancer by the age of 85 years was 1 in 10 for males and 1 in 15 for females, with the risk increasing sharply from the age of 45. Since 1982 the incidence of bowel cancer has been increasing slightly each year with 13,076 new cases diagnosed in 2005. Bowel cancer accounts for 10% of all deaths from invasive cancers, with 3,801 deaths in 2006, making bowel cancer the second most common cause of cancer-related death after lung cancer (AIHW 2008). Incidence and mortality data for bowel cancer in Australia are detailed in Chapter 4.

Symptoms of bowel cancer are not generally exhibited until the cancer has reached a relatively advanced stage. However, death can be prevented and survival rates can be significantly improved in cases where the disease is detected and treated early. Evidence from clinical trials has shown that regular screening (biennial) using faecal occult blood testing can reduce mortality from bowel cancer by 15–33% (DoHA 2005).

Bowel cancer screening involves testing for signs of bowel cancer in people who do not have any obvious symptoms of the disease. People with symptoms or a significant family history are encouraged to discuss these with their primary health care practitioner. In accordance with the National Health and Medical Research Council guidelines for the prevention, early detection and management of colorectal cancer (2005), these people should be referred directly to diagnostic assessment (generally colonoscopy). However, it is recognised that some people at increased risk may not seek the assistance of a medical professional (for example, those who are symptomatic but reluctant to act on their symptoms). As a result, all people should be invited to screen regardless of evidence of previous symptoms or a significant family history.

The Bowel Cancer Screening Pilot Program was conducted between November 2002 and June 2004 to test the feasibility, acceptability and cost effectiveness of bowel cancer screening in the Australian community. Following the success of this Pilot, the Australian Government implemented the first phase of the NBCSP. From 7 August 2006, people across Australia turning 55 or 65 years of age between 1 May 2006 and 30 June 2008, and those who were invited to participate in the Pilot Program, were invited to screen for bowel cancer.

Population-based screening programs require an accurate, reliable, safe and simple test that can detect the presence of disease before the onset of clinical symptoms. For the NBCSP, a faecal occult blood test (FOBT) was chosen. A FOBT is a non-invasive test which detects microscopic amounts of blood in the bowel motion. The NBCSP uses an immunochemical FOBT as opposed to the traditional guaiac FOBT as it has shown higher sensitivity and specificity, does not require dietary restrictions and can be easily used at home (ACN 2005).

The NBCSP commenced in Queensland in August 2006 and was progressively rolled out to the remaining states and territories by April 2007. Invitation packs, including a FOBT, were sent directly to participants by the National Bowel Cancer Screening Program Register. The method of distributing invitations and FOBT kits varied from state to state (Table 1.1).

Table 1.1: National Bowel Cancer Screening Program rollout schedule, states and territories

State	Distribution	Commencement date
Queensland	Geographic	7 August 2006
New South Wales	Birth date	14 August 2006
Australian Capital Territory	Birth date	11 September 2006
South Australia	Geographic	22 January 2007
Victoria	Birth date	29 January 2007
Western Australia	Geographic	29 January 2007
Northern Territory	Geographic	5 March 2007
Tasmania	Birth date	2 April 2007
Australia	. .	**7 August 2006**

Notes

1. Birth date distribution: involves eligible participants being identified and invited to participate generally within 4 weeks of their 55th or 65th birthday, with an initial catch-up period for delayed commencement of the Program.
2. Geographic distribution: involves the full cohort of eligible people being issued invitations across the period of screening according to their postcode, so invitations will be sent to people in the eligible age groups at the same time as others living in their area.

Once completed, participants are requested to post their FOBT to a central pathology laboratory for analysis. Results of this analysis are sent to the participant, their nominated primary health care practitioner and the Register. Participants with a positive FOBT result, indicating blood in their bowel motion, are advised to consult their primary health care practitioner to discuss further testing—in most cases this will be a colonoscopy. Responses to invitations and the outcomes for those who complete the screening tests are monitored to the point of definite diagnosis for those who are found to have bowel cancer (DoHA 2008). Refer to Appendix A for a complete representation of the screening pathway from invitation to diagnosis.

Data issues

Data are collected about participants and their screening outcomes from a variety of sources throughout the screening pathway and stored in the Register. The data are collected on forms completed by participants, general practitioners (GP), colonoscopists, pathologists, nurses and other specialists or administrative staff on behalf of health professionals.

As completion of NBCSP forms by practitioners is not mandatory there is the possibility of inconsistent reporting. For example, GP, Colonoscopy and Histopathology Report forms are received from different sources and may be entered in any sequence; however, each must have a positive FOBT result to be included. This means that there may be data for colonoscopies without an associated GP form, and data for histopathology results without a completed Colonoscopy Report form. When inconsistencies occur, these are included in monitoring reports to provide an indication of the reliability of the data.

The analyses presented in this report are based on data recorded in the Register for the period 7 August 2006 to 30 June 2008. Because of both time lags in reporting and under-reporting by clinicians, data on primary health care practitioner consultations, colonoscopies and colonoscopy outcomes in this report understate the true performance of the NBCSP in this period and should be interpreted with caution.

As the NBCSP commenced at different times with differing distribution methods in each of the states and territories, care should be taken in making comparisons between states and territories or geographic locations. Where numbers of responses to invitations are small, caution should be applied in drawing inferences between groups.

Analytical methods

The NBCSP comprises three groups receiving invitations to participate in screening:

- initial screening of people aged 55 or 65 years of age between 1 May 2006 and 30 June 2008 (referred to as the National Program)
- rescreening of those people who participated in the Bowel Cancer Screening Pilot Program (referred to as Pilot participants)
- screening of people who were invited to participate in the Bowel Cancer Screening Pilot Program but declined the invitation (referred to as Pilot invitees).

Analyses of the National and Pilot programs are presented separately; Pilot participants and invitees are excluded from the analyses of the National Program population.

The eligible population for this report excludes people who have suspended participation or elected to opt off the NBCSP.

Crude rates and proportions are presented in this report for the National Program. Age-standardised rates (standardised to the Australian 2001 population) are also presented for the Pilot Program. For participation, modelled rates based on the time it takes each individual invited for screening to respond by returning a completed FOBT are calculated by following each invited person and recording the time it takes them to respond. This allows a response rate over time from the date of invitation. The modelled response rates were calculated using the Kaplan-Meier methods (see Appendix C).

Identification of participants as Aboriginal and Torres Strait Islander, having a disability, or having a preferred correspondence language other than English is by self-identification to Medicare Australia through this or other programs. In the National Program the denominator for initial participation rates stratified by these characteristics is calculated from ABS population estimates from the 2006 Census. See Appendix C for statistical methods.

2 National Program

2.1 Participation

Numbers and rates of participation

The NBCSP commenced during August 2006 in Queensland and New South Wales, and September 2006 for the Australian Capital Territory. South Australia, Victoria and Western Australia commenced the NBCSP in late January 2007. The Northern Territory commenced in March 2007 and Tasmania in early April 2007. These timing variations were due to each state and territory having responsibility for the management of the Program rollout in their jurisdiction.

People who did not turn 55 or 65 between 1 May 2006 and 30 June 2008, and those who were ineligible for other reasons, were excluded from the eligible population. The excluded invitations included 835 people with age either unknown or outside the eligible ages of 55 or 65 years and 17 people with either state unknown or residence outside Australia. Of the 959,115 people who were correctly invited there were 9,034 who suspended participation in the National Program and 20,752 people who opted off after receiving an invitation to screen; these people were excluded from any analyses. Invitations sent to Pilot participants and invitees were also excluded from the National Program data (see Chapter 3 for analyses of the Pilot Program).

The participation proportions shown in Table 2.1.1b underestimate the true screening program participation. This is because of the lag in response time. This underestimation does not affect comparisons between different groups, but it does mean that the absolute levels of participation are likely to be understated.

An alternative approach used was to follow each individual and, for those who responded, to record the time it took them to respond. This allowed the calculation of a response rate over time from the date of invitation. The response rates were calculated using the Kaplan-Meier methods. These are standard statistical methods used to model the time to an event and the changes in the rates of an event over time. In this case, the event was a person's acceptance (either by returning a completed FOBT kit or Participant Details form) and the time to accept was measured in weeks from the date the invitation was sent. These Kaplan-Meier estimates represent valid estimates of the true participation rates. See Appendix C for a more detailed description of the statistical methods used.

Figure 2.1.1 presents the proportion of individuals (by time in weeks) who accepted the invitation to screen, calculated using the Kaplan-Meier estimates. Table 2.1.1c presents the corresponding 95% confidence intervals at 38 weeks.

Table 2.1.1a: Screening invitation, by state and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Unknown/ missing	Australia
A. Invitations issued[(a)]										
55 years	190,144	140,717	114,243	58,871	45,346	15,041	9,990	5,165	15	579,532
65 years	128,667	92,297	74,642	36,381	29,413	10,353	5,540	2,305	2	379,600
Other	262	215	183	60	59	23	7	26	0	835
Total	**319,073**	**233,229**	**189,068**	**95,312**	**74,818**	**25,417**	**15,537**	**7,496**	**17**	**959,967**
B. Persons suspended[(b)]										
55 years	1,271	1026	819	440	334	123	83	21	. .	4,117
65 years	1,624	1101	975	502	463	146	86	20	. .	4,917
Total	**2,895**	**2,127**	**1,794**	**942**	**797**	**269**	**169**	**41**	**. .**	**9,034**
C. Persons opting off[(c)]										
55 years	2,466	2,222	1,665	885	838	244	140	62	. .	8,522
65 years	3,911	3,081	2,424	1095	1109	381	172	57	. .	12,230
Total	**6,377**	**5,303**	**4,089**	**1,980**	**1,947**	**625**	**312**	**119**	**. .**	**20,752**
D. Eligible invitations[(d)]										
Males										
55 years	93,477	68,430	56,503	29,168	21,820	7,356	4,771	2,703	. .	284,228
65 years	62,128	44,332	36,515	17,952	13,875	4,960	2,655	1300	. .	183,717
Total	**155,605**	**112,762**	**93,018**	**47,120**	**35,695**	**12,316**	**7,426**	**4,003**	**. .**	**467,945**
Females										
55 years	92,930	69,039	55,256	28,378	22,354	7,318	4,996	2,379	. .	282,650
65 years	61,004	43,783	34,728	16,832	13,966	4,866	2,627	928	. .	178,734
Total	**153,934**	**112,822**	**89,984**	**45,210**	**36,320**	**12,184**	**7,623**	**3,307**	**. .**	**461,384**
Persons										
55 years	186,407	137,469	111,759	57,546	44,174	14,674	9,767	5,082	. .	566,878
65 years	123,132	88,115	71,243	34,784	27,841	9,826	5,282	2,228	. .	362,451
Total	**309,539**	**225,584**	**183,002**	**92,330**	**72,015**	**24,500**	**15,049**	**7,310**	**. .**	**929,329**

(a) Invitations to screen were issued to all members of the population turning 55 or 65 between 1 May 2006 and 30 June 2008. Other eligibility criteria were not assessed until further in the screening pathway.

(b) 'Persons suspended' refers to those people correctly invited to participate in the NBCSP who elected to suspend participation until a specified date. It excludes those people mistakenly invited to participate.

(c) 'Persons opting off' refers to those people correctly invited to participate in the NBCSP who elected to opt off the National Program. It excludes those people mistakenly invited to participate.

(d) 'Eligible invitations' refers to those invitations eligible for analysis. It includes only those people who were correctly invited to participate in the NBCSP and had not suspended participation or elected to opt off the National Program.

- There were 959,967 invitations sent out by 30 June 2008, of which 835 were sent to people outside the target ages and 17 to people with state unknown or residence outside Australia.
- There were 9,034 correctly invited respondents (1.0% of invitations) who suspended participation in the National Program. A further 20,752 correctly invited respondents (2.2% of invitations) declined to participate by opting off the National Program.
- A total of 929,329 invitations were therefore eligible for analysis.

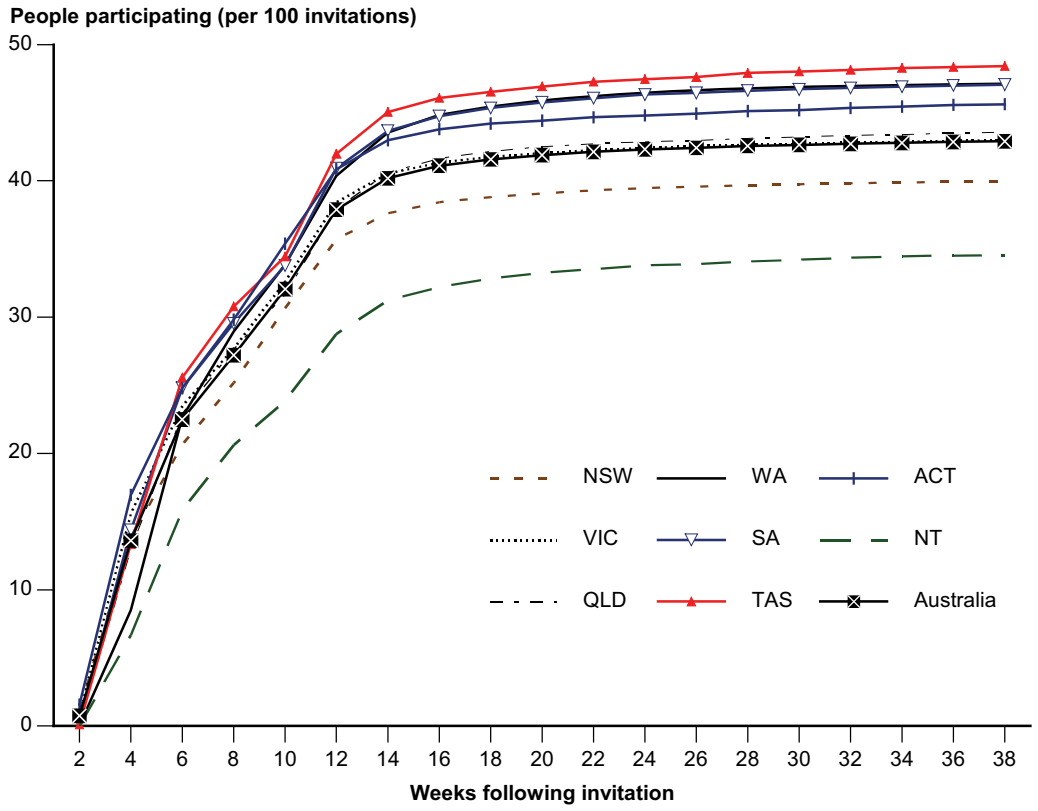
Table 2.1.1b: People who agreed to participate in the NBCSP, by state and territory

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Number	28,510	23,324	17,783	10,465	7,574	2,685	1,728	683	92,752
	Per cent	30.5	34.1	31.5	35.9	34.7	36.5	36.2	25.3	32.6
65 years	Number	24,500	18,587	14,992	8,155	6,435	2,180	1,200	403	76,452
	Per cent	39.4	41.9	41.1	45.4	46.4	44.0	45.2	31.0	41.6
Total	**Number**	**53,010**	**41,911**	**32,775**	**18,620**	**14,009**	**4,865**	**2,928**	**1,086**	**169,204**
	Per cent	**34.1**	**37.2**	**35.2**	**39.5**	**39.2**	**39.5**	**39.4**	**27.1**	**36.2**
	95% CI	**33.8–34.3**	**36.9–37.4**	**34.9–35.5**	**39.1–40.0**	**38.7–39.8**	**38.6–40.4**	**38.3–40.5**	**25.8–28.5**	**36.0–36.3**
Females										
55 years	Number	35,775	29,550	21,939	12,533	9,877	3,228	2,225	691	115,818
	Per cent	38.5	42.8	39.7	44.2	44.2	44.1	44.5	29.0	41.0
65 years	Number	27,207	20,621	16,363	8,650	7,149	2,421	1,339	277	84,027
	Per cent	44.6	47.1	47.1	51.4	51.2	49.8	51.0	29.8	47.0
Total	**Number**	**62,982**	**50,171**	**38,302**	**21,183**	**17,026**	**5,649**	**3,564**	**968**	**199,845**
	Per cent	**40.9**	**44.5**	**42.6**	**46.9**	**46.9**	**46.4**	**46.8**	**29.3**	**43.3**
	95% CI	**40.7–41.2**	**44.2–44.8**	**42.2–42.9**	**46.4–47.3**	**46.4–47.4**	**45.5–47.2**	**45.6–47.9**	**27.7–30.8**	**43.2–43.5**
Persons										
55 years	Number	64,285	52,874	39,722	22,998	17,451	5,913	3,953	1,374	208,570
	Per cent	34.5	38.5	35.5	40.0	39.5	40.3	40.5	27.0	36.8
65 years	Number	51,707	39,208	31,355	16,805	13,584	4,601	2,539	680	160,479
	Per cent	42.0	44.5	44.0	48.3	48.8	46.8	48.1	30.5	44.3
Total	**Number**	**115,992**	**92,082**	**71,077**	**39,803**	**31,035**	**10,514**	**6,492**	**2,054**	**369,049**
	Per cent	**37.5**	**40.8**	**38.8**	**43.1**	**43.1**	**42.9**	**43.1**	**28.1**	**39.7**
	95% CI	**37.3–37.6**	**40.6–41.0**	**38.6–39.1**	**42.8–43.4**	**42.7–43.5**	**42.3–43.5**	**42.3–43.9**	**27.1–29.1**	**39.6–39.8**

Notes

1. Participants in the Program were defined as members of the eligible population who returned a Participant Details form and/or a completed FOBT kit.
2. Percentages equal people participating as a proportion of the total number of the eligible population who were sent an invitation to screen. This excludes people who suspended or opted off the National Program.

- As at 30 June 2008, there were 369,049 eligible invitees (39.7%) who responded by returning a completed Participant Details form and/or completed FOBT kit.
- Western Australia, South Australia and the Australian Capital Territory had the highest proportion of acceptances at 43.1%, followed by Tasmania (42.9%).
- The proportion of eligible invitees accepting was significantly lower for the Northern Territory (28.1%) than the other jurisdictions.
- A significantly higher proportion of females accepted in all states and territories, with the exception of the Northern Territory. Overall, females were 1.2 times more likely than males to participate.
- For both sexes, the proportion accepting the invitation was higher for those aged 65 years than for those aged 55 years. Overall, people aged 65 years were 1.2 times more likely to participate.



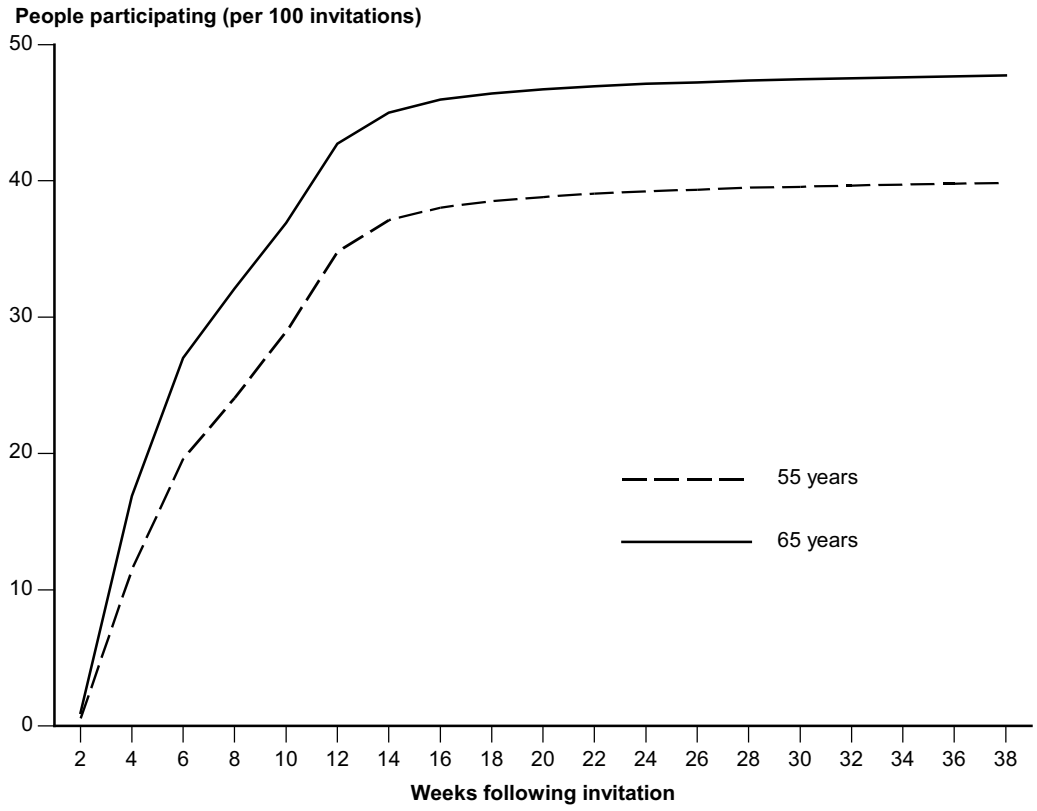
Source: National Bowel Cancer Screening Program Register.

Figure 2.1.1: Participation, by weeks since invitation using Kaplan-Meier estimates, by state and territory

Table 2.1.1c: Kaplan-Meier participation rates at 38 weeks since invitation, by state and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
People participating (per 100 invitations)	40.0	43.0	43.6	47.1	47.1	48.4	45.6	34.6	42.9
95% CI	39.8–40.2	42.8–43.2	43.3–43.8	46.8–47.5	46.7–47.5	47.7–49.1	44.8–46.5	33.3–35.8	42.8–43.0

- There was a rise in participation in most states and territories in the first 6 weeks after invitation, which then tapered off. Participation rose again after 10 weeks and began to plateau at about 14 weeks from the first invitation. Reminders sent out to non-respondents 8 weeks after the original invitation may be responsible for the second rise in participation rates.
- Tasmania, Western Australia, South Australia, the Australian Capital Territory and Queensland had significantly higher participation rates at 38 weeks than the other states and territories and the national rate of 42.9%.



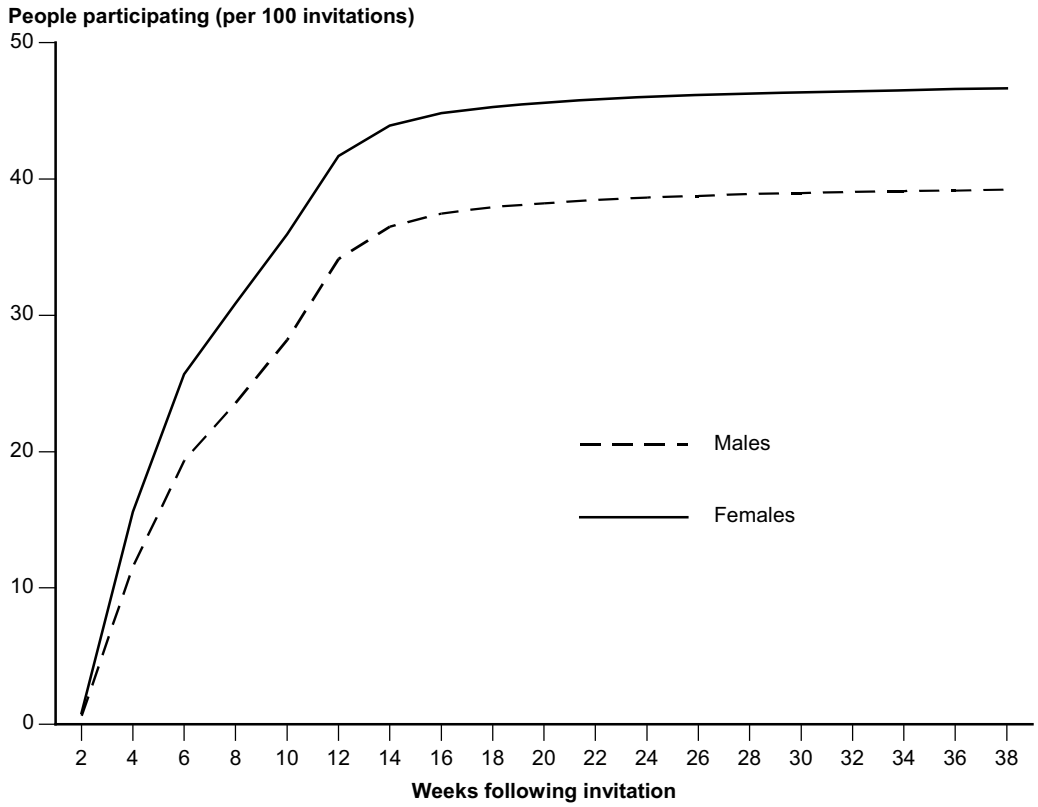
Source: National Bowel Cancer Screening Program Register.

Figure 2.1.2: Participation, by weeks since invitation using Kaplan-Meier estimates, by age

Table 2.1.1d: Kaplan-Meier participation rates at 38 weeks since invitation, by age

	55 years	65 years
People participating (per 100 invitations)	39.9	47.7
95% CI	39.7–40.0	47.6–47.9

- The sharpest rise in participation for those aged 65 occurred in the first 6 weeks from invitation. Participation then continued to rise more slowly and began to plateau at 14 weeks from invitation.
- People aged 55 were slower than those aged 65 to accept the invitation to screen. The sharpest rise in participation occurred in the first 6 weeks from invitation. It then slowed, and rose again between 10 and 12 weeks from invitation, reaching a plateau at around 16 weeks from invitation. Reminders sent out to non-respondents 8 weeks after the original invitation may be responsible for the second rise in participation rates.
- The estimated FOBT participation rate at 38 weeks from invitation was 39.9% for people aged 55 and 47.7% for people aged 65.



Source: National Bowel Cancer Screening Program Register.

Figure 2.1.3: Participation, by weeks since invitation using Kaplan-Meier estimates, by sex

Table 2.1.1e: Kaplan-Meier participation rates at 38 weeks since invitation, by sex

	Males	Females
People participating (per 100 invitations)	39.2	46.7
95% CI	39.1–39.4	46.5–46.8

- The sharpest rise in participation for females occurred in the first 6 weeks from invitation. Participation continued to rise more slowly and began to plateau at 16 weeks from invitation.
- Males were slower than females to accept the invitation to screen. The sharpest rise in participation occurred in the first 6 weeks from invitation. It then slowed, and rose again between 10 and 12 weeks from invitation, reaching a plateau at around 16 weeks from invitation. Reminders sent out to non-respondents 8 weeks after the original invitation may be responsible for the second rise in participation rates.
- The estimated FOBT participation rate at 38 weeks from invitation was 39.2% for males and 46.7% for females.

Participation by population subgroups

Table 2.1.2: People accepting the invitation to screen, by geographic location

		Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Males							
55 years	Number	60,051	21,132	9,824	1,221	477	92,706
	Per cent	31.8	35.4	33.2	29.7	23.1	32.6
65 years	Number	47,170	19,453	8,510	948	322	76,404
	Per cent	40.3	45.7	42.3	36.4	27.6	41.6
Total	**Number**	**107,221**	**40,586**	**18,335**	**2,170**	**798**	**169,110**
	Per cent	**35.1**	**39.7**	**36.9**	**32.3**	**24.7**	**36.2**
	95% CI	**34.9–35.2**	**39.4–40.0**	**36.5–37.3**	**31.1–33.4**	**23.2–26.2**	**36.0–36.3**
Females							
55 years	Number	76,032	26,472	11,516	1,272	463	115,755
	Per cent	39.8	45.0	42.4	36.8	26.0	41.0
65 years	Number	52,203	21,618	8,996	918	252	83,987
	Per cent	45.1	51.8	49.3	44.0	27.9	47.0
Total	**Number**	**128,235**	**48,091**	**20,512**	**2,189**	**715**	**199,742**
	Per cent	**41.8**	**47.8**	**45.2**	**39.5**	**26.6**	**43.3**
	95% CI	**41.6–41.9**	**47.5–48.1**	**44.7–45.6**	**38.2–40.8**	**25.0–28.3**	**43.2–43.5**
Persons							
55 years	Number	136,083	47,605	21,341	2,493	939	208,461
	Per cent	35.8	40.1	37.6	32.9	24.4	36.8
65 years	Number	99,373	41,072	17,506	1,866	574	160,391
	Per cent	42.7	48.7	45.6	39.8	27.7	44.3
Total	**Number**	**235,457**	**88,676**	**38,847**	**4,359**	**1,513**	**368,852**
	Per cent	**38.4**	**43.7**	**40.9**	**35.5**	**25.6**	**39.7**
	95% CI	**38.3–38.6**	**43.5–43.9**	**40.5–41.2**	**34.7–36.4**	**24.5–26.7**	**39.6–39.8**

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. There were 560 invitations and 197 respondents with postcodes that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis, so the sum of the regions may be less than the national total.
3. Percentages equal the number of people participating (by returning a Participant Details form and/or a completed FOBT kit) as a proportion of the total number of the eligible population who were sent an invitation to screen.
4. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- The proportion of people participating was significantly higher in Inner regional areas (43.7%) than other geographic areas. This was consistent for both males and females.
- The proportion of people participating was significantly lower in Remote and very remote areas compared with the national level.
- Females aged 65 years in Inner regional areas had the highest proportion of participation (51.8%).

Table 2.1.3: People accepting the invitation to screen, by socioeconomic status

		1st quintile (least disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (most disadvantaged)	Total
Males							
55 years	Number	19,835	18,309	17,695	18,733	16,901	91,473
	Per cent	34.1	33.5	32.1	32.9	30.6	32.7
65 years	Number	14,880	13,866	14,545	16,551	15,641	75,483
	Per cent	43.1	42.2	41.6	42.9	39.0	41.7
Total	**Number**	**34,715**	**32,175**	**32,240**	**35,284**	**32,542**	**166,956**
	Per cent	**37.5**	**36.8**	**35.8**	**37.0**	**34.1**	**36.2**
	95% CI	**37.2–37.8**	**36.5–37.1**	**35.5–36.1**	**36.7–37.3**	**33.8–34.4**	**36.1–36.4**
Females							
55 years	Number	25,107	22,874	22,175	23,253	20,969	114,378
	Per cent	42.4	41.9	40.4	41.7	38.5	41.0
65 years	Number	16,202	15,355	16,040	18,340	17,298	83,235
	Per cent	48.4	48.2	46.7	48.3	44.1	47.1
Total	**Number**	**41,309**	**38,229**	**38,215**	**41,593**	**38,267**	**197,613**
	Per cent	**44.6**	**44.2**	**42.8**	**44.4**	**40.9**	**43.4**
	95% CI	**44.3–44.9**	**43.9–44.5**	**42.5–43.2**	**44.1–44.7**	**40.5–41.2**	**43.2–43.5**
Persons							
55 years	Number	44,942	41,183	39,870	41,986	37,870	205,851
	Per cent	38.3	37.7	36.2	37.3	34.6	36.8
65 years	Number	31,082	29,221	30,585	34,891	32,939	158,718
	Per cent	45.7	45.2	44.1	45.6	41.5	44.4
Total	**Number**	**76,024**	**70,404**	**70,455**	**76,877**	**70,809**	**364,569**
	Per cent	**41.0**	**40.5**	**39.3**	**40.6**	**37.5**	**39.8**
	95% CI	**40.8–41.3**	**40.3–40.7**	**39.1–39.5**	**40.4–40.9**	**37.3–37.7**	**39.7–39.9**

Notes

1. A participant's socioeconomic status was classified using the participant's residential postcode according to the ABS Index of Relative Socioeconomic Disadvantage (IRSD) for 2006.
2. There were 4,480 respondents with postcodes that did not correspond with the 2006 ABS IRSD classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
3. Percentages equal the number of people participating (by returning a Participant Details form and/or a completed FOBT kit) as a proportion of the total number of the eligible population who were sent an invitation to screen.

- Participation was significantly lower in the most disadvantaged quintile (37.5%) compared with other socioeconomic quintiles. This was consistent for both males and females, and for those aged 55 years and 65 years.

Table 2.1.4: People accepting the invitation to screen, by Aboriginal and Torres Strait Islander status

		Aboriginal and Torres Strait Islander	Non-Indigenous	Total
Males				
55 years	Number	512	88,931	89,443
	Per cent	14.9	31.7	31.5
65 years	Number	326	73,141	73,467
	Per cent	20.3	40.2	40.0
Total	**Number**	**838**	**162,072**	**162,910**
	Per cent	**16.6**	**35.0**	**34.8**
	95% CI	**15.6–17.7**	**34.9–35.1**	**34.7–35.0**
Females				
55 years	Number	630	111,729	112,359
	Per cent	16.8	40.1	39.8
65 years	Number	356	80,548	80,904
	Per cent	18.4	45.6	45.3
Total	**Number**	**986**	**192,277**	**193,263**
	Per cent	**17.3**	**42.2**	**41.9**
	95% CI	**16.3–18.3**	**42.1–42.3**	**41.7–42.0**
Persons				
55 years	Number	1,142	200,660	201,802
	Per cent	15.9	35.9	35.6
65 years	Number	682	153,689	154,371
	Per cent	19.3	42.8	42.6
Total	**Number**	**1,824**	**354,349**	**356,173**
	Per cent	**17.0**	**38.6**	**38.3**
	95% CI	**16.3–17.7**	**38.5–38.7**	**38.2–38.4**

Notes

1. There were 12,876 respondents with Aboriginal and Torres Strait Islander status not stated. These were treated as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. Aboriginal and Torres Strait Islander status was defined by the participant.
3. Percentages equal the number of people participating (by returning a Participant Details form and/or a completed FOBT kit) as a proportion of the estimated eligible population who were sent an invitation to screen.

- The estimated proportion of people who identified as Aboriginal and Torres Strait Islander who accepted the invitation to screen (17.0%) was significantly lower than that for non-Indigenous people (38.6%); non-Indigenous people were 2.3 times more likely to accept the invitation to screen than Aboriginal and Torres Strait Islander peoples.

Table 2.1.5: People accepting the invitation to screen, by preferred correspondence language

		Preferred correspondence language		
		Language other than English	English	Total
Males				
55 years	Number	10,398	82,354	92,752
	Per cent	24.6	34.0	32.6
65 years	Number	8,348	68,104	76,452
	Per cent	26.6	44.7	41.6
Total	**Number**	**18,746**	**150,458**	**169,204**
	Per cent	**25.4**	**38.2**	**36.2**
	95% CI	**25.1–25.7**	**38.0–38.3**	**36.0–36.3**
Females				
55 years	Number	13,411	102,407	115,818
	Per cent	29.3	43.2	41.0
65 years	Number	8,526	75,501	84,027
	Per cent	27.3	51.2	47.0
Total	**Number**	**21,937**	**177,908**	**199,845**
	Per cent	**28.5**	**46.3**	**43.3**
	95% CI	**28.2–28.8**	**46.1–46.4**	**43.2–43.5**
Persons				
55 years	Number	23,809	184,761	208,570
	Per cent	27.0	38.6	36.8
65 years	Number	16,874	143,605	160,479
	Per cent	26.9	47.9	44.3
Total	**Number**	**40,683**	**328,366**	**369,049**
	Per cent	**27.0**	**42.2**	**39.7**
	95% CI	**26.8–27.2**	**42.1–42.3**	**39.6–39.8**

Notes

1. Preferred correspondence language was self-reported to Medicare Australia through this or other programs. Participants were assumed to prefer to correspond in English unless otherwise indicated.
2. Percentages equal the number of people participating (by returning a Participant Details form and/or a completed FOBT kit) as a proportion of the estimated eligible population who were sent an invitation to screen.

- Of those that accepted the invitation to screen, 40,683 (11.0%) preferred to correspond with Medicare Australia in a language other than English.
- The estimated proportion of people who accepted the invitation to screen was significantly lower for people who preferred to correspond in a language other than English (27.0%) than for those who did not prefer to correspond in a language other than English (42.2%).
- People who were assumed to prefer to correspond with Medicare Australia in English were 1.6 times more likely to accept the invitation to screen than those who indicated that they preferred to correspond in a language other than English.

Table 2.1.6: People accepting the invitation to screen, by reported disability status

		Disability level		
		Severe or profound activity limitation	No severe or profound activity limitation	Total
Males				
55 years	Number	4,177	82,571	86,748
	Per cent	36.1	30.3	30.5
65 years	Number	5,173	66,246	71,419
	Per cent	41.5	38.7	38.9
Total	**Number**	**9,350**	**148,817**	**158,167**
	Per cent	**38.9**	**33.5**	**33.8**
	95% CI	**38.3–39.5**	**33.4–33.7**	**33.7–33.9**
Females				
55 years	Number	5,568	103,600	109,168
	Per cent	51.8	38.1	38.6
65 years	Number	4,965	73,748	78,713
	Per cent	48.5	43.8	44.0
Total	**Number**	**10,533**	**177,348**	**187,881**
	Per cent	**50.2**	**40.3**	**40.7**
	95% CI	**49.5–50.9**	**40.1–40.4**	**40.6–40.9**
Persons				
55 years	Number	9,745	186,171	195,916
	Per cent	43.7	34.2	34.6
65 years	Number	10,138	139,994	150,132
	Per cent	44.8	41.2	41.4
Total	**Number**	**19,883**	**326,165**	**346,048**
	Per cent	**44.2**	**36.9**	**37.2**
	95% CI	**43.7–44.7**	**36.8–37.0**	**37.1–37.3**

Notes

1. There were 23,001 respondents with disability status not stated. These were treated as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. A 'profound' disability status indicates that a person always needs assistance with self-care, movement and/or communications activities. A 'severe' disability status indicates that a person sometimes needs assistance with these activities.
3. Percentages equal the number of people participating (by returning a Participant Details form and/or a completed FOBT kit) as a proportion of the estimated eligible population who were sent an invitation to screen.

- Approximately 6% of people who accepted the invitation to screen in the NBCSP between 7 August 2006 and 30 June 2008 indicated that they had severe or profound limitations.
- The estimated proportion of people who accepted the invitation was significantly higher for people with a severe or profound limitation (44.2%) than for those without a severe or profound limitation (36.9%).
- People with a severe or profound limitation were 1.2 times more likely to accept the invitation to screen than those without a severe or profound limitation.

2.2 FOBT outcomes

This section of the report covers all eligible FOBT results that were returned to the Register between 7 August 2006 and 30 June 2008. In this report, FOBT refers to the entire test kit, explained as follows:

Each participant in the NBCSP is initially sent one FOBT kit containing two samples to be completed and returned to the pathology laboratory for analysis. Pathologists categorise these returned FOBTs into three groups: correctly completed, incorrectly completed or unsatisfactory. A kit may be incorrectly completed or unsatisfactory (and thus ineligible for analysis) due to:

- the participant not completing the test correctly
- the completed kit having expired
- a delay of more than two weeks between the taking of the two samples, or
- the kit having taken more than one month to arrive at the pathology laboratory.

Participants with FOBTs that were not correctly completed were requested to complete another FOBT.

Results of correctly completed FOBT kits are classified by pathologists as either positive (blood is detected in either sample), negative (blood is not detected in either sample) or inconclusive (only one sample was taken, and it was negative). See Table 2.2.3 for FOBT result details. Participants with an inconclusive kit are requested to complete another FOBT kit. See Appendix A for details of the screening pathway.

The classification of FOBT by return status and positivity was based only on returned kits. Any results where the participants were outside the ages of 55 or 65 years, or where the respondent opted off or suspended from the NBCSP were excluded. In analysing return status, the dependent variable was whether or not the test was correctly completed. Where participants have completed more than one FOBT kit, completion status and FOBT results from each FOBT kit were included. In analysing positivity rates, only correctly completed FOBTs were included in the denominator and the dependent variable was whether or not the result was positive.

Numbers and rates of FOBT completion

Table 2.2.1: FOBT kit completion status, Australia

	FOBT correctly completed		FOBT not correctly completed		All FOBTs
	Number	Per cent	Number	Per cent	Number
Males					
55 years	91,877	97.0	2,869	3.0	94,746
65 years	75,874	96.8	2,498	3.2	78,372
Total	**167,751**	**96.9**	**5,367**	**3.1**	**173,118**
Females					
55 years	114,225	95.8	5,069	4.2	119,294
65 years	83,017	95.3	4,122	4.7	87,139
Total	**197,242**	**95.5**	**9,191**	**4.5**	**206,433**
Persons					
55 years	206,102	96.3	7,938	3.7	214,040
65 years	158,891	96.0	6,620	4.0	165,511
Total	**364,993**	**96.2**	**14,558**	**3.8**	**379,551**

Notes

1. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
2. A participant may have completed more than one FOBT kit.
3. Percentages equal the number of FOBT kits received in each status category as a proportion of the total number of FOBT kits received.

- There were 379,551 FOBT kits returned to pathology laboratories for analysis in the period 7 August 2006 to 30 June 2008. This included 14,558 incorrectly completed kits. Participants with incorrectly completed FOBTs were requested to complete a subsequent FOBT.
- Overall, 96.2% of returned FOBTs were correctly completed.
- The proportion of correctly completed FOBT kits for males (96.9%) was significantly higher than for females (95.5%) (Pearson's Chi-square = 466.7; 1 df; P<0.001).

Table 2.2.2a: Correctly completed FOBT kits, by state and territory

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Number	28,182	23,094	17,656	10,374	7,514	2,667	1,711	679	91,877
	Per cent	96.8	96.7	97.3	97.3	97.3	97.3	97.5	97.0	97.0
65 years	Number	24,252	18,412	14,933	8,107	6,396	2,178	1,195	401	75,874
	Per cent	96.6	96.3	97.2	97.4	97.3	97.5	96.5	96.4	96.8
Total	**Number**	**52,434**	**41,506**	**32,589**	**18,481**	**13,910**	**4,845**	**2,906**	**1,080**	**167,751**
	Per cent	**96.7**	**96.5**	**97.3**	**97.4**	**97.3**	**97.4**	**97.1**	**96.8**	**96.9**
	95% CI	**96.5–96.8**	**96.3–96.7**	**97.1–97.4**	**97.1–97.6**	**97.0–97.5**	**97.0–97.8**	**96.5–97.7**	**95.7–97.8**	**96.8–97.0**
Females										
55 years	Number	35,198	29,092	21,701	12,399	9,778	3,203	2,182	672	114,225
	Per cent	95.5	95.3	96.3	96.2	96.4	96.2	96.4	93.3	95.8
65 years	Number	26,817	20,285	16,244	8,578	7,090	2,414	1,318	271	83,017
	Per cent	95.0	94.5	95.9	96.2	95.7	95.6	96.1	94.4	95.3
Total	**Number**	**62,015**	**49,377**	**37,945**	**20,977**	**16,868**	**5,617**	**3,500**	**943**	**197,242**
	Per cent	**95.2**	**95.0**	**96.1**	**96.2**	**96.1**	**96.0**	**96.3**	**93.6**	**95.5**
	95% CI	**95.1–95.4**	**94.8–95.2**	**95.9–96.3**	**95.9–96.5**	**95.8–96.4**	**95.5–96.5**	**95.6–96.9**	**92.1–95.2**	**95.5–95.6**
Persons										
55 years	Number	63,380	52,186	39,357	22,773	17,292	5,870	3,893	1,351	206,102
	Per cent	96.0	95.9	96.7	96.7	96.7	96.7	96.9	95.1	96.3
65 years	Number	51,069	38,697	31,177	16,685	13,486	4,592	2,513	672	158,891
	Per cent	95.7	95.4	96.5	96.8	96.4	96.5	96.3	95.6	96.0
Total	**Number**	**114,449**	**90,883**	**70,534**	**39,458**	**30,778**	**10,462**	**6,406**	**2,023**	**364,993**
	Per cent	**95.9**	**95.7**	**96.6**	**96.7**	**96.6**	**96.6**	**96.7**	**95.3**	**96.2**
	95% CI	**95.8–96.0**	**95.5–95.8**	**96.5–96.8**	**96.6–96.9**	**96.4–96.8**	**96.3–97.0**	**96.2–97.1**	**94.4–96.2**	**96.1–96.2**

Notes

1. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
2. A participant may have completed more than one FOBT kit.
3. Percentages equal the number of correctly completed FOBT kits received in each state or territory as a proportion of the total number of completed FOBT kits received in that state or territory.

- Correct completion of FOBT kits was high for all states and territories. The lowest overall proportion (95.3%) of correctly completed kits was in the Northern Territory; however, this was not statistically significant.

FOBT completion by population subgroups

Table 2.2.2b: Correctly completed FOBT kits, by geographic location

		Major cities	Inner regional	Outer regional	Remote	Very remote	All regions
Males							
55 years	Number	59,396	20,997	9,759	1,209	470	91,831
	Per cent	96.7	97.4	97.4	97.9	97.1	97.0
65 years	Number	46,708	19,381	8,479	941	317	75,826
	Per cent	96.5	97.4	97.4	96.8	97.1	96.8
Total	**Number**	**106,104**	**40,379**	**18,238**	**2,150**	**787**	**167,657**
	Per cent	**96.6**	**97.4**	**97.4**	**97.4**	**97.1**	**96.9**
	95% CI	**96.5–96.7**	**97.2–97.5**	**97.2–97.7**	**96.7–98.1**	**95.9–98.3**	**96.8–97.0**
Females							
55 years	Number	74,807	26,231	11,396	1,270	457	114,161
	Per cent	95.3	96.6	96.3	97.5	96.1	95.7
65 years	Number	51,463	21,447	8,908	913	247	82,977
	Per cent	94.7	96.3	96.1	97.1	92.8	95.3
Total	**Number**	**126,270**	**47,677**	**20,305**	**2,182**	**704**	**197,138**
	Per cent	**95.1**	**96.4**	**96.2**	**97.4**	**94.9**	**95.5**
	95% CI	**95.0–95.2**	**96.3–96.6**	**95.9–96.5**	**96.7–98.0**	**93.3–96.5**	**95.5–95.6**
Persons							
55 years	Number	134,203	47,228	21,155	2,479	927	205,992
	Per cent	96.0	96.9	96.8	97.7	96.6	96.3
65 years	Number	98,171	40,828	17,387	1,853	564	158,803
	Per cent	95.5	96.8	96.7	97.0	95.1	96.0
Total	**Number**	**232,374**	**88,056**	**38,542**	**4,332**	**1,491**	**364,795**
	Per cent	**95.8**	**96.9**	**96.8**	**97.4**	**96.0**	**96.2**
	95% CI	**95.7–95.9**	**96.8–97.0**	**96.6–97.0**	**96.9–97.9**	**95.1–97.0**	**96.1–96.2**

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
3. A participant may have completed more than one FOBT kit.
4. There were 198 correctly completed FOBT kits with postcodes that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the areas may be less than the national total.
5. Percentages equal the number of correctly completed FOBT kits received in each geographic region as a proportion of the total number of FOBT kits received in that region.
6. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- The proportion of correctly completed kits in Major cities (95.8%) was significantly lower than other geographic locations, with the exception of Very remote areas.

Table 2.2.2c: Correctly completed FOBT kits, by Aboriginal and Torres Strait Islander status

		Aboriginal and Torres Strait Islander	Non-Indigenous	All correctly completed FOBTs
Males				
55 years	Number	504	88,182	88,686
	Per cent	95.6	97.1	97.1
65 years	Number	316	72,684	73,000
	Per cent	94.0	96.9	96.9
Total	**Number**	**820**	**160,866**	**161,686**
	Per cent	**95.0**	**97.0**	**97.0**
	95% CI	**93.6–96.5**	**96.9–97.1**	**96.9–97.1**
Females				
55 years	Number	619	110,311	110,930
	Per cent	94.5	95.9	95.8
65 years	Number	340	79,692	80,032
	Per cent	90.4	95.4	95.4
Total	**Number**	**959**	**190,003**	**190,962**
	Per cent	**93.0**	**95.7**	**95.7**
	95% CI	**91.5–94.6**	**95.6–95.8**	**95.6–95.8**
Persons				
55 years	Number	1,123	198,493	199,616
	Per cent	95.0	96.4	96.4
65 years	Number	656	152,376	153,032
	Per cent	92.1	96.1	96.1
Total	**Number**	**1,779**	**350,869**	**352,648**
	Per cent	**93.9**	**96.3**	**96.3**
	95% CI	**92.9–95.0**	**96.2–96.3**	**96.2–96.3**

Notes

1. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
2. A participant may have completed more than one FOBT kit.
3. Aboriginal and Torres Strait Islander status was defined by the participant.
4. There were 12,345 returned FOBTs with Aboriginal and Torres Strait Islander status not stated. These were treated as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
5. Percentages equal the number of correctly completed FOBT kits received as a proportion of the total number of FOBT kits received in each category.

- The proportion of correctly completed FOBTs for people who identified as Aboriginal and Torres Strait Islander (93.9%) was significantly lower than the proportion for people identified as non-Indigenous (96.3%).
- Females aged 65 years who identified as Aboriginal and Torres Strait Islander were the least likely (90.4%) to complete the FOBT correctly.

Table 2.2.2d: Correctly completed FOBT kits, by preferred correspondence language

		Preferred correspondence language		
		Language other than English	English	All correctly completed FOBTs
Males				
55 years	Number	10,128	81,749	91,877
	Per cent	94.1	97.3	97.0
65 years	Number	8,115	67,759	75,874
	Per cent	93.0	97.3	96.8
Total	**Number**	**18,243**	**149,508**	**167,751**
	Per cent	**93.6**	**97.3**	**96.9**
	95% CI	**93.3–93.9**	**97.2–97.4**	**96.8–97.0**
Females				
55 years	Number	12,933	101,292	114,225
	Per cent	91.1	96.4	95.8
65 years	Number	8,166	74,851	83,017
	Per cent	88.6	96.1	95.3
Total	**Number**	**21,099**	**176,143**	**197,242**
	Per cent	**90.1**	**96.2**	**95.5**
	95% CI	**89.7–90.5**	**96.2–96.3**	**95.5–95.6**
Persons				
55 years	Number	23,061	183,041	206,102
	Per cent	92.4	96.8	96.3
65 years	Number	16,281	142,610	158,891
	Per cent	90.8	96.6	96.0
Total	**Number**	**39,342**	**325,651**	**364,993**
	Per cent	**91.7**	**96.7**	**96.2**
	95% CI	**91.4–92.0**	**96.7–96.8**	**96.1–96.2**

Notes

1. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
2. A participant may have completed more than one FOBT kit.
3. Preferred correspondence language was self-reported to Medicare Australia through this or other programs. Participants are assumed to prefer to correspond in English unless otherwise indicated.
4. Percentages equal the number of correctly completed FOBT kits received as a proportion of the total number of FOBT kits received in each category.

- The proportion of correctly completed FOBTs for people who specified a language other than English as their preferred correspondence language was 91.7%. This was significantly lower than the proportion of 96.7% for people whose preferred correspondence language was assumed to be English.
- Females aged 65 years with a preferred correspondence language other than English were the least likely (88.6%) to complete the FOBT correctly.

Table 2.2.2e: Correctly completed FOBT kits, by reported disability status

		Disability level		
		Severe or profound activity limitation	No severe or profound activity limitation	All correctly completed FOBTs
Males				
55 years	Number	4,071	81,950	86,021
	Per cent	92.9	97.2	97.0
65 years	Number	5,056	65,924	70,980
	Per cent	93.6	97.1	96.8
Total	**Number**	**9,127**	**147,874**	**157,001**
	Per cent	**93.3**	**97.1**	**96.9**
	95% CI	**92.8–93.8**	**97.1–97.2**	**96.8–97.0**
Females				
55 years	Number	5,295	102,460	107,755
	Per cent	89.6	96.0	95.7
65 years	Number	4,695	73,162	77,857
	Per cent	87.0	95.9	95.3
Total	**Number**	**9,990**	**175,622**	**185,612**
	Per cent	**88.4**	**96.0**	**95.5**
	95% CI	**87.8–88.9**	**95.9–96.1**	**95.4–95.6**
Persons				
55 years	Number	9,366	184,410	193,776
	Per cent	91.0	96.5	96.3
65 years	Number	9,751	139,086	148,837
	Per cent	90.3	96.4	96.0
Total	**Number**	**19,117**	**323,496**	**342,613**
	Per cent	**90.6**	**96.5**	**96.2**
	95% CI	**90.3–91.0**	**96.4–96.6**	**96.1–96.2**

Notes

1. FOBT refers to an entire test kit. FOBT completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory.
2. A participant may have completed more than one FOBT kit.
3. There were 22,380 correctly completed FOBT kits with disability status missing. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
4. Percentages equal the number of correctly completed FOBT kits received as a proportion of the total number of FOBT kits received in each category.

- The proportion of correctly completed FOBTs for people with a severe or profound activity limitation was 90.6%. This was significantly lower than for people without these limitations (96.5%).
- Females with a severe or profound activity limitation were the least likely (88.4%) to complete the FOBT correctly.

FOBT positivity outcomes

Only correctly completed FOBT kits were analysed by the pathology laboratory. Where participants completed more than one FOBT kit, results from each FOBT kit were included. If no significant blood was found in either of the samples, the FOBT result was considered negative. People who received a negative result were advised to repeat a FOBT every two years.

If significant levels of blood were present in at least one of two samples, the FOBT result was considered positive. People with a positive FOBT were advised to contact their primary health care practitioner to discuss the result.

An inconclusive FOBT result may have occurred if the participant only took one sample, which was negative for blood. People with an inconclusive FOBT result were sent a replacement FOBT kit by the Register and asked to complete the test again.

Table 2.2.3: FOBT results, by age and sex

	FOBT positive		FOBT negative		FOBT inconclusive		All results
	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males							
55 years	6,876	7.5	84,336	91.8	665	0.7	91,877
65 years	8,006	10.6	67,287	88.7	581	0.8	75,874
Total	**14,882**	**8.9**	**151,623**	**90.4**	**1,246**	**0.7**	**167,751**
Females							
55 years	6,297	5.5	107,256	93.9	672	0.6	114,225
65 years	6,163	7.4	76,256	91.9	598	0.7	83,017
Total	**12,460**	**6.3**	**183,512**	**93.0**	**1,270**	**0.6**	**197,242**
Persons							
55 years	13,173	6.4	191,592	93.0	1,337	0.6	206,102
65 years	14,169	8.9	143,543	90.3	1,179	0.7	158,891
Total	**27,342**	**7.5**	**335,135**	**91.8**	**2,516**	**0.7**	**364,993**

Notes

1. A participant may have completed more than one FOBT kit.
2. Percentages equal the number of FOBT results in each category in terms of 'positive', 'negative' and 'inconclusive' as a proportion of the total number of correctly completed FOBTs.

- There were 27,342 positive tests (7.5%), 335,135 (91.8%) negative tests and 2,516 inconclusive tests (0.7%) completed in the period 7 August 2006 to 30 June 2008.
- The proportion of positive results was higher for males (8.9%) than for females (6.3%), and people aged 65 years (8.9%) when compared with those aged 55 years (6.4%).
- The proportions of inconclusive results were similar between males and females, and between those aged 65 years compared with those aged 55 years.

Only valid FOBT results were used to analyse positivity rate in the NBCSP. A valid result was either positive or negative; inconclusive results were excluded from this analysis.

Table 2.2.4a: FOBT positivity rate, Australia

	Positive results		
	Number	Rate (per 100 valid results)	Valid results
Males			
55 years	6,876	7.5	91,212
65 years	8,006	10.6	75,293
Total	**14,882**	**8.9**	**166,505**
Females			
55 years	6,297	5.5	113,553
65 years	6,163	7.5	82,419
Total	**12,460**	**6.4**	**195,972**
Persons			
55 years	13,173	6.4	204,765
65 years	14,169	9.0	157,712
Total	**27,342**	**7.5**	**362,477**

Notes

1. A participant may have completed more than one FOBT kit.
2. Rates equal the number of FOBT positive results as a percentage of the total number of valid results.
3. A valid result was either positive or negative; inconclusive results were excluded.

- The overall FOBT positivity rate was 7.5%.
- The FOBT positivity rate was 1.4 times higher for males (8.9%) than females (6.4%). (Pearson's Chi-square = 859.1; 1 df; P<0.001).
- Positivity rates were 1.4 times higher for people aged 65 years (9.0%) than those aged 55 years (6.4%) (Pearson's Chi-square = 831.2; 1 df; P<0.001).

FOBT positivity rates by population subgroups

Table 2.2.4b: FOBT positivity rates, by geographic location

		Major cities	Inner regional	Outer regional	Remote	Very remote	All regions
Males							
55 years	Positive results	4,224	1,641	854	112	44	6,874
	Valid results	58,953	20,847	9,692	1,205	469	91,166
	Rate	7.2	7.9	8.8	9.3	9.4	7.5
65 years	Positive results	4,707	2,114	1,025	120	38	8,004
	Valid results	46,360	19,229	8,408	932	316	75,245
	Rate	10.2	11.0	12.2	12.9	12.0	10.6
Total	**Positive results**	**8,931**	**3,755**	**1,879**	**232**	**82**	**14,878**
	Valid results	**105,314**	**40,076**	**18,100**	**2,138**	**784**	**166,411**
	Rate	**8.5**	**9.4**	**10.4**	**10.8**	**10.4**	**8.9**
	95% CI	**8.3–8.6**	**9.1–9.7**	**9.9–10.8**	**9.5–12.2**	**8.3–12.6**	**8.8–9.1**
Females							
55 years	Positive results	4,064	1,480	658	66	26	6,293
	Valid results	74,360	26,080	11,337	1,260	452	113,490
	Rate	5.5	5.7	5.8	5.2	5.7	5.5
65 years	Positive results	3,673	1,641	748	79	21	6,162
	Valid results	51,083	21,299	8,847	907	244	82,379
	Rate	7.2	7.7	8.5	8.7	8.5	7.5
Total	**Positive results**	**7,737**	**3,121**	**1,406**	**145**	**47**	**12,455**
	Valid results	**125,443**	**47,379**	**20,184**	**2,167**	**696**	**195,869**
	Rate	**6.2**	**6.6**	**7.0**	**6.7**	**6.7**	**6.4**
	95% CI	**6.0–6.3**	**6.4–6.8**	**6.6–7.3**	**5.6–7.7**	**4.8–8.5**	**6.3–6.5**
Persons							
55 years	Positive results	8,288	3,120	1,512	177	70	13,167
	Valid results	133,313	46,927	21,029	2,466	921	204,656
	Rate	6.2	6.6	7.2	7.2	7.6	6.4
65 years	Positive results	8,380	3,755	1,773	199	59	14,166
	Valid results	97,443	40,528	17,254	1,839	560	157,624
	Rate	8.6	9.3	10.3	10.8	10.5	9.0
Total	**Positive results**	**16,668**	**6,876**	**3,285**	**376**	**128**	**27,333**
	Valid results	**230,757**	**87,454**	**38,284**	**4,305**	**1,480**	**362,280**
	Rate	**7.2**	**7.9**	**8.6**	**8.7**	**8.7**	**7.5**
	95% CI	**7.1–7.3**	**7.7–8.0**	**8.3–8.9**	**7.9–9.6**	**7.2–10.1**	**7.5–7.6**

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. There were 9 positive FOBT results and 197 valid FOBT results with postcodes that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the areas may be less than the national total.
3. A participant may have completed more than one FOBT kit.
4. Rates equal the number of FOBT positive results as a percentage of the total number of valid results. A valid result was either positive or negative; inconclusive results were excluded.
5. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- Positivity rates were significantly higher in Remote and Inner and Outer regional areas when compared with Major cities. Very remote areas had low numbers of FOBT results; care must be exercised when interpreting results from this region.

Table 2.2.4c: FOBT positivity rates, by Aboriginal and Torres Strait Islander status

		Aboriginal and Torres Strait Islander	Non-Indigenous	Total
Males				
55 years	Positive results	46	6,568	6,614
	Valid results	497	87,551	88,048
	Rate	9.3	7.5	7.5
65 years	Positive results	38	7,663	7,701
	Valid results	314	72,129	72,443
	Rate	12.1	10.6	10.6
Total	**Positive results**	**84**	**14,231**	**14,315**
	Valid results	**811**	**159,680**	**160,491**
	Rate	**10.4**	**8.9**	**8.9**
	95% CI	**8.3–12.5**	**8.8–9.1**	**8.8–9.1**
Females				
55 years	Positive results	44	6,056	6,100
	Valid results	615	109,671	110,286
	Rate	7.2	5.5	5.5
65 years	Positive results	23	5,888	5,911
	Valid results	338	79,122	79,460
	Rate	6.8	7.4	7.4
Total	**Positive results**	**67**	**11,944**	**12,011**
	Valid results	**953**	**188,793**	**189,746**
	Rate	**7.0**	**6.3**	**6.3**
	95% CI	**5.4–8.7**	**6.2–6.4**	**6.2–6.4**
Persons				
55 years	Positive results	90	12,624	12,714
	Valid results	1,112	197,222	198,334
	Rate	8.1	6.4	6.4
65 years	Positive results	61	13,551	13,612
	Valid results	652	151,251	151,903
	Rate	9.4	9.0	9.0
Total	**Positive results**	**151**	**26,175**	**26,326**
	Valid results	**1,764**	**348,473**	**350,237**
	Rate	**8.6**	**7.5**	**7.5**
	95% CI	**7.3–9.9**	**7.4–7.6**	**7.4–7.6**

Notes

1. There were 1,016 positive FOBT results and 12,240 valid FOBT results where Aboriginal and Torres Strait Islander status was not stated. These were regarded as missing data and excluded from this analysis. Hence sum of the columns may be less than the national total.
2. Aboriginal and Torres Strait Islander status was defined by the participant.
3. A participant may have completed more than one FOBT kit.
4. Rates equal the number of FOBT positive results as a percentage of the total number of valid results. A valid result was either positive or negative; inconclusive results were excluded.

- FOBT positivity rates were higher for people who identified as Aboriginal and Torres Strait Islander (8.6%) than those who identified as non-Indigenous (7.5%). However, this result was not statistically significant, due to the small number of FOBTs completed by people who identified as Aboriginal and Torres Strait Islander.

2.3 Primary health care practitioner visits

Primary health care practitioners are classified by Medicare Australia as a general practitioner or other primary health care provider. This may include remote health clinics or other specialists providing GP services.

Participants were advised to visit their primary health care practitioner upon receiving a positive FOBT result to discuss follow-up testing. Practitioners were requested to complete a GP Assessment form for these consultations; however, completion of these forms is not mandatory. As a result, primary health care attendance proportions presented in this section may be underestimated.

Data on primary health care practitioner visits for participants in the National Program who received a positive FOBT result are included in this section. Results were excluded for participants who were outside the target age group of 55 or 65 years, opted off or suspended participation in the NBCSP.

Primary health care practitioner consultations

Table 2.3.1: Primary health care practitioner consultations following a positive FOBT result, by state and territory

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Number	728	705	748	290	207	97	51	40	2,866
	Per cent	36.7	40.5	55.3	37.1	34.4	41.1	46.4	54.8	41.7
65 years	Number	875	708	928	355	257	130	39	27	3,319
	Per cent	35.5	37.8	57.7	38.8	36.6	44.7	39.0	54.0	41.5
Total	**Number**	**1,603**	**1,413**	**1,676**	**645**	**464**	**227**	**90**	**67**	**6,185**
	Per cent	**36.0**	**39.1**	**56.6**	**38.1**	**35.6**	**43.1**	**42.9**	**54.5**	**41.6**
	95% CI	**34.6–37.5**	**37.5–40.7**	**54.8–58.4**	**35.7–40.4**	**33.0–38.2**	**38.8–47.3**	**36.2–49.6**	**45.7–63.3**	**40.8–42.4**
Females										
55 years	Number	764	645	688	278	237	114	57	14	2,797
	Per cent	40.4	40.2	58.4	40.8	41.2	51.4	50.0	43.8	44.4
65 years	Number	761	667	726	249	247	119	53	9	2,831
	Per cent	39.9	42.6	61.5	41.0	44.3	51.1	57.0	50.0	45.9
Total	**Number**	**1,525**	**1,312**	**1,414**	**527**	**484**	**233**	**110**	**23**	**5,628**
	Per cent	**40.1**	**41.4**	**59.9**	**40.9**	**42.7**	**51.2**	**53.1**	**46.0**	**45.2**
	95% CI	**38.6–41.7**	**39.7–43.1**	**57.9–61.9**	**38.2–43.6**	**39.8–45.6**	**46.6–55.8**	**46.3–59.9**	**32.2–59.8**	**44.3–46.0**
Persons										
55 years	Number	1,492	1,350	1,436	568	444	211	108	54	5,663
	Per cent	38.5	40.4	56.7	38.9	37.7	46.1	48.2	51.4	43.0
65 years	Number	1,636	1,375	1,654	604	504	249	92	36	6,150
	Per cent	37.4	40.0	59.3	39.7	40.0	47.5	47.7	52.9	43.4
Total	**Number**	**3,128**	**2,725**	**3,090**	**1,172**	**948**	**460**	**200**	**90**	**11,813**
	Per cent	**37.9**	**40.2**	**58.1**	**39.3**	**38.9**	**46.8**	**48.0**	**52.0**	**43.2**
	95% CI	**36.9–39.0**	**39.0–41.4**	**56.7–59.4**	**37.5–41.0**	**36.9–40.8**	**43.7–50.0**	**43.2–52.8**	**44.6–59.5**	**42.6–43.8**

Notes

1. A participant may have had more than one consultation.
2. Percentages equal the number of primary health care practitioner consultations following a positive FOBT result as a proportion of the total number of positive FOBT results.

- The total number of recorded visits to primary health care practitioners following a positive FOBT result for the period 7 August 2006 to 30 June 2008 was 11,813 (43.2% of positive FOBT results). This figure is likely to be understated as it is possible there were participants with positive FOBT results who intended to visit a primary health care practitioner but had not yet done so, GP Assessment forms were not completed, or forms were not yet received by the Register.
- Queensland had the highest level of recorded primary health care practitioner attendance following a positive FOBT result (58.1%). The lowest levels of recorded attendance were in New South Wales (37.9%), South Australia (38.9%) and Western Australia (39.3%).

Primary health care practitioner consultations by population subgroups

Table 2.3.2: Primary health care practitioner consultations following a positive FOBT result, by geographic location

		Major cities	Inner regional	Outer regional	Remote and very remote	All regions
Males						
55 years	Number	1,656	740	410	59	2,865
	Per cent	39.2	45.1	48.0	38.2	41.7
65 years	Number	1,850	970	442	56	3,318
	Per cent	39.3	45.9	43.1	35.7	41.5
Total	**Number**	**3,505**	**1,710**	**852**	**116**	**6,183**
	Per cent	**39.3**	**45.5**	**45.3**	**37.0**	**41.6**
	95% CI	**38.2–40.3**	**43.9–47.1**	**43.1–47.6**	**31.6–42.3**	**40.8–42.3**
Females						
55 years	Number	1,734	703	314	46	2,797
	Per cent	42.7	47.5	47.7	50.5	44.4
65 years	Number	1,597	803	386	45	2,831
	Per cent	43.5	48.9	51.6	44.9	45.9
Total	**Number**	**3,331**	**1,506**	**700**	**91**	**5,628**
	Per cent	**43.1**	**48.3**	**49.8**	**47.6**	**45.2**
	95% CI	**41.9–44.2**	**46.5–50.0**	**47.2–52.4**	**40.5–54.7**	**44.3–46.1**
Persons						
55 years	Number	3,389	1,443	724	106	5,662
	Per cent	40.9	46.2	47.9	42.7	43.0
65 years	Number	3,447	1,773	828	101	6,149
	Per cent	41.1	47.2	46.7	39.3	43.4
Total	**Number**	**6,836**	**3,216**	**1,552**	**207**	**11,811**
	Per cent	**41.0**	**46.8**	**47.2**	**41.0**	**43.2**
	95% CI	**40.3–41.8**	**45.6–48.0**	**45.5–48.9**	**36.7–45.3**	**42.6–43.8**

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. Data for Remote and very remote regions were combined due to small numbers.
3. There were 2 GP visits and 9 positive FOBT results with postcodes that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the areas may be less than the national total.
4. A participant may have had more than one consultation.
5. Percentages equal the number of primary health care practitioner consultations following a positive FOBT as a proportion of the total number of positive FOBT results.
6. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- The highest proportions of recorded visits to primary health care practitioners following a positive FOBT result were in Outer (47.2%) and Inner (46.8%) regional areas; these were significantly higher than the other regions.
- The number of consultations following a positive FOBT result in Remote and very remote regions was small compared with other geographic regions, and care must be exercised in interpreting these results.

Table 2.3.3: Primary health care practitioner consultations following a positive FOBT result, by socioeconomic status

		1st quintile (least disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (most disadvantaged)	Total
Males							
55 years	Number	445	591	532	615	644	2,827
	Per cent	37.4	44.3	41.7	41.3	43.1	41.7
65 years	Number	485	600	618	780	792	3,275
	Per cent	38.7	43.4	40.0	41.5	42.9	41.4
Total	**Number**	**930**	**1,191**	**1,150**	**1,395**	**1,436**	**6,102**
	Per cent	**38.1**	**43.8**	**40.8**	**41.4**	**43.0**	**41.5**
	95% CI	**36.1–40.0**	**42.0–45.7**	**39.0–42.6**	**39.8–43.1**	**41.3–44.7**	**40.8–42.3**
Females							
55 years	Number	513	517	544	620	574	2,768
	Per cent	43.5	43.2	45.1	46.6	43.7	44.4
65 years	Number	400	476	561	676	699	2,812
	Per cent	42.7	44.3	47.3	48.1	46.2	46.0
Total	**Number**	**913**	**993**	**1,105**	**1,296**	**1,273**	**5,580**
	Per cent	**43.1**	**43.7**	**46.2**	**47.4**	**45.0**	**45.2**
	95% CI	**41.0–45.2**	**41.7–45.8**	**44.2–48.2**	**45.5–49.3**	**43.2–46.9**	**44.3–46.1**
Persons							
55 years	Number	958	1,108	1,076	1,235	1,218	5,595
	Per cent	40.4	43.8	43.4	43.8	43.4	43.0
65 years	Number	885	1,076	1,179	1,456	1,491	6,087
	Per cent	40.4	43.8	43.2	44.4	44.4	43.4
Total	**Number**	**1,843**	**2,184**	**2,255**	**2,691**	**2,709**	**11,682**
	Per cent	**40.4**	**43.8**	**43.3**	**44.1**	**43.9**	**43.2**
	95% CI	**39.0–41.8**	**42.4–45.2**	**41.9–44.6**	**42.9–45.4**	**42.7–45.2**	**42.6–43.8**

Notes

1. A participant's socioeconomic status was classified using the participant's residential postcode according to the ABS Index of Relative Socioeconomic Disadvantage (IRSD) for 2006.
2. There were 131 recorded GP visits and 314 positive FOBT results with postcodes that did not correspond with the 2006 ABS IRSD classifications by postal area. These were regarded as missing data and are excluded from this analysis. Hence the sum of the columns may be less than the national total.
3. A participant may have had more than one consultation.
4. Percentages equal the number of primary health care practitioner consultations following a positive FOBT as a proportion of the total number of positive FOBT results.

- The proportion of recorded consultations by primary health care practitioners following a positive FOBT result was significantly lower in the least disadvantaged quintile (40.4%) than in the other quintiles.

Table 2.3.4: Primary health care practitioner consultations following a positive FOBT result, by Aboriginal and Torres Strait Islander status

		Aboriginal and Torres Strait Islander	Non-Indigenous	Total
Males				
55 years	Number	20	2,782	2,802
	Per cent	43.5	42.4	42.4
65 years	Number	16	3,215	3,231
	Per cent	42.1	42.0	42.0
Total	**Number**	**36**	**5,997**	**6,033**
	Per cent	**42.9**	**42.1**	**42.1**
	95% CI	**32.3–53.4**	**41.3–43.0**	**41.3–43.0**
Females				
55 years	Number	26	2,713	2,739
	Per cent	59.1	44.8	44.9
65 years	Number	8	2,737	2,745
	Per cent	34.8	46.5	46.4
Total	**Number**	**34**	**5,450**	**5,484**
	Per cent	**50.7**	**45.6**	**45.7**
	95% CI	**38.8–62.7**	**44.7–46.5**	**44.8–46.5**
Persons				
55 years	Number	46	5,495	5,541
	Per cent	51.1	43.5	43.6
65 years	Number	24	5,952	5,976
	Per cent	39.3	43.9	43.9
Total	**Number**	**70**	**11,447**	**11,517**
	Per cent	**46.4**	**43.7**	**43.7**
	95% CI	**38.4–54.3**	**43.1–44.3**	**43.1–44.3**

Notes

1. There were 296 GP visits following a positive FOBT result and 1,016 valid FOBT results where Aboriginal and Torres Strait Islander status was not stated. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. Aboriginal and Torres Strait Islander status was defined by the participant.
3. A participant may have had more than one consultation.
4. Percentages equal the number of primary health care practitioner consultations following a positive FOBT as a proportion of the total number of positive FOBT results.

- There was not a significant difference in proportion of recorded primary health consultations following a positive FOBT result between Aboriginal and Torres Strait Islander (46.4%) and non-Indigenous (43.7%) people. However, the numbers of positive FOBT results and primary health consultations for Aboriginal and Torres Strait Islander peoples was very small and should be interpreted with caution.

Table 2.3.5: Primary health care practitioner consultations following a positive FOBT result, by preferred correspondence language

		Preferred correspondence language		
		Language other than English	English	Total
Males				
55 years	Number	309	2,557	2,866
	Per cent	40.1	41.9	41.7
65 years	Number	324	2,995	3,319
	Per cent	39.5	41.7	41.5
Total	**Number**	**633**	**5,552**	**6,185**
	Per cent	**39.8**	**41.8**	**41.6**
	95% CI	**36.0–43.5**	**40.5–43.1**	**40.3–42.8**
Females				
55 years	Number	287	2,510	2,797
	Per cent	38.1	45.3	44.4
65 years	Number	277	2,554	2,831
	Per cent	42.5	46.3	45.9
Total	**Number**	**564**	**5,064**	**5,628**
	Per cent	**40.1**	**45.8**	**45.2**
	95% CI	**37.6–42.7**	**44.9–46.7**	**44.3–46.0**
Persons				
55 years	Number	596	5,067	5,663
	Per cent	39.1	43.5	43.0
65 years	Number	601	5,549	6,150
	Per cent	40.8	43.7	43.4
Total	**Number**	**1,197**	**10,616**	**11,813**
	Per cent	**40.0**	**43.6**	**43.2**
	95% CI	**38.2–41.7**	**43.0–44.2**	**42.6–43.8**

Notes

1. Preferred correspondence language was self-reported to Medicare Australia through this or other programs. Participants were assumed to prefer to correspond in English unless otherwise indicated.
2. A participant may have had more than one consultation.
3. Percentages equal the number of primary health care practitioner consultations following a positive FOBT as a proportion of the total number of positive FOBT results for preferred correspondence language.

- The proportion of recorded primary health care practitioner consultations following a positive FOBT result was significantly lower for people who preferred to correspond in a language other than English (40.0%) than for people whose preferred correspondence language was English (43.6%).

Table 2.3.6: Primary health care practitioner consultations following a positive FOBT result, by reported disability status

		Disability status		
		Severe or profound activity limitation	No severe or profound activity limitation	Total
Males				
55 years	Number	204	2,638	2,842
	Per cent	45.2	43.0	43.2
65 years	Number	318	2,966	3,284
	Per cent	43.0	42.6	42.7
Total	**Number**	**522**	**5,604**	**6,126**
	Per cent	**43.8**	**42.8**	**42.9**
	95% CI	**41.0–46.6**	**42.0–43.7**	**42.1–43.7**
Females				
55 years	Number	204	2,572	2,776
	Per cent	43.1	45.7	45.5
65 years	Number	255	2,539	2,794
	Per cent	48.4	47.2	47.3
Total	**Number**	**459**	**5,111**	**5,570**
	Per cent	**45.9**	**46.5**	**46.4**
	95% CI	**42.8–49.0**	**45.5–47.4**	**45.5–47.3**
Persons				
55 years	Number	408	5,210	5,618
	Per cent	44.2	44.3	44.3
65 years	Number	573	5,505	6,078
	Per cent	45.2	44.6	44.7
Total	**Number**	**981**	**10,715**	**11,696**
	Per cent	**44.8**	**44.5**	**44.5**
	95% CI	**42.7–46.9**	**43.9–45.1**	**43.9–45.1**

Notes

1. There were 117 primary health care practitioner consultations following positive FOBT results and 1,067 positive FOBT results where disability status was not stated. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. A 'profound' disability status indicates that a person always needs assistance with self-care, movement and/or communications activities. A 'severe' disability status indicates that a person sometimes needs assistance with these activities.
3. A participant may have had more than one consultation.
4. Percentages equal the number of primary health care practitioner consultations following a positive FOBT as a proportion of the total number of positive FOBT results for that group.

- The proportion of primary health care consultations recorded in the Register after a positive FOBT result for people with a severe or profound activity limitation was 44.8%. This was not significantly different to the 44.5% recorded for people without a severe or profound limitation.

Primary health care practitioner consultations by reported symptoms

Table 2.3.7: Primary health care practitioner consultations following a positive FOBT result, by reported symptom status

		Symptom status						
		No symptoms	Recent onset rectal bleeding ≤6 months	Longer standing rectal bleeding >6 months	Significant change in bowel habits	Iron deficiency anaemia	Abdominal pain	All participants recording symptom status
Males								
55 years	Number	2,223	157	199	58	24	76	2,683
	Per cent	82.9	5.9	7.4	2.2	0.9	2.8	. .
65 years	Number	2,671	140	195	71	36	69	3,122
	Per cent	85.6	4.5	6.2	2.3	1.2	2.2	. .
Total	**Number**	**4,894**	**297**	**394**	**129**	**60**	**145**	**5,805**
	Per cent	**84.3**	**5.1**	**6.8**	**2.2**	**1.0**	**2.5**	**. .**
Females								
55 years	Number	2,131	159	173	97	32	96	2,615
	Per cent	81.5	6.1	6.6	3.7	1.2	3.7	. .
65 years	Number	2,140	123	156	102	52	132	2,636
	Per cent	81.2	4.7	5.9	3.9	2.0	5.0	. .
Total	**Number**	**4,271**	**282**	**329**	**199**	**84**	**228**	**5,251**
	Per cent	**81.3**	**5.4**	**6.3**	**3.8**	**1.6**	**4.3**	**. .**
Persons								
55 years	Number	4,354	316	372	155	56	172	5,298
	Per cent	82.2	6.0	7.0	2.9	1.1	3.2	. .
65 years	Number	4,811	263	351	173	88	201	5,758
	Per cent	83.6	4.6	6.1	3.0	1.5	3.5	. .
Total	**Number**	**9,165**	**579**	**723**	**328**	**144**	**373**	**11,056**
	Per cent	**82.9**	**5.2**	**6.5**	**3.0**	**1.3**	**3.4**	**. .**

Notes

1. Only participants who had a symptom status (including 'no symptoms') recorded in the GP Assessment form Q2 were included in this analysis. There were 757 participants with missing data for this question excluded from the analysis. Hence the sum of the columns may be less than the national total.
2. A participant may have had more than one consultation.
3. Percentages equal the number of primary health care practitioner consultations reporting specific symptoms following a positive FOBT result as a proportion of the total number of consultations following a positive FOBT result in which respondents reported any symptoms.
4. Excluding the last column, percentages can add to more than 100 as participants may have reported more than one symptom.

- The majority (82.9%) of people who visited a primary health care practitioner following a positive FOBT result reported that they had experienced no symptoms.
- Rectal bleeding was reported by 11.7% of people, with 5.2% reporting recent onset and 6.5% reporting longer standing rectal bleeding.

Primary health care practitioner referrals

The Australian Cancer Network Colorectal Cancer Guidelines Revision Committee (2005) recommends colonoscopy as the most accurate investigation for assessing the colon and rectum. Colonoscopy enables biopsy and histologic confirmation of the diagnosis. It also allows identification and endoscopic removal of synchronous polyps.

Table 2.3.8a: Referrals for colonoscopy or other examination following a positive FOBT result

	Referral for colonoscopy[(a)]		Referral for other examination[(b)]		No referral[(c)]		All GP visits
	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males							
55 years	2,644	92.3	66	2.3	156	5.4	2,866
65 years	3,024	91.1	87	2.6	208	6.3	3,319
Total	**5,668**	**91.6**	**153**	**2.5**	**364**	**5.9**	**6,185**
Females							
55 years	2,518	90.0	106	3.8	173	6.2	2,797
65 years	2,524	89.2	110	3.9	197	7.0	2,831
Total	**5,042**	**89.6**	**216**	**3.8**	**370**	**6.6**	**5,628**
Persons							
55 years	5,162	91.2	172	3.0	329	5.8	5,663
65 years	5,548	90.2	197	3.2	405	6.6	6,150
Total	**10,710**	**90.7**	**369**	**3.1**	**734**	**6.2**	**11,813**

(a) Patients referred for colonoscopy with/without referral for other examination.
(b) Patients not referred for colonoscopy but referred for other examination only.
(c) Patients not referred for colonoscopy or other examination.

Notes

1. A participant may have had more than one consultation.
2. Percentages are the number of consultations following a positive FOBT who received/did not receive referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT.

- Around 90% of the 11,813 recorded primary health care practitioner consultations following a positive FOBT result referred the patient for colonoscopy. Reasons for non-referral for colonoscopy are detailed in Table 2.3.10.
- A higher proportion of people aged 55 years (91.2%) were referred for colonoscopy than for those aged 65 years (90.2%).
- Males (91.6%) were more commonly referred for colonoscopy than females (89.6%).

Table 2.3.8b: Referrals for colonoscopy or other examination following a positive FOBT result, by geographic location

		Referral for colonoscopy[a]		Referral for other examination[b]		No referral[c]		All GP visits
		Number	Per cent	Number	Per cent	Number	Per cent	Number
Major cities								
Males	55 years	1,508	91.0	42	2.5	106	6.4	1,656
	65 years	1,688	91.2	47	2.6	115	6.2	1,850
	Total	**3,195**	**91.1**	**89**	**2.5**	**221**	**6.3**	**3,505**
Females	55 years	1,559	89.9	66	3.8	109	6.3	1,734
	65 years	1,413	88.4	67	4.2	118	7.4	1,597
	Total	**2,971**	**89.2**	**132**	**4.0**	**227**	**6.8**	**3,331**
Persons	55 years	3,066	90.5	108	3.2	216	6.4	3,389
	65 years	3,100	89.9	114	3.3	233	6.8	3,447
	Total	**6,166**	**90.2**	**222**	**3.2**	**448**	**6.6**	**6,836**
Inner regional								
Males	55 years	700	94.5	14	1.8	27	3.6	740
	65 years	889	91.6	22	2.3	59	6.1	970
	Total	**1,588**	**92.9**	**36**	**2.1**	**86**	**5.0**	**1,710**
Females	55 years	634	90.2	27	3.8	42	6.0	703
	65 years	720	89.7	30	3.7	53	6.6	803
	Total	**1,355**	**89.9**	**56**	**3.7**	**95**	**6.3**	**1,506**
Persons	55 years	1,334	92.4	40	2.8	69	4.8	1,443
	65 years	1,609	90.7	52	2.9	112	6.3	1,773
	Total	**2,943**	**91.5**	**92**	**2.9**	**181**	**5.6**	**3,216**
Outer regional								
Males	55 years	384	93.7	7	1.7	19	4.6	410
	65 years	393	88.9	18	4.0	32	7.2	442
	Total	**777**	**91.2**	**24**	**2.9**	**51**	**5.9**	**852**
Females	55 years	282	89.9	12	3.7	20	6.4	314
	65 years	348	90.2	14	3.5	24	6.3	386
	Total	**630**	**90.1**	**25**	**3.6**	**44**	**6.3**	**700**
Persons	55 years	666	92.1	19	2.6	39	5.4	724
	65 years	741	89.5	31	3.8	56	6.8	828
	Total	**1,407**	**90.7**	**50**	**3.2**	**95**	**6.1**	**1,552**

(continued)

Table 2.3.8b (continued): Referrals for colonoscopy or other examination following a positive FOBT result, by geographic location

		Referral for colonoscopy[(a)]		Referral for other examination[(b)]		No referral[(c)]		All GP visits
		Number	Per cent	Number	Per cent	Number	Per cent	Number
Remote								
Males	55 years	37	84.2	n.p.	n.p.	n.p.	n.p.	44
	65 years	40	96.8	n.p.	n.p.	n.p.	n.p.	42
	Total	**77**	**90.3**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**86**
Females	55 years	32	95.0	n.p.	n.p.	n.p.	n.p.	33
	65 years	35	98.1	n.p.	n.p.	n.p.	n.p.	36
	Total	**67**	**96.7**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**69**
Persons	55 years	69	88.9	n.p.	n.p.	n.p.	n.p.	77
	65 years	76	97.4	n.p.	n.p.	n.p.	n.p.	78
	Total	**144**	**93.2**	**3**	**2.0**	**8**	**4.9**	**155**
Very remote								
Males	55 years	15	96.6	n.p.	n.p.	n.p.	n.p.	15
	65 years	14	93.1	n.p.	n.p.	n.p.	n.p.	15
	Total	**29**	**94.9**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**30**
Females	55 years	11	84.7	n.p.	n.p.	n.p.	n.p.	13
	65 years	8	88.3	n.p.	n.p.	n.p.	n.p.	9
	Total	**19**	**86.1**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**22**
Persons	55 years	26	91.2	n.p.	n.p.	n.p.	n.p.	29
	65 years	22	91.3	n.p.	n.p.	n.p.	n.p.	24
	Total	**48**	**91.2**	**2**	**4.7**	**2**	**4.1**	**52**

(a) Patients referred for colonoscopy with/without referral for other examination.

(b) Patients not referred for colonoscopy but referred for other examination.

(c) Patients not referred for any examination.

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. There were 2 primary health care practitioner consultations following positive FOBT results with a postcode that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
3. A participant may have had more than one consultation.
4. Percentages equal the number of consultations following a positive FOBT who received/did not receive referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT.
5. n.p. Not available for publication due to small numbers, but included in totals where applicable.
6. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- Similar levels of referral for colonoscopy following a positive FOBT result were recorded for all geographic locations.
- Proportions of people referred for colonoscopy in Remote and Very remote locations should be interpreted with caution due to the small number of primary health care practitioner consultations in these locations.

Table 2.3.9: Referrals by primary health care practitioners for colonoscopy or other examination, by reported symptom / no symptoms[a]

	Referral for colonoscopy or other examination				No referral for colonoscopy or other examination			
	With symptoms		No symptoms		With symptoms		No symptoms	
	Number	Per cent[b]	Number	Per cent[c]	Number	Per cent[d]	Number	Per cent[e]
Males								
55 years	425	16.7	2,124	83.3	35	26.1	99	73.9
65 years	410	14.0	2,519	86.0	41	21.2	152	78.8
Total	**835**	**15.2**	**4,643**	**84.8**	**76**	**23.2**	**251**	**76.8**
Females								
55 years	446	18.1	2,014	81.9	38	24.5	117	75.5
65 years	446	18.1	2,014	81.9	50	28.4	126	71.6
Total	**892**	**18.1**	**4,028**	**81.9**	**88**	**26.6**	**243**	**73.4**
Persons								
55 years	871	17.4	4,138	82.6	73	25.3	216	74.7
65 years	856	15.9	4,533	84.1	91	24.7	278	75.3
Total	**1,727**	**16.6**	**8,671**	**83.4**	**164**	**24.9**	**494**	**75.1**

(a) Symptoms include:
- recent onset rectal bleeding (less than or equal to 6 months)
- longer standing rectal bleeding (longer than 6 months)
- significant change in bowel habits
- iron deficiency anaemia
- abdominal pain.

(b) Percentages equal the number of consultations following a positive FOBT and reported symptom(s) that resulted in referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT that resulted in referral for either colonoscopy or other examination.

(c) Percentages equal the number of consultations following a positive FOBT and no reported symptoms that resulted in referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT that resulted in referral for either colonoscopy or other examination.

(d) Percentages equal the number of consultations following a positive FOBT and reported symptom(s) that did not result in referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT that did not result in referral for either colonoscopy or other examination.

(e) Percentages equal the number of consultations following a positive FOBT and no reported symptoms that did not result in referral for either colonoscopy or other examination as a proportion of the total number of consultations following a positive FOBT that did not result in referral for either colonoscopy or other examination.

Notes

1. There were 757 recorded visits to primary health care practitioners where no symptom status was recorded. These records are excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. A participant may have had more than one consultation.

- There were 11,079 consultations which resulted in referrals for colonoscopy or other examination; however, 681 had no details for symptom status. Of the 10,398 consultations available for analysis, 1,727 (16.6%) reported symptoms and 8,671 (83.4%) reported no symptoms.
- There were 734 consultations that did not result in referral for further investigation. After excluding 76 that had no symptom status recorded, 164 (24.9%) reported symptoms and 494 (75.1%) reported experiencing no symptoms. Reasons for non-referral are detailed in Table 2.3.10.

Table 2.3.10: Non-referrals by primary health care practitioners for colonoscopy, by reason

		Reason						
		Bowel cancer previously diagnosed	Limited life expectancy	Recent colonoscopy (<18 months)	Patient declines colonoscopy	Significant co-morbidity	Other medical condition(s)	All respondents
Males								
55 years	Number	3	n.p.	98	78	14	63	222
	Per cent	1.4	n.p.	44.1	35.1	6.3	28.4	. .
65 years	Number	6	n.p.	120	91	29	88	295
	Per cent	2.0	n.p.	40.7	30.8	9.8	29.8	. .
Total	**Number**	**9**	**n.p.**	**218**	**169**	**43**	**151**	**517**
	Per cent	**1.7**	**n.p.**	**42.2**	**32.7**	**8.3**	**29.2**	**. .**
Females								
55 years	Number	4	n.p.	101	111	16	77	279
	Per cent	1.4	n.p.	36.2	39.8	5.7	27.6	. .
65 years	Number	7	n.p.	150	98	23	81	307
	Per cent	2.3	n.p.	48.9	31.9	7.5	26.4	. .
Total	**Number**	**11**	**n.p.**	**251**	**209**	**39**	**158**	**586**
	Per cent	**1.9**	**n.p.**	**42.8**	**35.7**	**6.7**	**27.0**	**. .**
Persons								
55 years	Number	7	n.p.	199	189	30	140	501
	Per cent	1.4	n.p.	39.7	37.7	6.0	27.9	. .
65 years	Number	13	n.p.	270	189	52	169	602
	Per cent	2.2	n.p.	44.9	31.4	8.6	28.1	. .
Total	**Number**	**20**	**7**	**469**	**378**	**82**	**309**	**1,103**
	Per cent	**1.8**	**0.6**	**42.5**	**34.3**	**7.4**	**28.0**	**. .**

Notes

1. Percentages equal the number of consultations for each reason (following a positive FOBT) that did not refer for colonoscopy as a proportion of the total number of positive FOBT consultations that did not refer for a colonoscopy.
2. A participant may have multiple reasons for non-referral for colonoscopy indicated.
3. n.p. Not available for publication due to small numbers, but included in totals where applicable.

- The three main reasons people were not referred for colonoscopy were:
  1. Recent colonoscopy within the last 18 months (42.5%)
  2. Patient declines colonoscopy (34.3%)
  3. Other medical condition(s) (28.0%).
- Of the 469 consultations that had recently had a colonoscopy performed, 57.6% were aged 65 years and 42.4% were aged 55 years.

2.4 Colonoscopy

This section provides a summary of colonoscopy procedures as part of the NBCSP up to 30 June 2008. Colonoscopies for people who suspended from, or opted off, the NBCSP or were outside the age of 55 or 65 years were excluded from this analysis.

Colonoscopy procedures are identified to the Register through three sources:

- Colonoscopy Report forms (from which colonoscopy quality can be analysed),
- Histopathology Report forms, and
- claims for Medicare benefits for colonoscopic services relating to the NBCSP.

As completion of forms is not mandatory there is the possibility of inconsistent reporting. Colonoscopy Report forms, Histopathology Report forms and Medicare claims for a single colonoscopy can be recorded in the Register in any sequence. Figure 2.4.1 presents the volume of colonoscopies identified from each source, and provides a diagrammatic representation of data completeness.

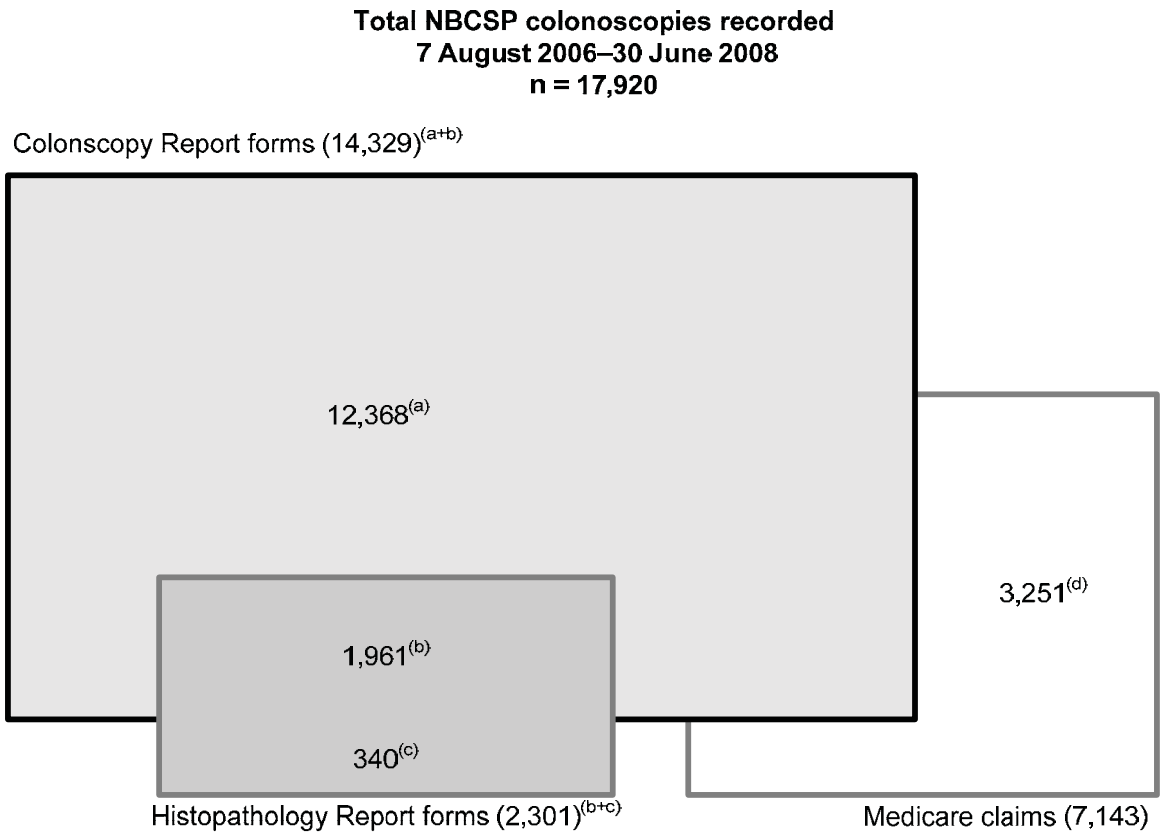
In order to assess the proportion of people with a positive FOBT that have progressed to colonoscopy on the screening pathway, data from all sources is collated and de-duplicated. Tables 2.4.1a and 2.4.1b present data on the total number of people known to have progressed to colonoscopy after a positive FOBT. Multiple colonoscopies are excluded from this analysis.

The remainder of the tables in this section present data by population subgroups, and analyses of the quality of colonoscopies provided as part of the NBCSP on those colonoscopies reported to the Register via the Colonoscopy Report form.

A participant may undergo more than one colonoscopy as part of an investigation of a positive FOBT result for reasons including inadequate bowel preparation, incomplete examination or review of previous excision sites. There were 130 participants who had more than one colonoscopy recorded in the period 7 August 2006 to 30 June 2008.

The colonoscopy data presented in this section underestimate the true proportion of people referred for colonoscopy due to a number of factors:

- The data in this section are sourced from the 14,329 NBCSP Colonoscopy Report forms included in the Register as at 30 June 2008. Tables 2.4.1a and 2.4.1b include all colonoscopies in the colonoscopy follow-up results. Colonoscopies identified only from returned Histopathology Report forms or Medicare claims (Figure 2.4.1) are not included in other analyses.
- Completion of Colonoscopy Report forms by practitioners is not mandatory. As a result, the number of colonoscopies performed may be under-reported.
- Colonoscopies require a referral from a primary health care practitioner. However, as GP attendance is under-reported, the number of positive FOBTs was used as the denominator for tables 2.4.2 to 2.4.7.
- The number of positive FOBT results in the denominator (tables 2.4.2 to 2.4.7) includes all FOBTs processed up to 30 June 2008. However, the number of colonoscopies in the numerator only includes those with a positive FOBT who have had time to visit their primary health care practitioner and undergo a colonoscopy. This underestimation does not affect comparisons between different groups, but it does mean that the absolute levels of follow-up colonoscopies are understated.



(a) Colonoscopy Report forms recorded in the NBCSP Register (with or without a Medicare claim) for which no Histopathology Report form has been received.

(b) Colonoscopies undertaken as part of the NBCSP where a Colonoscopy and Histopathology Report form was recorded on which confirmed outcomes can be calculated. The total number of Colonoscopy Report forms recorded in the Register on which colonoscopy analyses can be performed is given by (a) + (b).

(c) Colonoscopies undertaken as part of the NBCSP where no Colonoscopy Report form was recorded but a Histopathology Report form was recorded.

(d) Colonoscopies undertaken as part of the NBCSP where a Medicare claim was recorded but no Colonoscopy Report or Histopathology Report form was recorded.

Note: A participant may have had more than one colonoscopy.

Source: National Bowel Cancer Screening Program Register.

Figure 2.4.1: Colonoscopy procedures recorded in the National Bowel Cancer Screening Program Register, by report source

- There were 17,920 colonoscopies recorded in the NBCSP Register for the period 7 August 2006 to 30 June 2008.
- Colonoscopy Report forms had been completed for 14,329 colonoscopies.
- There were 3,251 claims to Medicare for colonoscopies performed as part of the NBCSP without an associated Colonoscopy or Histopathology Report form recorded.
- There were 340 colonoscopies identified from returned Histopathology Report forms, without an associated Colonoscopy Report form.

Colonoscopy follow-up

Table 2.4.1a: Colonoscopy follow-up following a positive FOBT result, by state and territory

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Number	1,190	1,183	908	445	382	140	70	44	4,362
	Per cent	60.0	68.1	67.1	57.0	63.5	59.3	63.6	60.3	63.4
65 years	Number	1,412	1,226	1,094	533	466	182	63	25	5,001
	Per cent	57.3	65.5	68.0	58.4	66.3	62.5	63.0	50.0	62.5
Total	**Number**	**2,602**	**2,409**	**2,002**	**978**	**848**	**322**	**133**	**69**	**9,363**
	Per cent	**58.5**	**66.7**	**67.6**	**57.7**	**65.0**	**61.1**	**63.3**	**56.1**	**62.9**
	95% CI	**57.1–60.0**	**65.2–68.3**	**65.9–69.3**	**55.4–60.1**	**62.4–67.6**	**56.9–65.3**	**56.8–69.9**	**47.3–64.9**	**62.2–63.7**
Females										
55 years	Number	1,092	1,058	816	400	381	132	78	17	3,974
	Per cent	57.8	66.0	69.3	58.7	66.4	59.5	68.4	53.1	63.1
65 years	Number	1,129	1,047	786	362	390	143	62	9	3,928
	Per cent	59.1	66.9	66.6	59.6	69.9	61.6	66.7	50.0	63.8
Total	**Number**	**2,221**	**2,105**	**1,602**	**762**	**771**	**275**	**140**	**26**	**7,902**
	Per cent	**58.5**	**66.5**	**67.9**	**59.2**	**68.1**	**60.6**	**67.6**	**52.0**	**63.4**
	95% CI	**56.9–60.0**	**64.8–68.1**	**66.1–69.8**	**56.5–61.8**	**65.4–70.8**	**56.1–65.1**	**61.3–74.0**	**38.2–65.8**	**62.6–64.3**
Persons										
55 years	Number	2,282	2,241	1,724	845	763	272	148	61	8,336
	Per cent	58.9	67.1	68.1	57.8	64.9	59.4	66.1	58.1	63.3
65 years	Number	2,541	2,273	1,880	895	856	325	125	34	8,929
	Per cent	58.1	66.2	67.4	58.9	67.9	62.1	64.8	50.0	63.0
Total	**Number**	**4,823**	**4,514**	**3,604**	**1,740**	**1,619**	**597**	**273**	**95**	**17,265**
	Per cent	**58.5**	**66.6**	**67.7**	**58.4**	**66.4**	**60.9**	**65.5**	**54.9**	**63.2**
	95% CI	**57.4–59.6**	**65.5–67.7**	**66.5–69.0**	**56.6–60.1**	**64.6–68.3**	**57.8–63.9**	**60.9–70.0**	**47.5–62.3**	**62.6–63.7**

Notes

1. Percentages are the number of people who have had a colonoscopy recorded following a positive FOBT as a proportion of the total number of people with positive FOBT results. This includes notification of a colonoscopy by a Colonoscopy Report form, Histopathology Report form or Medicare claim for colonoscopic services as part of the NBCSP.
2. Excludes multiple colonoscopies by participants.

- There were 17,265 people who had a follow-up colonoscopy after a positive FOBT recorded as part of the National Program between 7 August 2006 and 30 June 2008. This represents 63.2% of those people with positive FOBT results recorded.
- The proportion of people with a follow-up colonoscopy recorded following a positive FOBT result was highest in Queensland (67.7%), Victoria (66.6%) and South Australia (66.4%).
- The lowest proportion of people having a colonoscopy following a positive FOBT result was recorded in the Northern Territory (54.9%), Western Australia (58.4%) and New South Wales (58.5%). However, the number of colonoscopies recorded for the Northern Territory was small and care must be taken in interpreting these results.

Table 2.4.1b: Kaplan-Meier colonoscopy follow-up rates at 52 weeks since positive FOBT, by state and territory

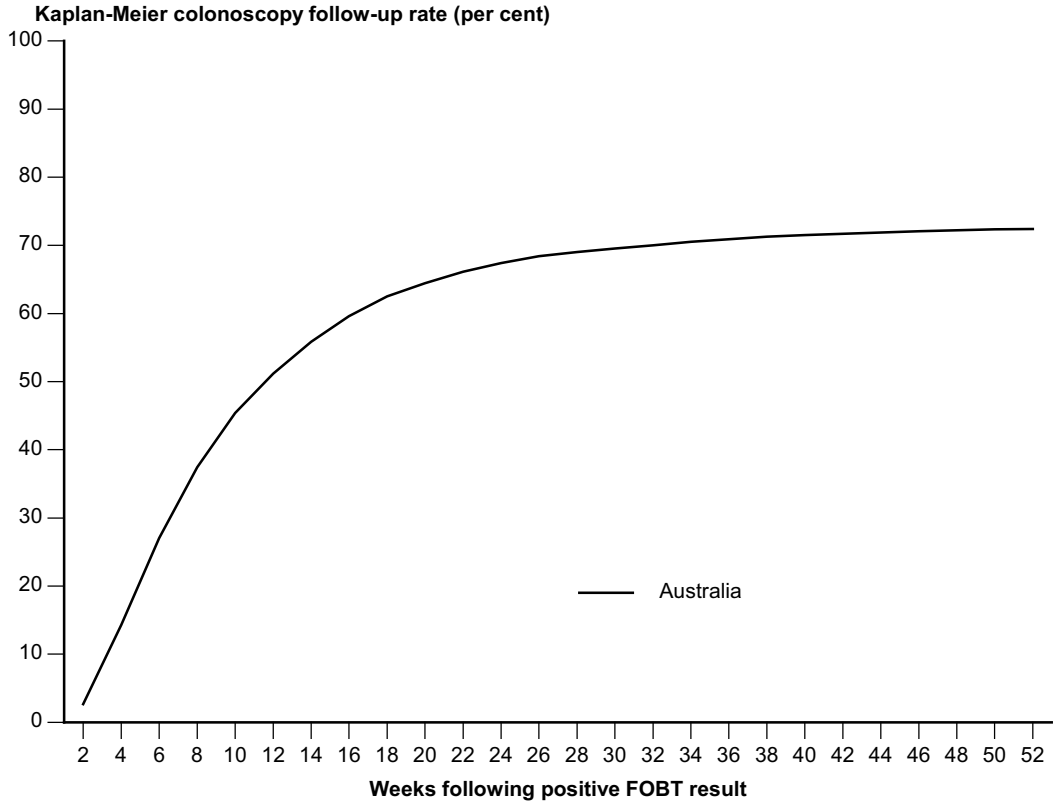
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Colonoscopy follow-up rate	66.7	72.6	81.2	66.0	83.8	72.7	74.8	61.8	72.4
95% CI	65.5–67.8	71.4–73.8	79.9–82.5	64.0–67.9	81.8–85.9	69.2–76.2	70.0–79.5	53.8–69.8	71.8–73.0

Notes

1. Rates are the estimated number of people who are known to have had a colonoscopy recorded within 52 weeks following a positive FOBT as a percentage of the total number of people with positive FOBT results, using Kaplan-Meier survival analysis methods.
2. Follow-up colonoscopy includes notification of a colonoscopy by a Colonoscopy Report form, Histopathology Report form or Medicare claim for colonoscopic services as part of the NBCSP.
3. Excludes multiple colonoscopies.

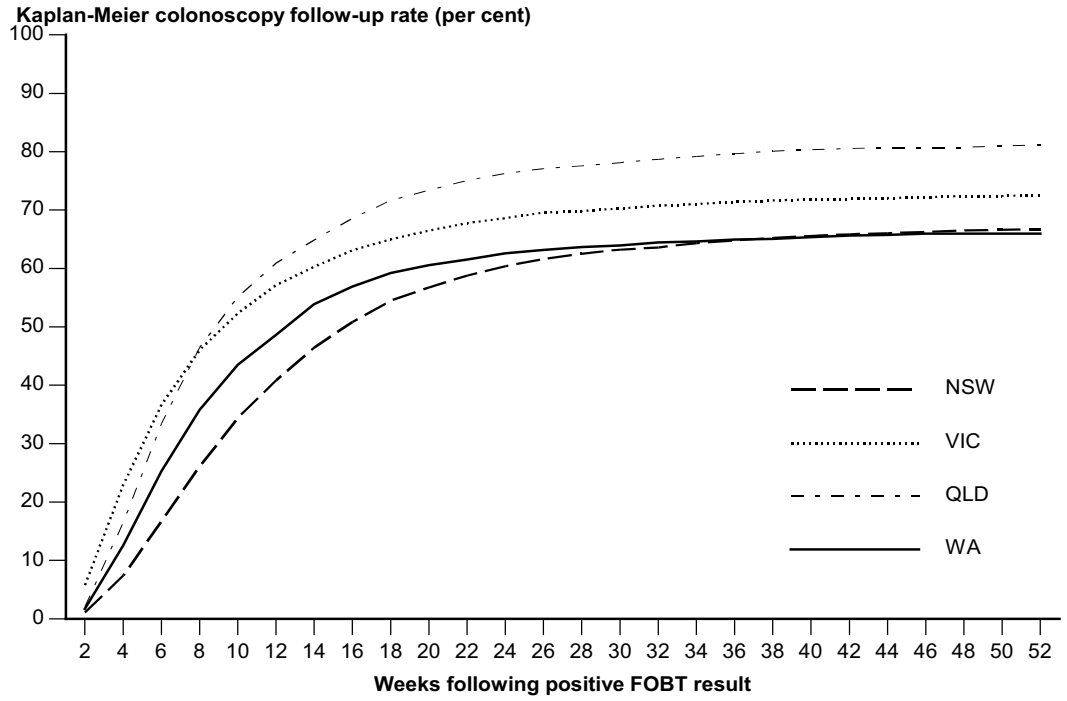
- The estimated Australia-wide colonoscopy follow-up rate after 52 weeks from a positive FOBT result was 72.4%. However, this figure is likely to be underestimated as not all colonoscopies conducted as part of the NBCSP are recorded in the Register.
- South Australia (83.8%), Queensland (81.2%) and the ACT (74.8%) had the highest estimated rate of follow-up colonoscopies recorded in the Register.

Figures 2.4.2a, b, and c show the Kaplan-Meier colonoscopy follow-up rates up to 52 weeks from a positive FOBT result. For clarity, Kaplan-Meier curves for the states and territories are divided between Figures 2.4.2b and 2.4.2c.



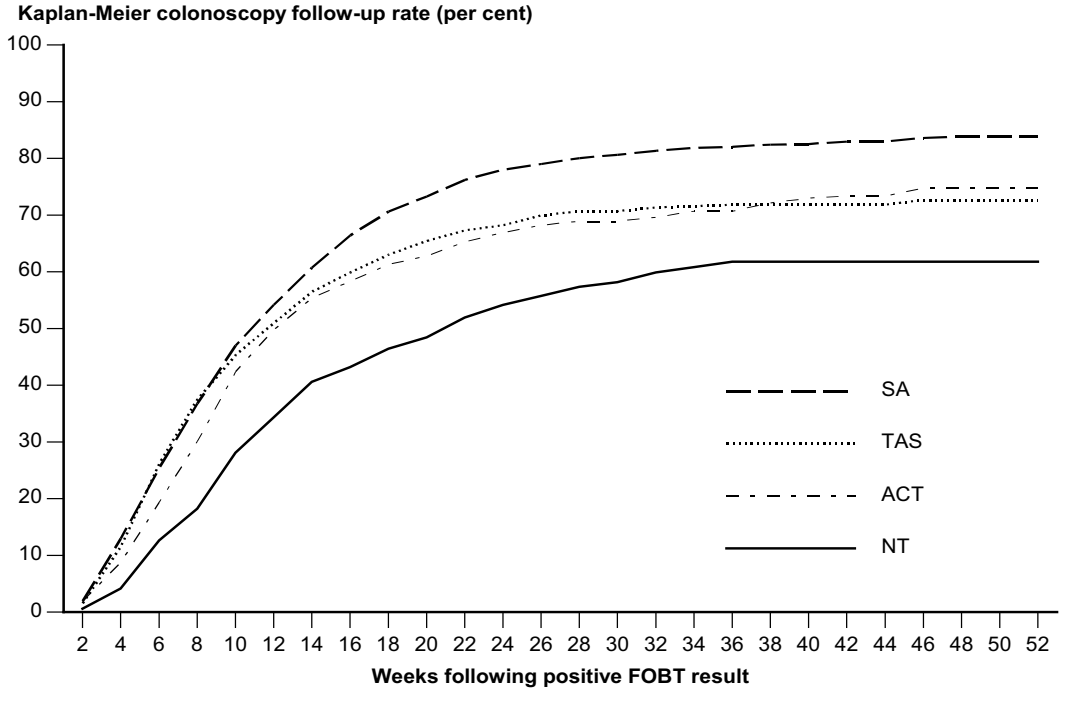
Source: National Bowel Cancer Screening Program Register.

Figure 2.4.2a: Kaplan-Meier colonoscopy follow-up rate, Australia, National Program, 7 August 2006 to 30 June 2008



Source: National Bowel Cancer Screening Program Register.

Figure 2.4.2b: Kaplan-Meier colonoscopy follow-up rate, New South Wales, Victoria, Queensland and Western Australia, National Program, 7 August 2006 to 30 June 2008



Source: National Bowel Cancer Screening Program Register.

Figure 2.4.2c: Kaplan-Meier colonoscopy follow-up rate, South Australia, Tasmania, Australian Capital Territory and Northern Territory, National Program, 7 August 2006 to 30 June 2008

Colonoscopy reporting

Table 2.4.2: Colonoscopies reported following a positive FOBT result, by state and territory

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Number	943	990	797	299	359	124	58	37	3,607
	Per cent	47.6	56.9	58.9	38.3	59.6	52.5	52.7	50.7	52.5
65 years	Number	1,122	1,039	964	357	435	155	53	23	4,148
	Per cent	45.5	55.4	59.9	39.1	61.9	53.3	53.0	46.0	51.8
Total	**Number**	**2,065**	**2,029**	**1,761**	**656**	**794**	**279**	**111**	**60**	**7,755**
	Per cent	**46.4**	**56.2**	**59.5**	**38.7**	**60.8**	**52.9**	**52.9**	**48.8**	**52.1**
	95% CI	**45.0–47.9**	**54.5–57.8**	**57.7–61.2**	**36.4–41.0**	**58.2–63.5**	**48.7–57.2**	**46.1–59.6**	**39.9–57.6**	**51.3–52.9**
Females										
55 years	Number	855	922	698	289	359	116	67	14	3,320
	Per cent	45.2	57.5	59.2	42.4	62.4	52.3	58.8	43.8	52.7
65 years	Number	894	888	661	251	372	124	56	8	3,254
	Per cent	46.8	56.8	56.0	41.4	66.7	53.2	60.2	44.4	52.8
Total	**Number**	**1,749**	**1,810**	**1,359**	**540**	**731**	**240**	**123**	**22**	**6,574**
	Per cent	**46.0**	**57.2**	**57.6**	**41.9**	**64.5**	**52.7**	**59.4**	**44.0**	**52.8**
	95% CI	**44.4–47.6**	**55.4–58.9**	**55.6–59.6**	**39.2–44.6**	**61.7–67.3**	**48.2–57.3**	**52.7–66.1**	**30.2–57.8**	**51.9–53.6**
Persons										
55 years	Number	1,798	1,912	1,495	588	718	240	125	51	6,927
	Per cent	46.4	57.2	59.0	40.2	61.0	52.4	55.8	48.6	52.6
65 years	Number	2,016	1,927	1,625	608	807	279	109	31	7,402
	Per cent	46.1	56.1	58.2	40.0	64.0	53.2	56.5	45.6	52.2
Total	**Number**	**3,814**	**3,839**	**3,120**	**1,196**	**1,525**	**519**	**234**	**82**	**14,329**
	Per cent	**46.2**	**56.6**	**58.6**	**40.1**	**62.6**	**52.9**	**56.1**	**47.4**	**52.4**
	95% CI	**45.2–47.3**	**55.4–57.8**	**57.3–59.9**	**38.3–41.9**	**60.6–64.5**	**49.7–56.0**	**51.4–60.9**	**40.0–54.8**	**51.8–53.0**

Notes

1. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded as part of the NBCSP as a proportion of the total number of positive FOBT results.
2. There were 130 people with more than one Colonoscopy Report form recorded in the Register.

- There were 14,329 Colonoscopy Report forms recorded as part of the National Program between 7 August 2006 and 30 June 2008. This represented 52.4% of the number of positive FOBT results recorded.
- The total number of Colonoscopy Report forms recorded in the Register included 130 repeat colonoscopies.

Table 2.4.3: Colonoscopies reported following a positive FOBT result, by geographic location

		Major cities	Inner regional	Outer regional	Remote	Very remote	All regions
Males							
55 years	Number	2,189	917	437	48	15	3,606
	Per cent	51.8	55.9	51.2	43.3	35.1	52.5
65 years	Number	2,467	1,107	501	54	19	4,147
	Per cent	52.4	52.4	48.9	44.5	49.2	51.8
Total	**Number**	**4,655**	**2,024**	**938**	**102**	**34**	**7,753**
	Per cent	**52.1**	**53.9**	**49.9**	**43.9**	**41.6**	**52.1**
	95% CI	**51.1–53.2**	**52.3–55.5**	**47.7–52.2**	**37.5–50.3**	**30.9–52.3**	**51.3–52.9**
Females							
55 years	Number	2,175	771	331	28	11	3,316
	Per cent	53.5	52.1	50.3	43.3	41.2	52.7
65 years	Number	1,959	866	378	42	8	3,254
	Per cent	53.3	52.8	50.5	53.5	40.5	52.8
Total	**Number**	**4,134**	**1,637**	**709**	**71**	**19**	**6,570**
	Per cent	**53.4**	**52.5**	**50.4**	**48.9**	**40.9**	**52.7**
	95% CI	**52.3–54.5**	**50.7–54.2**	**47.8–53.0**	**40.7–57.0**	**26.8–55.0**	**51.9–53.6**
Persons							
55 years	Number	4,364	1,688	768	77	26	6,922
	Per cent	52.7	54.1	50.8	43.3	37.3	52.6
65 years	Number	4,426	1,974	879	96	27	7,401
	Per cent	52.8	52.6	49.6	48.1	46.1	52.2
Total	**Number**	**8,790**	**3,661**	**1,646**	**173**	**53**	**14,323**
	Per cent	**52.7**	**53.2**	**50.1**	**45.8**	**41.3**	**52.4**
	95% CI	**52.0–53.5**	**52.1–54.4**	**48.4–51.8**	**40.8–50.9**	**32.8–49.9**	**51.8–53.0**

Notes

1. A participant's geographic location was classified using the participant's residential postcode according to the Australian Standard Geographic Classification (ASGC) for 2006.
2. There were 6 colonoscopies and 9 positive FOBT results with postcodes that did not correspond with the 2006 ABS remoteness classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the areas may be less than the national total.
3. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded following a positive FOBT result as a proportion of the total number of positive FOBT results.
4. There were 130 people with more than one Colonoscopy Report form recorded in the Register.
5. States and territories using the geographic rollout schedule may have participants that have not progressed as far in the screening pathway in some geographic areas at 30 June 2008. Figures for geographic regions should be interpreted with caution. See Table 1.1.

- The proportion of colonoscopies reported following a positive FOBT result was significantly lower in Remote (45.8%) and Very remote (41.3%) areas than for all regions combined (52.4%). However, the numbers of colonoscopies recorded for these areas were small and care must be taken in interpreting these results.

Table 2.4.4: Colonoscopies reported following a positive FOBT result, by socioeconomic status

		1st quintile (least disadvantaged)	2nd quintile	3rd quintile	4th quintile	5th quintile (most disadvantaged)	Total
Males							
55 years	Number	646	737	686	743	750	3,562
	Per cent	54.3	55.3	53.8	49.9	50.2	52.5
65 years	Number	709	786	810	927	874	4,106
	Per cent	56.5	56.8	52.4	49.4	47.4	51.9
Total	**Number**	**1,355**	**1,523**	**1,496**	**1,670**	**1,624**	**7,668**
	Per cent	**55.4**	**56.1**	**53.0**	**49.6**	**48.6**	**52.2**
	95% CI	**53.5–57.4**	**54.2–57.9**	**51.2–54.9**	**47.9–51.3**	**46.9–50.3**	**51.4–53.0**
Females							
55 years	Number	653	686	643	662	646	3,290
	Per cent	55.3	57.3	53.3	49.7	49.2	52.8
65 years	Number	513	585	654	712	771	3,235
	Per cent	54.7	54.5	55.1	50.7	51.0	52.9
Total	**Number**	**1,166**	**1,271**	**1,297**	**1,374**	**1,417**	**6,525**
	Per cent	**55.1**	**56.0**	**54.2**	**50.2**	**50.1**	**52.9**
	95% CI	**53.0–57.2**	**53.9–58.0**	**52.2–56.2**	**48.4–52.1**	**48.3–52.0**	**52.0–53.7**
Persons							
55 years	Number	1,299	1,423	1,329	1,405	1,396	6,852
	Per cent	54.8	56.2	53.6	49.8	49.7	52.7
65 years	Number	1,222	1,371	1,464	1,639	1,645	7,341
	Per cent	55.8	55.8	53.6	49.9	49.0	52.4
Total	**Number**	**2,521**	**2,794**	**2,793**	**3,044**	**3,041**	**14,193**
	Per cent	**55.3**	**56.0**	**53.6**	**49.9**	**49.3**	**52.5**
	95% CI	**53.8–56.7**	**54.6–57.4**	**52.2–54.9**	**48.6–51.1**	**48.1–50.6**	**51.9–53.1**

Notes

1. A participant's socioeconomic status was classified using the participant's residential postcode according to the ABS Index of Relative Socioeconomic Disadvantage (IRSD) for 2006.
2. There were 136 recorded colonoscopies and 314 positive FOBT results with postcodes that did not correspond with the 2006 ABS IRSD classifications by postal area. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
3. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded following a positive FOBT result as a proportion of the total number of positive FOBTs recorded.
4. There were 130 people with more than one Colonoscopy Report form recorded in the Register.

- The proportion of colonoscopies recorded following a positive FOBT result was highest in people living in less disadvantaged areas (56.0% for quintile 2 and 55.3% for quintile 1) and lowest in people living in the most disadvantaged areas (49.9 for quintile 4 and 49.3% for quintile 5).

Table 2.4.5: Colonoscopies reported following a positive FOBT result, by Aboriginal and Torres Strait Islander status

		Aboriginal and Torres Strait Islander	Non-Indigenous	Total
Males				
55 years	Number	23	3,501	3,524
	Per cent	50.0	53.3	53.3
65 years	Number	23	4,017	4,040
	Per cent	60.5	52.4	52.5
Total	**Number**	**46**	**7,518**	**7,564**
	Per cent	**54.8**	**52.8**	**52.8**
	95% CI	**44.1–65.4**	**52.0–53.6**	**52.0–53.7**
Females				
55 years	Number	24	3,221	3,245
	Per cent	54.5	53.2	53.2
65 years	Number	13	3,149	3,162
	Per cent	56.5	53.5	53.5
Total	**Number**	**37**	**6,370**	**6,407**
	Per cent	**55.2**	**53.3**	**53.3**
	95% CI	**43.3–67.1**	**52.4–54.2**	**52.5–54.2**
Persons				
55 years	Number	47	6,722	6,769
	Per cent	52.2	53.2	53.2
65 years	Number	36	7,166	7,202
	Per cent	59.0	52.9	52.9
Total	**Number**	**83**	**13,888**	**13,971**
	Per cent	**55.0**	**53.1**	**53.1**
	95% CI	**47.0–62.9**	**52.5–53.7**	**52.5–53.7**

Notes

1. There were 358 recorded colonoscopies following a positive FOBT result and 1,016 valid FOBT results where Aboriginal and Torres Strait Islander status was not stated. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. Aboriginal and Torres Strait Islander status was defined by the participant.
3. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded following a positive FOBT result as a proportion of the total number of positive FOBTs recorded.
4. There were 130 people with more than one Colonoscopy Report form recorded in the Register.

- The proportion of colonoscopies recorded following a positive FOBT result was 55.0% for Aboriginal and Torres Strait Islander people compared with 53.1% for non-Indigenous people.
- Numbers of colonoscopies recorded in the Register for Aboriginal and Torres Strait Islander people were too small at this point in the NBCSP to draw any conclusions on colonoscopy rates between Aboriginal and Torres Strait Islander and non-Indigenous people.

Table 2.4.6: Colonoscopies reported following a positive FOBT result, by preferred correspondence language

		Preferred correspondence language		
		Language other than English	English	Total
Males				
55 years	Number	332	3,275	3,607
	Per cent	43.1	53.6	52.5
65 years	Number	378	3,770	4,148
	Per cent	46.0	52.5	51.8
Total	**Number**	710	7,045	7,755
	Per cent	**44.6**	**53.0**	**52.1**
	95% CI	**42.2–47.1**	**52.2–53.9**	**51.3–52.9**
Females				
55 years	Number	332	2,988	3,320
	Per cent	44.1	53.9	52.7
65 years	Number	338	2,916	3,254
	Per cent	51.8	52.9	52.8
Total	**Number**	670	5,904	6,574
	Per cent	**47.7**	**53.4**	**52.8**
	95% CI	**45.1–50.3**	**52.5–54.3**	**51.9–53.6**
Persons				
55 years	Number	664	6,263	6,927
	Per cent	43.6	53.8	52.6
65 years	Number	716	6,686	7,402
	Per cent	48.6	52.7	52.2
Total	**Number**	1,380	12,949	14,329
	Per cent	**46.1**	**53.2**	**52.4**
	95% CI	**44.3–47.8**	**52.6–53.8**	**51.8–53.0**

Notes

1. Preferred correspondence language was self-reported to Medicare Australia through this or other programs. Participants were assumed to prefer to correspond in English unless otherwise indicated.
2. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded following a positive FOBT result as a proportion of the total number of positive FOBTs recorded.
3. There were 130 people with more than one Colonoscopy Report form recorded in the Register.

- The proportion of colonoscopies recorded after a positive FOBT result for people who preferred to correspond in a language other than English was 46.1%. This was significantly lower than the proportion of 53.2% for people who preferred to correspond in English.
- There was not a significant difference between the proportion of colonoscopies reported for males (44.6%) and females (47.7%) who prefer to correspond in a language other than English.

Table 2.4.7: Colonoscopies reported following a positive FOBT result, by reported disability status

		Disability level		
		Severe or profound activity limitation	No severe or profound activity limitation	Total
Males				
55 years	Number	210	3,368	3,578
	Per cent	46.6	55.0	54.4
65 years	Number	335	3,772	4,107
	Per cent	45.3	54.2	53.4
Total	**Number**	**545**	**7,140**	**7,685**
	Per cent	**45.8**	**54.6**	**53.8**
	95% CI	**43.2–48.4**	**53.6–55.5**	**52.9–54.7**
Females				
55 years	Number	220	3,082	3,302
	Per cent	46.5	54.8	54.1
65 years	Number	228	2,989	3,217
	Per cent	43.3	55.6	54.5
Total	**Number**	**448**	**6,071**	**6,519**
	Per cent	**44.8**	**55.2**	**54.3**
	95% CI	**42.0–47.6**	**54.2–56.2**	**53.4–55.3**
Persons				
55 years	Number	430	6,450	6,880
	Per cent	46.5	54.9	54.3
65 years	Number	563	6,761	7,324
	Per cent	44.4	54.8	53.9
Total	**Number**	**993**	**13,211**	**14,204**
	Per cent	**45.3**	**54.9**	**54.1**
	95% CI	**43.4–47.2**	**54.2–55.5**	**53.4–54.7**

Notes

1. There were 125 colonoscopies following positive FOBT results and 1,067 positive FOBT results where disability status was not stated. These were regarded as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total.
2. A 'profound' disability status indicates that a person always needs assistance with self-care, movement and/or communications activities. A 'severe' disability status indicates that a person sometimes needs assistance with these activities.
3. Percentages of colonoscopies performed equal the number of Colonoscopy Report forms recorded following a positive FOBT result as a proportion of the total number of positive FOBTs recorded.
4. There were 130 people with more than one Colonoscopy Report form recorded in the Register.

- The proportion of colonoscopies recorded after a positive FOBT result for people reporting a severe or profound limitation was 45.3%. This was significantly lower than the proportion of 54.9% for people reporting no severe or profound limitation.
- There was not a significant difference in the proportion of colonoscopies performed for males (45.8%) and females (44.8%) reporting a severe or profound limitation.

Colonoscopy quality

As the NBCSP is the first program to collect data regarding colonoscopy procedures and outcomes for people with positive FOBT results, analyses of the quality of the colonoscopy procedures performed may provide a basis for future colonoscopy certification, accreditation and training to ensure continued provision of quality services.

Quality of the colonoscopy result is influenced by a number of factors:

- Adequate bowel preparation is important for the colonoscopist to clearly visualise the colon lining. Inadequate bowel preparation (Table 2.4.8) can result in missed lesions, cancelled procedures, increased procedural time, and a potential increase in complication rates.
- A complete colonoscopy is one which visualises the whole colon and requires unequivocal identification of the caecum (considered to be the start of the colon). A colonoscopy is deemed to have visualised the whole colon if the depth of insertion is recorded as reaching the caecum (Table 2.4.9).
- The American Society for Gastrointestinal Endoscopy (ASGE) and the American College of Gastroenterology (ACG) Taskforce on Quality in Endoscopy (2006) stated that longer withdrawal times have demonstrated improved polyp detection rates, and, conversely, rapid withdrawal of the colonoscope may miss lesions and reduce the effectiveness of colon cancer prevention by colonoscopy. The Pilot Program noted the suggestion of the Taskforce that a standard withdrawal time of an average of at least 6–8 minutes is necessary to ensure that sufficient care has been taken to thoroughly inspect the large bowel for abnormalities. It further recommended that mean withdrawal times be monitored for analysis (tables 2.4.10 and 2.4.11).

Colonoscopies that do not satisfy these factors may require re-examination. Details of colonoscopies flagged for re-examination are included in Table 2.4.12.

Colonoscopy is an invasive procedure performed under sedation that is safe and relatively pain-free. However, there are a range of complications and adverse events associated with colonoscopy and may include the following:

- Intolerance of the bowel preparation. Some people develop dizziness, headaches or vomiting.
- Reaction to the sedatives or anaesthetic. This is very uncommon but is of concern in people who have severe heart disease or lung disease.
- Perforation (making a hole in the bowel wall).
- Major bleeding from the bowel. This can occur as a result of polyps being removed.

The draft report of the Quality Working Group to the NBCSP (QWG) noted that the two main complications arising are perforation and post-colonoscopy bleeding. A literature review by the QWG of studies showed the risk of death associated with colonoscopy to be low, with incidence rates ranging from zero to 0.03 per cent. The incidence rate of perforation also varied between 0.07 and 0.3 per cent and bleeding was found to be associated with an incidence rate between 0.03 and 2 per cent (NBCSP–QWG 2008).

Table 2.4.14 shows adverse events recorded for people invited to participate in the Program for the period 1 January 2008 to 30 June 2008. However, reporting of adverse events as a result of investigation of a positive FOBT is not mandatory and care should be taken in interpreting these figures.

Table 2.4.8: Bowel preparation quality—colonoscopies reported following a positive FOBT result, by adequacy of bowel preparation

	Adequate bowel preparation		Inadequate bowel preparation		All colonoscopies
	Number	Per cent	Number	Per cent	Number
Males					
55 years	3,327	92.2	280	7.8	3,607
65 years	3,796	91.5	352	8.5	4,148
Total	**7,123**	**91.9**	**632**	**8.1**	**7,755**
Females					
55 years	3,087	93.0	233	7.0	3,320
65 years	3,016	92.7	238	7.3	3,254
Total	**6,103**	**92.8**	**471**	**7.2**	**6,574**
Persons					
55 years	6,414	92.6	513	7.4	6,927
65 years	6,812	92.0	590	8.0	7,402
Total	**13,226**	**92.3**	**1,103**	**7.7**	**14,329**

Notes

1. Data were sourced from the Colonoscopy Report form section 4.1.
2. Percentages equal the number of colonoscopies recorded with adequate or inadequate bowel preparation following a positive FOBT result as a proportion of the total number of colonoscopies recorded.
3. Percentages add to 100 across the row.

- Of the 14,329 colonoscopies reported, 13,226 (92.3%) had adequate bowel preparation. The remaining 1,103 examinations (7.7%) were considered by the colonoscopist to have been compromised by poor bowel preparation.
- Inadequate bowel preparation prior to colonoscopy was higher for males (8.1%) than for females (7.2%).

Table 2.4.9: Colonoscopies reported following a positive FOBT result, by depth of colonoscope insertion

		Complete colonoscopy			Incomplete colonoscopy							
		TI	CAEC	*Total*	ASC	HEP	TRAN	SPLN	DESC	SIG	RECT	*Total*
Males												
55 years	Number	1,617	1,927	*3,544*	20	10	4	4	5	17	3	*63*
	Per cent	44.8	53.4	*98.3*	0.6	0.3	0.1	0.1	0.1	0.5	0.1	*1.7*
65 years	Number	1,655	2,393	*4,048*	31	13	8	7	8	27	6	*100*
	Per cent	39.9	57.7	*97.6*	0.7	0.3	0.2	0.2	0.2	0.7	0.1	*2.4*
Total	**Number**	**3,272**	**4,320**	***7,592***	**51**	**23**	**12**	**11**	**13**	**44**	**9**	***163***
	Per cent	**42.2**	**55.7**	***97.9***	**0.7**	**0.3**	**0.2**	**0.1**	**0.2**	**0.6**	**0.1**	***2.1***
Females												
55 years	Number	1,593	1,641	*3,234*	24	18	4	8	5	24	3	*86*
	Per cent	48.0	49.4	*97.4*	0.7	0.5	0.1	0.2	0.2	0.7	0.1	*2.6*
65 years	Number	1,370	1,762	*3,132*	35	17	16	7	9	34	4	*122*
	Per cent	42.1	54.1	*96.3*	1.1	0.5	0.5	0.2	0.3	1.0	0.1	*3.7*
Total	**Number**	**2,963**	**3,403**	***6,366***	**59**	**35**	**20**	**15**	**14**	**58**	**7**	***208***
	Per cent	**45.1**	**51.8**	***96.8***	**0.9**	**0.5**	**0.3**	**0.2**	**0.2**	**0.9**	**0.1**	***3.2***
Persons												
55 years	Number	3,210	3,568	*6,778*	44	28	8	12	10	41	6	*149*
	Per cent	46.3	51.5	*97.8*	0.6	0.4	0.1	0.2	0.1	0.6	0.1	*2.2*
65 years	Number	3,025	4,155	*7,180*	66	30	24	14	17	61	10	*222*
	Per cent	40.9	56.1	*97.0*	0.9	0.4	0.3	0.2	0.2	0.8	0.1	*3.0*
Total	**Number**	**6,235**	**7,723**	***13,958***	**110**	**58**	**32**	**26**	**27**	**102**	**16**	***371***
	Per cent	**43.5**	**53.9**	***97.4***	**0.8**	**0.4**	**0.2**	**0.2**	**0.2**	**0.7**	**0.1**	***2.6***

Notes

1. Percentages equal the number of colonoscopies recorded reaching each part of the bowel following a positive FOBT as a proportion of the total number of colonoscopies recorded.
2. Percentages add to 100 across the row (excluding 'Totals').
3. Abbreviations for depth of insertion are as follows:
   - TI terminal ileum
   - CAEC caecum
   - ASC ascending colon
   - HEP hepatic flexure
   - TRAN transverse colon
   - SPLN splenic flexure
   - DESC descending colon
   - SIG sigmoid colon
   - RECT rectum

- Of the 14,329 colonoscopies reported, 97.4% were recorded as visualising the whole colon.
- Females had a higher proportion of incomplete colonoscopies (3.2%) than males (2.1%).

Table 2.4.10: Colonoscope withdrawal time, by state and territory, in minutes

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males										
55 years	Mean	10	9	11	13	10	8	9	12	10
	95% CI of mean	10–10	9–9	11–12	12–14	10–11	8–9	8–10	8–16	10–10
	Median	9	8	10	10	10	8	8	8	9
65 years	Mean	11	9	13	13	11	10	10	13	11
	95% CI of mean	10–11	9–10	12–13	12–14	11–12	9–11	8–12	8–17	11–11
	Median	9	8	10	10	10	8	8	10	9
Total	**Mean**	**10**	**9**	**12**	**13**	**11**	**9**	**9**	**12**	**11**
	95% CI of mean	**10–11**	**9–9**	**12–12**	**12–14**	**10–11**	**9–10**	**8–11**	**10–15**	**11–11**
	Median	**9**	**8**	**10**	**10**	**10**	**8**	**8**	**10**	**9**
Females										
55 years	Mean	9	9	10	12	10	8	10	12	10
	95% CI of mean	9–10	8–9	10–11	11–12	10–10	7–9	8–11	3–21	9–10
	Median	8	8	8	10	9	7	8	8	8
65 years	Mean	10	8	10	11	10	9	9	9	10
	95% CI of mean	9–10	8–9	10–11	11–12	10–11	8–10	8–10	4–15	9–10
	Median	8	8	8	10	10	8	8	7	8
Total	**Mean**	**10**	**9**	**10**	**11**	**10**	**9**	**9**	**11**	**10**
	95% CI of mean	**9–10**	**8–9**	**10–11**	**11–12**	**10–10**	**8–9**	**9–10**	**6–17**	**9–10**
	Median	**8**	**8**	**8**	**10**	**10**	**7**	**8**	**7**	**8**
Persons										
55 years	Mean	10	9	11	12	10	8	9	12	10
	95% CI of mean	9–10	9–9	10–11	12–13	10–11	8–9	9–10	9–16	10–10
	Median	8	8	9	10	9	7	8	8	8
65 years	Mean	10	9	12	12	11	10	10	12	10
	95% CI of mean	10–11	9–9	11–12	12–13	10–11	9–10	8–11	8–15	10–11
	Median	9	8	9	10	10	8	8	10	9
Total	**Mean**	**10**	**9**	**11**	**12**	**10**	**9**	**9**	**12**	**10**
	95% CI of mean	**10–10**	**9–9**	**11–12**	**12–13**	**10–11**	**9–9**	**9–10**	**10–15**	**10–10**
	Median	**9**	**8**	**9**	**10**	**10**	**8**	**8**	**8**	**9**

Notes

1. Only complete colonoscopies were included in this analysis.
2. Colonoscopies with missing withdrawal times are coded as 99 minutes by Medicare Australia. There were 618 complete colonoscopies with missing withdrawal times. These were excluded from the analysis.
3. State and territory refers to the residential state or territory of the patient.

- The mean withdrawal time of all complete colonoscopies recorded was 10 minutes, with a median withdrawal time of 9 minutes.
- There was a small significant difference in mean withdrawal times for males (11 mins) and females (10 mins).

Table 2.4.11: Proceduralist mean colonoscope withdrawal times, by state and territory

Time group (minutes)		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–5	Number	15	13	4	2	1	3	0	1	39
	Per cent	5.8	6.3	3.2	3.5	1.3	15.0	0.0	9.1	5.1
6–10	Number	156	141	62	21	43	12	5	4	444
	Per cent	60.0	68.4	50.0	36.8	54.4	60.0	41.7	36.4	57.7
11–15	Number	58	41	45	17	29	4	5	3	202
	Per cent	22.3	19.9	36.3	29.8	36.7	20.0	41.7	27.3	26.3
16–20	Number	20	10	4	10	2	1	1	0	48
	Per cent	7.7	4.9	3.2	17.5	2.5	5.0	8.3	0.0	6.2
21–98	Number	11	1	9	7	4	0	1	3	36
	Per cent	4.2	0.5	7.3	12.3	5.1	0.0	8.3	27.3	4.7
Total	**Number**	**260**	**206**	**124**	**57**	**79**	**20.0**	**12**	**11**	**769**
	Per cent	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Notes

1. Only complete colonoscopies were included in this analysis.
2. There were 636 complete colonoscopies with missing withdrawal time, proceduralist provider number or proceduralist state. These were excluded from the analysis.
3. Percentages equal the number of proceduralists with mean colonoscope withdrawal times falling in each time group as a proportion of the total number of proceduralists who recorded colonoscopies.
4. State and territory refers to the proceduralist.

- The majority of proceduralists (84.0%) had mean complete colonoscopy withdrawal times between 6 and 15 minutes. Only 5.1% of proceduralists had a mean withdrawal time of 5 minutes or less.
- The highest proportion of proceduralists with mean complete colonoscope withdrawal times of 6–10 minutes was in Victoria (68.4%), New South Wales (60.0%) and Tasmania (60.0%).

Table 2.4.12: Colonoscopies with proceduralist's intention of re-examination due to inadequate colonoscopy, by reason

	Poor bowel preparation		Incomplete colonoscopy		All inadequate colonoscopies
	Number	Per cent	Number	Per cent	Number
Males					
55 years	72	67.9	43	40.6	106
65 years	99	61.9	74	46.3	160
Total	**171**	**64.3**	**117**	**44.0**	**266**
Females					
55 years	67	58.3	58	50.4	115
65 years	68	47.9	87	61.3	142
Total	**135**	**52.5**	**145**	**56.4**	**257**
Persons					
55 years	139	62.9	101	45.7	221
65 years	167	55.3	161	53.3	302
Total	**306**	**58.5**	**262**	**50.1**	**523**

Notes

1. Percentages equal the number of colonoscopies recorded in each category in terms of 'poor bowel preparation' or 'incomplete colonoscopy' with proceduralist's intention of re-examination as a proportion of the total number of intended colonoscopy repeats due to inadequate colonoscopy.
2. As some inadequate colonoscopies were due to both 'poor bowel preparation' and 'incomplete colonoscopy', percentages may add to more than 100 across the row.

- Of the 14,329 colonoscopies reported, there were 523 in which the proceduralist planned to perform another procedure due to an inadequate colonoscopy. Of these, 306 had poor bowel preparation and 262 had an incomplete examination.
- The proportion of intended re-examinations due to poor bowel preparation was 64.3% for males compared with 52.5% for females; and 62.9% for those aged 55 years compared with 55.3% for those aged 65 years.
- An incomplete colonoscopy accounted for 56.4% of intended re-examinations for females compared with 44.0% for males; and 53.3% for those aged 65 years compared with 45.7% for those aged 55 years.
- There were another 859 intended repeats for other reasons, including for review of previous excision sites. Consequently, almost 10% of the total 14,329 colonoscopies reported were flagged for a repeat examination.

Table 2.4.13: Abnormalities found at colonoscopy

	No abnormality found		Abnormality found						All colonoscopies
			Suspected cancers		1 or more polyps		Other non-cancer diagnoses		
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males									
55 years	561	15.6	160	4.4	2,198	61.0	684	19.0	3,603
65 years	452	10.9	263	6.3	2,679	64.6	751	18.1	4,145
Total	**1,013**	**13.1**	**423**	**5.5**	**4,877**	**62.9**	**1,435**	**18.5**	**7,748**
Females									
55 years	909	27.4	120	3.6	1,417	42.7	871	26.3	3,317
65 years	625	19.2	189	5.8	1,558	47.9	878	27.0	3,250
Total	**1,534**	**23.4**	**309**	**4.7**	**2,975**	**45.3**	**1,749**	**26.6**	**6,567**
Persons									
55 years	1,470	21.2	280	4.0	3,615	52.2	1,555	22.5	6,920
65 years	1,077	14.6	452	6.1	4,237	57.3	1,629	22.0	7,395
Total	**2,547**	**17.8**	**732**	**5.1**	**7,852**	**54.9**	**3,184**	**22.2**	**14,315**

Source: Colonoscopy Report form section 4.4–4.7

Notes

1. There were 14 colonoscopies in which one or more abnormalities were found but the type of abnormality was not specified or included unreliable abnormality records.
2. An unreliable abnormality record was a record where an abnormal examination was indicated but no information on suspected cancer, polyps or other diagnoses was included.
3. Percentages equal the number of colonoscopies recorded with/without abnormalities as a proportion of the total number of colonoscopies recorded.
4. Abnormalities are mutually exclusive. Where a participant has multiple abnormalities, classification is made according to risk. Suspected cancers had highest risk, followed by polyps. Other non-cancer diagnoses were classified with lowest risk.

- Of the 14,329 colonoscopy reports recorded (see Table 2.4.2), there were 14,315 with abnormality data recorded. Of these, 732 (5.1%) had suspected cancers detected.
- The proportion of suspected cancers found at colonoscopy was 6.1% for those aged 65 years compared with 4.0% for those aged 55 years.
- There were 7,852 colonoscopies (54.9%) where one or more polyps were detected. The proportion of colonoscopies reported with polyps detected was higher for males (62.9%) than for females (45.3%).
- There were no abnormalities found in 17.8% of the reported colonoscopies; a higher proportion of females had no abnormality (23.4%) compared to males (13.1%).

Table 2.4.14: Adverse outcomes following investigation of positive FOBT by colonoscopy

		Adverse Outcome								
Colonoscopies performed	Number of colonoscopies recording adverse outcomes	Bleeding	Infection/ sepsis	Perforation	Reaction to sedation	Death	Other	Delayed discharge	Unplanned hospital admission within 30 days	Surgery required
14,329	66	31	5	7	6	0	36	24	32	10

Source: Adverse Outcome form sections 2–3

Notes
1. Notification of adverse events as a result of the NBCSP is not mandatory. These data should be interpreted with caution.
2. Adverse outcomes are not mutually exclusive.

- There were 66 reports of adverse outcomes following colonoscopy recorded in the Register between 7 August 2006 and 30 June 2008. Of these there were 31 cases of bleeding, 5 of infection/sepsis, 7 of perforation, 6 of a reaction to sedation and 36 other events. There were no deaths reported as a result of a procedure as part of the National Program.
- Delayed discharge was experienced 24 times, and there were 32 unplanned hospital admissions within 30 days of the original procedure. Surgery was required for 10 patients.

2.5 Overall outcomes

This section presents participant-level outcomes from the National Program as at 30 June 2008, based on people who returned a positive FOBT result and who proceeded to colonoscopy. This section differs from the previous sections which presented FOBT, primary health care consultation and colonoscopy-level data.

Program outcomes at key pathway points for the National Program are summarised in Figure 2.5.1. The current screening outcomes for all people invited to participate in the National Program are tabulated by state and territory in Table 2.5.1a, and by sex and age in Table 2.5.1b.

For participants who returned more than one FOBT, the result counted was selected according to the following order of precedence: a positive result was selected over any other result, and a negative result was selected over an inconclusive result.

A person who has had a colonoscopy was classified as having confirmed cancer, suspected cancer, adenoma or neither cancer nor adenoma. For participants with more than one polyp or cancer found at colonoscopy the most serious result was counted.

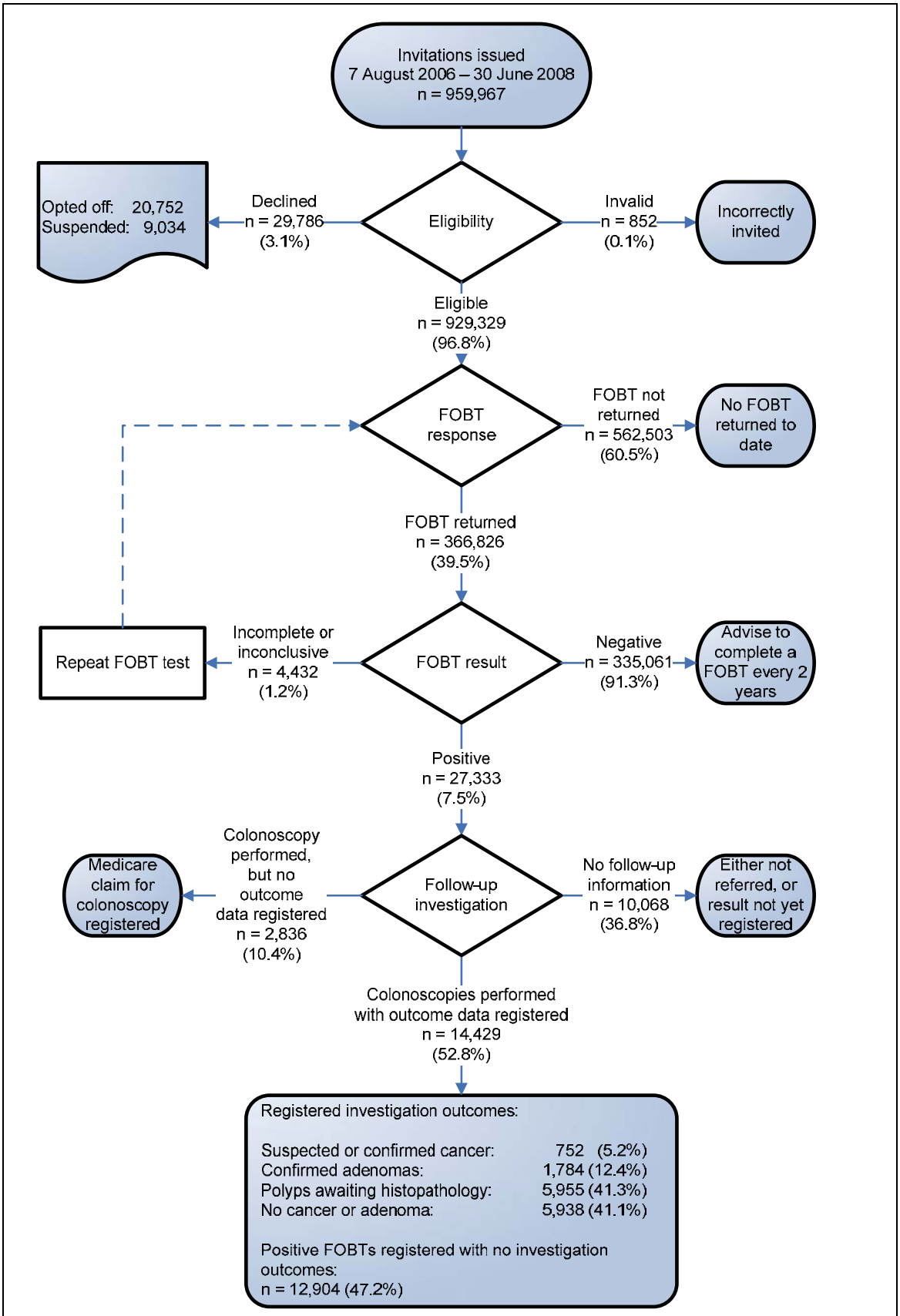
Data for colonoscopy outcomes were derived from information recorded on both the Colonoscopy Report form and the Histopathology Report form. As reporting by clinicians to the NBCSP is not mandatory, a participant may have a Colonoscopy Report form, a Histopathology Report form or both recorded in the Register. Outcomes are classified as follows:

- Confirmed cancers were those cancers confirmed by histopathology with or without a corresponding Colonoscopy Report form. Confirmed cancers are given a higher priority than suspected cancer.
- Suspected cancers were abnormalities detected at colonoscopy that the colonoscopist suspects to be cancer but are not yet confirmed by histopathology.
- Where a person has a confirmed or suspected cancer, this was given higher priority than adenomas. Adenoma classifications are described in Appendix B.
- Polyps awaiting histopathology were those people with polyps detected at colonoscopy that had not yet had an associated Histopathology Report form recorded. It is possible that some of these may be found to be adenomas or cancers. Therefore, final outcome data for all colonoscopies is not possible until all tests awaiting histopathology have been completed and recorded.
- Participants recorded as having no cancer or adenoma were those that had no polyps or suspected cancers detected at colonoscopy, or had polyps detected at colonoscopy that were classified as non-adenomous by histopathology.

Table 2.5.2 presents cancer spread status for those cancers confirmed by histopathology. Due to time lags in the screening pathway, and under-reporting by clinicians, there was a low level of final outcome data available for analysis. Therefore, positive predictive values for FOBT screening cannot be calculated at this time; tables 2.5.1a, 2.5.1b and 2.5.2 are interim tables only.

Summary

- Of the 959,967 invitation packs sent to eligible people since 7 August 2006, there were 366,826 people (39.5%) with a completed FOBT recorded by 30 June 2008.
- Of the people who had returned completed FOBT kits by 30 June 2008, there were 27,333 (7.5%) who had a positive FOBT result, 355,061 (91.3%) who had a negative FOBT result, 557 (0.2%) were inconclusive and 3,855 (1.1%) had no result recorded as the kit was incorrectly completed and could not be analysed. People who returned an incorrectly completed FOBT kit were sent another FOBT kit. People who received an inconclusive FOBT result were also sent another FOBT kit. People listed as having an inconclusive result or no result are those who have not yet returned the subsequent kit.
- Of the 27,333 participants that had a positive FOBT result recorded, 10,068 (36.8%) were not recorded as having a colonoscopy by 30 June 2008. A further 2,836 (10.4%) had undergone a colonoscopy but had no outcome data registered.
- Of the 14,429 participants with a positive FOBT result that had colonoscopy outcome details reported by 30 June 2008, there were 46 confirmed and 706 suspected cancers and 1,784 confirmed adenomas.
- There were 5,955 people with polyps detected at colonoscopy with histopathology results not yet received by the Register. The outcome of these tests may alter the final numbers of adenomas and cancers found.



Source: National Bowel Cancer Screening Program Register.

Figure 2.5.1: NBCSP participant outcomes, National Program, 7 August 2006 to 30 June 2008

Table 2.5.1a: Preliminary overall participant summary outcomes, by state and territory, National Program, 7 August 2006 to 30 June 2008

					Colonoscopy outcomes						
State	**Invitations issued[(a)]**	**Number screened[(b)]**	**Total positive FOBT**	**Colonoscopies with outcome data registered**	**No cancer or adenoma[(c)]**	**Polyps awaiting histo-pathology[(d)]**	**Confirmed diminutive adenoma[(e)]**	**Confirmed small adenoma[(e)]**	**Confirmed advanced adenoma[(e)]**	**Suspected cancer[(f)]**	**Confirmed cancer[(g)]**
NSW	309,539	115,078	8,246	3,852	1,582	1,815	61	36	154	192	12
Vic	225,584	91,455	6,777	3,851	1,795	1,552	59	50	191	201	3
Qld	183,002	70,778	5,320	3,091	1,118	1,102	113	118	445	176	19
WA	92,330	39,633	2,982	1,259	372	623	44	39	133	44	4
SA	72,015	30,900	2,437	1,529	678	585	28	42	135	58	3
Tas	24,500	10,491	981	531	271	106	25	18	85	21	5
ACT	15,049	6,444	417	233	85	138	0	0	0	10	0
NT	7,310	2,047	173	83	37	34	2	0	6	4	0
Australia	**929,329**	**366,826**	**27,333**	**14,429**	**5,938**	**5,955**	**332**	**303**	**1,149**	**706**	**46**

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.
(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the Register.
(c) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomous at histopathology.
(d) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report received by Register.
(e) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the Register.
(f) Cancer suspected at colonoscopy but not yet confirmed by histopathology.
(g) Cancer confirmed by histopathology.

Table 2.5.1b: Preliminary overall participant summary outcomes, by age and sex, National Program, 7 August 2006 to 30 June 2008

					Colonoscopy outcomes						
	Invitations issued[(a)]	Number screened[(b)]	Total positive FOBT	Colonoscopies with outcome data registered	No cancer or adenoma[(c)]	Polyps awaiting histo-pathology[(d)]	Confirmed diminutive adenoma[(e)]	Confirmed small adenoma[(e)]	Confirmed advanced adenoma[(e)]	Suspected cancer[(f)]	Confirmed cancer[(g)]
Males											
55 years	284,228	92,188	6,875	3,635	1,297	1,656	97	94	327	157	7
65 years	183,717	75,998	8,003	4,186	1,274	2,050	90	91	411	253	17
Total	**467,945**	**168,186**	**14,878**	**7,821**	**2,571**	**3,706**	**187**	**185**	**738**	**410**	**24**
Females											
55 years	282,650	115,104	6,294	3,325	1,818	1,069	61	66	187	117	7
65 years	178,734	83,536	6,161	3,283	1,549	1,180	84	52	224	179	15
Total	**461,384**	**198,640**	**12,455**	**6,608**	**3,367**	**2,249**	**145**	**118**	**411**	**296**	**22**
Persons											
55 years	566,878	207,292	13,169	6,960	3,115	2,725	158	160	514	274	14
65 years	362,451	159,534	14,164	7,469	2,823	3,230	174	143	635	432	32
Total	**929,329**	**366,826**	**27,333**	**14,429**	**5,938**	**5,955**	**332**	**303**	**1,149**	**706**	**46**

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.
(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the Register.
(c) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomous at histopathology.
(d) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report received by Register.
(e) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the Register.
(f) Cancer suspected at colonoscopy but not yet confirmed by histopathology.
(g) Cancer confirmed by histopathology.

Table 2.5.2: Cancer spread status, by age and sex, National Program, 7 August 2006 to 30 June 2008

	Cancer confirmed by histopathology					
	Submucosa or into but not through muscularis propria	Through muscular propria	Lymph node metastasis	Metastatic disease	Not reported	All confirmed cancers
Males						
55 years	6	n.p.	n.p.	n.p.	n.p.	7
65 years	9	n.p.	n.p.	n.p.	n.p.	17
Total	**15**	**8**	**n.p.**	**n.p.**	**n.p.**	**24**
Females						
55 years	3	n.p.	n.p.	n.p.	n.p.	7
65 years	6	n.p.	n.p.	n.p.	n.p.	15
Total	**9**	**10**	**n.p.**	**n.p.**	**n.p.**	**22**
Persons						
55 years	9	4	n.p.	n.p.	n.p.	14
65 years	15	14	n.p.	n.p.	n.p.	32
Total	**24**	**18**	**2**	**1**	**1**	**46**

Note: n.p. Not available for publication due to small numbers, but included in totals where applicable.

Source: Histopathology Report form section 4C

- Of the 46 cancers confirmed by histopathology by 30 June 2008, 24 (52%) were found to be in the submucosa or into but not through the muscularis propria; 18 (39%) were found to extend through the muscularis propria; 2 (4%) were found to have lymph node metastasis; and 1 case was found with metastatic disease.

3 Pilot Program

The Bowel Cancer Screening Pilot Program ran between November 2002 and June 2004 at three sites: parts of Melbourne and Adelaide and in Mackay, Queensland. People aged 55 to 74 years on 1 January 2003 were invited to participate. The evaluation report of the Pilot Program recommended that the frequency of screening for the NBCSP should be biennial.

In order to assess rescreening rates and outcomes of rescreening, the first phase of the NBCSP offered all members of the Pilot population the opportunity to screen, regardless of whether or not they participated in the initial screening round and regardless of where they now lived in Australia.

People involved in the Pilot were identified as either 'participants' (having participated in the initial screening round) or 'invitees' (people re-invited after not having participated in the initial screening round). In order to assess changes in screening activities over time, this report distinguishes between the two groups for participation, FOBT completion and positivity, and overall outcomes.

Age ranges are based on a person's age as at 1 January 2003. This is the date by which age cohorts were classified in the Pilot Program and will allow direct comparison to the original Pilot rates. Age-standardised rates are standardised to the 2001 Australian population.

3.1 Participation, Pilot Program

Invitations sent both to Pilot participants to rescreen and Pilot invitees to initially screen were included in this analysis.

The NBCSP commenced in August 2006 in Queensland and January 2007 in South Australia. The Pilot component of the NBCSP commenced in Victoria in May 2007. These timing variations were due to each state having responsibility for management of their program rollout for the Pilot site. Therefore, the numbers and rates presented in some tables cannot be used to compare participation between Pilot sites.

As many participants and invitees in the original 70–74 age cohort were aged over 75 at the time of invitation to the NBCSP, an alternate invitation method for these people was implemented in Victoria. Participants and invitees in this cohort were sent a pre-invitation letter and FOBT kits were only provided on request. Therefore, the rates presented for this age cohort may be over-estimated.

In addition, the participation rates presented in Table 3.1.1a represent an underestimate of the true screening participation rate. This is because the number of invitations in the denominator covers all invitations sent up to 30 June 2008. However, the number of responses in the numerator only covers people who have received the invitation and had time to respond. This underestimation does not affect comparisons between different groups, but it does mean that the absolute levels of participation are likely to be understated.

Summary

- There were 50,106 invitations issued to people involved in the Pilot Program to participate in the NBCSP. Of these, 1,491 people elected to opt off and 563 suspended participation in the Program. A further 28 invitations were sent to people outside the target age of 55–74 years as at 1 January 2003. These invitations are excluded from all analyses in this report.
- There were 24,006 invitations issued by 30 June 2008 to eligible Pilot participants to rescreen and 24,018 to eligible invitees who may wish to participate in this round of screening.
- The overall age-standardised participation rate for previous Pilot participants was 79.6%. The age-standardised rate for previous Pilot participants was 71.6% for Mackay and 82.8% for Adelaide. The age-standardised rate for Melbourne was 83.8%; however, this is affected by the alternate invitation method for the 70–74 year age cohort.
- The overall age-standardised participation rate for Pilot invitees was 20.9%. The age-standardised rate for Pilot invitees was 20.5% for Mackay and 22.8% for Adelaide. The age-standardised rate was for Melbourne 23.5%; however, this is affected by the alternate invitation method for the 70–74 year age cohort. These rates are significantly lower than the participation rates for previous Pilot participants.
- There was no difference in rescreening rates between males and females who participated in the Pilot Program.

Table 3.1.1a: Pilot respondents, by previous Pilot participation, all sites

	Pilot participants		Pilot invitees		All respondents	
	Number	Per cent	Number	Per cent	Number	Per cent
Males						
55–59	2,977	78.6	1,097	21.7	4,074	46.1
60–64	2,318	82.2	680	22.8	2,998	51.7
65–69	2,109	79.0	578	20.2	2,687	48.6
70–74	1,368	79.3	239	19.0	1,607	53.9
Total	**8,772**	**79.7**	**2,594**	**21.4**	**11,366**	**49.1**
ASR(A)	**. .**	**79.8**	**. .**	**21.1**	**. .**	**49.7**
95% CI	**. .**	**78.1–81.5**	**. .**	**20.3–22.0**	**. .**	**48.7–50.6**
Females						
55–59	3,560	80.7	1,079	24.3	4,639	52.5
60–64	2,738	82.0	609	20.6	3,347	53.2
65–69	2,437	77.8	497	17.0	2,934	48.5
70–74	1,622	76.5	292	18.7	1,914	51.9
Total	**10,357**	**79.6**	**2,477**	**20.9**	**12,834**	**51.6**
ASR(A)	**. .**	**79.6**	**. .**	**20.6**	**. .**	**51.7**
95% CI	**. .**	**77.9–81.3**	**. .**	**19.8–21.5**	**. .**	**50.7–52.6**
Persons						
55–59	6,537	79.7	2,176	23.0	8,713	49.3
60–64	5,056	82.1	1,289	21.7	6,345	52.4
65–69	4,546	78.4	1,075	18.6	5,621	48.5
70–74	2,990	77.7	531	18.8	3,521	52.8
Total	**19,129**	**79.7**	**5,071**	**21.1**	**24,200**	**50.4**
ASR(A)	**. .**	**79.6**	**. .**	**20.9**	**. .**	**50.7**
95% CI	**. .**	**78.5–80.8**	**. .**	**20.3–21.5**	**. .**	**50.0–51.3**

Notes

1. Respondents were defined as members of the eligible population who were sent an invitation to screen and returned a Participant Details form and/or a completed FOBT kit.
2. Percentages equal the number of people involved in the Pilot Program responding to the invitation to participate in the NBCSP as a proportion of the total number of people involved in the Pilot Program who were sent an invitation to participate in the NBCSP.
3. The denominator for 'Pilot participants' were those people who participated in the Pilot Program. The denominator for 'Pilot invitees' were those people invited to participate in the Pilot Program but did not participate. The denominator for 'All invitations' was the number of invitations to rescreen in the NBCSP sent to those in the Pilot Program.
4. Age cohorts refer to the age of the participant as at 1 January 2003.
5. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.
6. Melbourne participants and invitees in the 70–74 year age cohort were provided with a pre-invitation letter. FOBT kits were only provided on request.

Table 3.1.1b: Pilot respondents, by previous Pilot participation, Mackay

	Pilot participants		Pilot invitees		All respondents	
	Number	Per cent	Number	Per cent	Number	Per cent
Males						
55–59	778	72.2	197	21.0	975	48.4
60–64	594	76.5	130	25.2	724	56.1
65–69	469	70.4	91	21.9	560	51.8
70–74	329	68.7	35	11.7	364	46.8
Total	**2,170**	**72.4**	**453**	**20.9**	**2,623**	**50.8**
ASR(A)	**. .**	**72.2**	**. .**	**20.4**	**. .**	**50.8**
95% CI	**. .**	**69.2–75.4**	**. .**	**18.5–22.4**	**. .**	**48.8–52.8**
Females						
55–59	829	70.1	168	24.4	997	53.3
60–64	602	73.9	103	23.8	705	56.5
65–69	504	71.9	76	20.3	580	53.9
70–74	381	67.4	37	10.9	418	46.2
Total	**2,316**	**71.0**	**384**	**20.9**	**2,700**	**53.0**
ASR(A)	**. .**	**70.9**	**. .**	**20.6**	**. .**	**52.8**
95% CI	**. .**	**67.9–74.1**	**. .**	**18.8–22.7**	**. .**	**50.9–54.9**
Persons						
55–59	1,607	71.1	365	22.5	1,972	50.8
60–64	1,196	75.2	233	24.6	1,429	56.3
65–69	973	71.2	167	21.1	1,140	52.8
70–74	710	68.0	72	11.3	782	46.5
Total	**4,486**	**71.6**	**837**	**20.9**	**5,323**	**51.9**
ASR(A)	**. .**	**71.6**	**. .**	**20.5**	**. .**	**51.8**
95% CI	**. .**	**69.5–73.7**	**. .**	**19.1–21.9**	**. .**	**50.4–53.2**

Notes

1. Respondents were defined as members of the eligible population who were sent an invitation to screen and returned a Participant Details form and/or a completed FOBT kit.
2. Percentages equal the number of people involved in the Pilot Program responding to the invitation to participate in the NBCSP as a proportion of the total number of people involved in the Pilot Program who were sent an invitation to participate in the NBCSP.
3. The denominator for 'Pilot participants' were those people who participated in the Pilot Program. The denominator for 'Pilot invitees' were those people invited to participate in the Pilot Program but did not participate. The denominator for 'All invitations' was the number of invitations to rescreen in the NBCSP sent to those in the Pilot Program.
4. Age cohorts refer to the age of the participant as at 1 January 2003.
5. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

Table 3.1.1c: Pilot respondents, by previous Pilot participation, Adelaide

	Pilot participants		Pilot invitees		All respondents	
	Number	Per cent	Number	Per cent	Number	Per cent
Males						
55–59	916	81.6	369	24.2	1,285	48.6
60–64	697	85.4	231	26.8	928	55.3
65–69	779	84.1	215	23.3	994	53.7
70–74	686	79.2	148	17.8	834	49.1
Total	**3,078**	**82.5**	**963**	**23.3**	**4,041**	**51.3**
ASR(A)	**. .**	**82.7**	**. .**	**23.4**	**. .**	**51.6**
95% CI	**. .**	**79.8–85.7**	**. .**	**21.9–24.9**	**. .**	**50.0–53.2**
Females						
55–59	1,094	84.9	360	26.2	1,454	54.6
60–64	947	86.5	212	22.5	1,159	56.8
65–69	895	82.5	198	20.0	1,093	52.7
70–74	865	75.7	202	18.8	1,067	48.2
Total	**3,801**	**82.4**	**972**	**22.2**	**4,773**	**53.1**
ASR(A)	**. .**	**82.9**	**. .**	**22.4**	**. .**	**53.5**
95% CI	**. .**	**80.0–85.9**	**. .**	**20.9–23.9**	**. .**	**51.9–55.1**
Persons						
55–59	2,010	83.4	729	25.2	2,739	51.6
60–64	1,644	86.0	443	24.5	2,087	56.2
65–69	1,674	83.2	413	21.6	2,087	53.2
70–74	1,551	77.2	350	18.4	1,901	48.6
Total	**6,879**	**82.5**	**1,935**	**22.7**	**8,814**	**52.3**
ASR(A)	**. .**	**82.8**	**. .**	**22.8**	**. .**	**52.5**
95% CI	**. .**	**80.8–84.8**	**. .**	**21.8–23.9**	**. .**	**51.4–53.6**

Notes

1. Respondents were defined as members of the eligible population who were sent an invitation to screen and returned a Participant Details form and/or a completed FOBT kit.
2. Percentages equal the number of people involved in the Pilot Program responding to the invitation to participate in the NBCSP as a proportion of the total number of people involved in the Pilot Program who were sent an invitation to participate in the NBCSP.
3. The denominator for 'Pilot participants' were those people who participated in the Pilot Program. The denominator for 'Pilot invitees' were those people invited to participate in the Pilot Program but did not participate. The denominator for 'All invitations' was the number of invitations to rescreen in the NBCSP sent to those in the Pilot Program.
4. Age cohorts refer to the age of the participant as at 1 January 2003.
5. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

Table 3.1.1d: Pilot respondents, by previous Pilot participation, Melbourne

	Pilot participants		Pilot invitees		All respondents	
	Number	Per cent	Number	Per cent	Number	Per cent
Males						
55–59	1,283	80.9	531	20.5	1,814	43.5
60–64	1,027	83.6	319	19.9	1,346	47.5
65–69	861	79.9	272	17.9	1,133	43.6
70–74	353	92.9	56	45.2	409	81.2
Total	**3,524**	**82.5**	**1,178**	**20.2**	**4,702**	**46.5**
ASR(A)	**. .**	**83.8**	**. .**	**24.8**	**. .**	**52.2**
95% CI	**. .**	**80.8–86.8**	**. .**	**22.2–27.4**	**. .**	**50.3–54.1**
Females						
55–59	1,637	84.3	551	23.2	2,188	50.8
60–64	1,189	83.2	294	18.6	1,483	49.3
65–69	1,038	77.1	223	14.4	1,261	43.5
70–74	376	90.8	53	34.9	429	75.8
Total	**4,240**	**82.7**	**1,121**	**19.8**	**5,361**	**49.7**
ASR(A)	**. .**	**83.8**	**. .**	**22.5**	**. .**	**53.9**
95% CI	**. .**	**80.8–86.8**	**. .**	**19.9–25.1**	**. .**	**52.0–55.8**
Persons						
55–59	2,920	82.8	1,082	21.8	4,002	47.2
60–64	2,216	83.4	613	19.2	2,829	48.4
65–69	1,899	78.3	495	16.1	2,394	43.5
70–74	729	91.8	109	39.5	838	78.3
Total	**7,764**	**82.6**	**2,299**	**20.0**	**10,063**	**48.2**
ASR(A)	**. .**	**83.8**	**. .**	**23.5**	**. .**	**53.0**
95% CI	**. .**	**81.8–85.9**	**. .**	**21.9–25.2**	**. .**	**51.7–54.3**

Notes

1. Respondents were defined as members of the eligible population who were sent an invitation to screen and returned a Participant Details form and/or a completed FOBT kit.
2. Percentages equal the number of people involved in the Pilot Program responding to the invitation to participate in the NBCSP as a proportion of the total number of people involved in the Pilot Program who were sent an invitation to participate in the NBCSP.
3. The denominator for 'Pilot participants' were those people who participated in the Pilot Program. The denominator for 'Pilot invitees' were those people invited to participate in the Pilot Program but did not participate. The denominator for 'All invitations' was the number of invitations to rescreen in the NBCSP sent to those in the Pilot Program.
4. Age cohorts refer to the age of the participant as at 1 January 2003.
5. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.
6. Melbourne participants and invitees in the 70–74 year age cohort were provided with a pre-invitation letter. FOBT kits were only provided on request.

- High participation for people in the 70–74 year age cohort for Melbourne was due to the alternate invitation method employed for these people.

3.2 FOBT outcomes, Pilot Program

This section of the report covers all FOBT results that were returned to the Register as at 30 June 2008. Each person was initially sent one FOBT kit containing two samples to be completed and returned to the pathology laboratory for analysis. In some cases a person had returned more than one FOBT. In these cases all of their results were included. Results were excluded where the respondent was outside the age of 55 to 74 years as at 1 January 2003, or where the respondent opted off or suspended from the NBCSP.

Pathologists categorise returned FOBTs into three groups: correctly completed, incorrectly completed or unsatisfactory. A kit may be incorrectly completed or unsatisfactory (and thus ineligible for analysis) due to:

- the participant not completing the test correctly
- the completed kit having expired
- a delay of more than two weeks between the taking of the two samples
- the kit having taken more than one month to arrive at the pathology laboratory.

Participants with FOBTs that were not correctly completed were requested to complete another FOBT.

FOBT results are classified by pathologists as either positive (blood is detected in either sample), negative (blood is not detected in either sample) or inconclusive (only one sample was taken, and it was negative). See tables 3.2.2a and 3.2.2b for FOBT result details. Participants with an inconclusive FOBT result are requested to complete another FOBT kit. See Appendix A for details of the screening pathway.

The classification of FOBT by return status and positivity was based only on returned kits. In analysing return status, the dependent variable was whether or not the test was correctly completed. In analysing positivity rates, only correctly completed FOBTs were included in the denominator and the dependent variable was whether or not the result was positive (tables 3.2.3a and 3.2.3b).

Table 3.2.1: Pilot FOBT completion status, all sites

	Pilot participants				Pilot invitees				
	FOBT correctly completed		FOBT not correctly completed		FOBT correctly completed		FOBT not correctly completed		All FOBTs
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males									
55–59	2,982	96.9	94	3.1	1,081	95.4	52	4.6	4,209
60–64	2,306	96.2	92	3.8	667	94.7	37	5.3	3,102
65–69	2,099	95.1	109	4.9	564	93.7	38	6.3	2,810
70–74	1,376	95.5	65	4.5	227	91.2	22	8.8	1,690
Total	**8,763**	**96.1**	**360**	**3.9**	**2,539**	**94.5**	**149**	**5.5**	**11,811**
ASR(A)	. .	**96.0**	. .	**4.0**	. .	**94.0**	. .	**6.0**	. .
95% CI	. .	**94.0–98.1**	. .	**3.6–4.4**	. .	**90.1–98.0**	. .	**5.0–7.1**	. .
Females									
55–59	3,536	96.1	145	3.9	1,048	92.5	85	7.5	4,814
60–64	2,733	95.4	132	4.6	589	91.9	52	8.1	3,506
65–69	2,427	94.1	152	5.9	479	88.1	65	11.9	3,123
70–74	1,608	93.8	107	6.2	277	88.5	36	11.5	2,028
Total	**10,304**	**95.1**	**536**	**4.9**	**2,393**	**91.0**	**238**	**9.0**	**13,471**
ASR(A)	. .	**95.0**	. .	**5.0**	. .	**90.6**	. .	**9.4**	. .
95% CI	. .	**93.2–96.9**	. .	**4.6–5.4**	. .	**86.8–94.4**	. .	**8.2–10.8**	. .
Persons									
55–59	6,518	96.5	239	3.5	2,129	94.0	137	6.0	9,023
60–64	5,039	95.7	224	4.3	1,256	93.4	89	6.6	6,608
65–69	4,526	94.5	261	5.5	1,043	91.0	103	9.0	5,933
70–74	2,984	94.6	172	5.4	504	89.7	58	10.3	3,718
Total	**19,067**	**95.5**	**896**	**4.5**	**4,932**	**92.7**	**387**	**7.3**	**25,282**
ASR(A)	. .	**95.5**	. .	**4.5**	. .	**92.3**	. .	**7.7**	. .
95% CI	. .	**94.1–96.8**	. .	**4.2–4.8**	. .	**89.6–95.1**	. .	**6.9–8.6**	. .

Notes

1. FOBT refers to an entire test kit. Completion status was determined by the pathologist performing the FOBT analysis. It indicates the status of the FOBT received by the laboratory. A participant or invitee may have completed more than one FOBT kit.
2. 'Pilot participants' were those people who previously participated in the Pilot Program. 'Pilot invitees' were those people previously invited to participate in the Pilot Program but did not participate.
3. Percentages equal the number of FOBT kits received in each status category as a proportion of the total number of FOBT kits received.
4. Age cohorts refer to the age of the participant as at 1 January 2003.
5. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- There were 25,282 FOBT kits returned by 30 June 2008 of which 19,963 were from previous Pilot participants and 5,319 were from Pilot invitees who had not previously participated in bowel cancer screening.
- The majority of kits were correctly completed. The age-standardised rate of correctly completed FOBTs was higher for previous Pilot participants (95.5%) than invitees who were participating for the first time (92.3%). This difference was not statistically significant.

Table 3.2.2a: Pilot FOBT results, participants

	FOBT positive		FOBT negative		FOBT inconclusive		All results
	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males							
55–59	231	7.7	2,725	91.4	26	0.9	2,982
60–64	201	8.7	2,083	90.3	22	1.0	2,306
65–69	258	12.3	1,824	86.9	17	0.8	2,099
70–74	160	11.6	1,200	87.2	16	1.2	1,376
Total	**850**	**9.7**	**7,832**	**89.4**	**81**	**0.9**	**8,763**
ASR(A)	. .	**9.8**	. .	**89.3**	. .	**0.9**	. .
95% CI	. .	**9.1–10.5**	. .	**87.3–91.3**	. .	**0.7–1.2**	. .
Females							
55–59	223	6.3	3,297	93.2	16	0.5	3,536
60–64	193	7.1	2,509	91.8	31	1.1	2,733
65–69	234	9.6	2,168	89.3	25	1.0	2,427
70–74	165	10.3	1,427	88.7	16	1.0	1,608
Total	**815**	**7.9**	**9,401**	**91.2**	**88**	**0.9**	**10,304**
ASR(A)	. .	**8.0**	. .	**91.1**	. .	**0.9**	. .
95% CI	. .	**7.4–8.7**	. .	**89.1–93.1**	. .	**0.7–1.1**	. .
Persons							
55–59	454	7.0	6,022	92.4	42	0.6	6,518
60–64	394	7.8	4,592	91.1	53	1.1	5,039
65–69	492	10.9	3,992	88.2	42	0.9	4,526
70–74	325	10.9	2,627	88.0	32	1.1	2,984
Total	**1,665**	**8.7**	**17,233**	**90.4**	**169**	**0.9**	**19,067**
ASR(A)	. .	**8.8**	. .	**90.3**	. .	**0.9**	. .
95% CI	. .	**8.4–9.3**	. .	**88.9–91.6**	. .	**0.8–1.0**	. .

Notes

1. Percentages equal the number of FOBT results in each category in terms of 'positive', 'negative' and 'inconclusive' as a proportion of the total number of correctly completed FOBTs.
2. Age cohorts refer to the participant's age as at 1 January 2003.
3. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- There were 19,067 correctly completed FOBTs recorded for the period 7 August 2006 to 30 June 2008 for previous Pilot participants. Of these, 1,665 (8.7%) were positive and 169 (0.9%) were inconclusive.
- The age-standardised rate of positive FOBT results was 9.8% for males. This was significantly higher than the age-standardised rate of 8.0% for females and was consistent with higher incidence of bowel cancer in males than females.
- The proportion of FOBT positive results increased with age. The proportion was lowest in the 55–59 year age cohort (7.0%) and highest for people in the 65–69 and 70–74 year age cohorts (10.9%).

Table 3.2.2b: Pilot FOBT results, invitees

	FOBT positive		FOBT negative		FOBT inconclusive		All results
	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males							
55–59	119	11.0	948	87.7	14	1.3	1,081
60–64	82	12.3	579	86.8	6	0.9	667
65–69	88	15.6	469	83.2	7	1.2	564
70–74	33	14.5	193	85.0	1	0.4	227
Total	**322**	**12.7**	**2,189**	**86.2**	**28**	**1.1**	**2,539**
ASR(A)	. .	**13.1**	. .	**85.9**	. .	**1.0**	. .
95% CI	. .	**11.5–14.7**	. .	**82.1–89.9**	. .	**0.7–1.5**	. .
Females							
55–59	79	7.5	963	91.9	6	0.6	1,048
60–64	45	7.6	541	91.9	3	0.5	589
65–69	67	14.0	405	84.6	7	1.5	479
70–74	36	13.0	239	86.3	2	0.7	277
Total	**227**	**9.5**	**2,148**	**89.8**	**18**	**0.8**	**2,393**
ASR(A)	. .	**10.1**	. .	**89.2**	. .	**0.8**	. .
95% CI	. .	**8.6–11.7**	. .	**85.3–93.1**	. .	**0.4–1.3**	. .
Persons							
55–59	198	9.3	1,911	89.8	20	0.9	2,129
60–64	127	10.1	1,120	89.2	9	0.7	1,256
65–69	155	14.9	874	83.8	14	1.3	1,043
70–74	69	13.7	432	85.7	3	0.6	504
Total	**549**	**11.1**	**4,337**	**87.9**	**46**	**0.9**	**4,932**
ASR(A)	. .	**11.6**	. .	**87.5**	. .	**0.9**	. .
95% CI	. .	**10.6–12.7**	. .	**84.8–90.3**	. .	**0.6–1.2**	. .

Notes

1. Percentages equal the number of FOBT results in each category in terms of 'positive', 'negative' and 'inconclusive' as a proportion of the total number of correctly completed FOBTs.
2. Age cohorts refer to the participant's age as at 1 January 2003.
3. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- There were 4,932 correctly completed FOBTs recorded for the period 7 August 2006 to 30 June 2008 for previous Pilot invitees. Of these, 549 (11.1%) were positive and 46 (0.9%) were inconclusive.
- The age-standardised positivity rate was 13.1% for males and 10.1% for females, though this difference was not statistically significant.
- The proportion of positive FOBT results increased with age; this is consistent with trends in bowel cancer incidence. The lowest proportion was in the 55–59 year age cohort (9.3%) and highest for people in the 65–69 year age cohort (14.9%).

Table 3.2.3a: Pilot FOBT positivity proportions, participants

	Number of positive results	Per cent	Total number of valid results
Males			
55–59	231	7.8	2,956
60–64	201	8.8	2,284
65–69	258	12.4	2,082
70–74	160	11.8	1,360
Total	**850**	**9.8**	**8,682**
ASR(A)	. .	**9.9**	. .
95% CI	. .	**9.2–10.6**	. .
Females			
55–59	223	6.3	3,520
60–64	193	7.1	2,702
65–69	234	9.7	2,402
70–74	165	10.4	1,592
Total	**815**	**8.0**	**10,216**
ASR(A)	. .	**8.1**	. .
95% CI	. .	**7.4–8.8**	. .
Persons			
55–59	454	7.0	6,476
60–64	394	7.9	4,986
65–69	492	11.0	4,484
70–74	325	11.0	2,952
Total	**1,665**	**8.8**	**18,898**
ASR(A)	. .	**8.9**	. .
95% CI	. .	**8.5–9.4**	. .

Notes

1. Percentages equal the number of FOBT positive results as a proportion of the total number of valid results.
2. A valid result was either positive or negative; inconclusive results were excluded.
3. Age cohorts refer to the participant's age as at 1 January 2003.
4. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- The overall age-standardised positivity rate for Pilot participants was 8.9%. The lowest proportion of positive FOBT results was in the 55–59 year age cohort (7.0%) and the highest was in the 65–69 and 70–74 year age cohorts (11.0%).
- The age-standardised positivity rate was 9.9% for males which was significantly higher than that for females (8.1%).

Table 3.2.3b: Pilot FOBT positivity rates, invitees

	Number of positive results	Per cent	Total number of valid results
Males			
55–59	119	11.2	1,067
60–64	82	12.4	661
65–69	88	15.8	557
70–74	33	14.6	226
Total	**322**	**12.8**	**2,511**
ASR(A)	. .	**13.2**	. .
95% CI	. .	**11.7–14.8**	. .
Females			
55–59	79	7.6	1,042
60–64	45	7.7	586
65–69	67	14.2	472
70–74	36	13.1	275
Total	**227**	**9.6**	**2,375**
ASR(A)	. .	**10.2**	. .
95% CI	. .	**8.6–11.8**	. .
Persons			
55–59	198	9.4	2,109
60–64	127	10.2	1,247
65–69	155	15.1	1,029
70–74	69	13.8	501
Total	**549**	**11.2**	**4,886**
ASR(A)	. .	**11.7**	. .
95% CI	. .	**10.7–12.8**	. .

Notes

1. Percentages equal the number of FOBT positive results as a proportion of the total number of valid results.
2. A valid result was either positive or negative; inconclusive results were excluded.
3. Age cohorts refer to the participant's age as at 1 January 2003.
4. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- The overall age-standardised positivity rate for Pilot invitees was 11.7%. The lowest proportion of positive FOBT results was in the 55–59 year age cohort (9.4%) and the highest was in the 65–69 year age cohort (15.1%).
- The age-standardised positivity rate for males was 13.2% compared with 10.2% for females. This difference was not statistically significant.
- The age-standardised positivity rate of Pilot invitees who underwent initial screening (11.7%) was significantly higher than the age-standardised rate of 8.9% for Pilot participants (Table 3.2.3a).

3.3 Primary health care practitioner visits, Pilot Program

Only primary health care practitioner consultations recorded in the Register at 30 June 2008 were included in this section.

Table 3.3.1: Primary health care practitioner consultations recorded following a positive FOBT result, by Pilot site

	Mackay		Adelaide		Melbourne		All sites	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Males								
55–59	53	64.6	49	48.0	103	62.0	205	58.6
60–64	44	78.6	35	42.7	85	58.6	164	58.0
65–69	65	77.4	69	55.2	79	57.7	213	61.6
70–74	36	81.8	46	50.5	32	55.2	114	59.1
Total	**198**	**74.4**	**199**	**49.8**	**299**	**59.1**	**696**	**59.4**
ASR(A)	**. .**	**74.5**	**. .**	**48.7**	**. .**	**58.8**	**. .**	**59.2**
95% CI	**. .**	**64.2–85.9**	**. .**	**42.0–56.2**	**. .**	**52.1–66.1**	**. .**	**54.8–63.8**
Females								
55–59	49	81.7	47	58.8	95	58.6	191	63.2
60–64	33	71.7	43	56.6	75	64.7	151	63.4
65–69	38	80.9	62	60.8	96	63.2	196	65.1
70–74	36	80.0	63	55.3	23	54.8	122	60.7
Total	**156**	**78.8**	**215**	**57.8**	**289**	**61.2**	**660**	**63.3**
ASR(A)	**. .**	**78.6**	**. .**	**57.9**	**. .**	**60.4**	**. .**	**63.2**
95% CI	**. .**	**68.3–90.1**	**. .**	**51.2–65.4**	**. .**	**53.7–67.7**	**. .**	**58.8–67.8**
Persons								
55–59	102	71.8	96	52.7	198	60.4	396	60.7
60–64	77	75.5	78	49.4	160	61.3	315	60.5
65–69	103	78.6	131	57.7	175	60.6	409	63.2
70–74	72	80.9	109	53.2	55	55.0	236	59.9
Total	**354**	**76.3**	**414**	**53.6**	**588**	**60.1**	**1,356**	**61.2**
ASR(A)	**. .**	**76.1**	**. .**	**53.0**	**. .**	**59.6**	**. .**	**61.0**
95% CI	**. .**	**68.3–84.6**	**. .**	**47.8–58.6**	**. .**	**54.6–64.9**	**. .**	**57.8–64.4**

Notes

1. Percentages equal the number of primary health care practitioner consultations recorded following a positive FOBT as a proportion of the total number of positive FOBT results.
2. Age cohorts refer to the participant's age as at 1 January 2003.
3. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- There were 1,356 primary health care practitioner consultations following a positive FOBT result recorded by the Register for the period 7 August 2006 to 30 June 2008.
- Age-standardised primary health care practitioner consultations reported were significantly higher for Mackay (76.1%) than for Adelaide (53.0%) and Melbourne (59.6%).

Table 3.3.2: Referrals for colonoscopy or other examination following a positive FOBT result

	Referral for colonoscopy		Referral for other examination		No referral		All recorded GP visits
	Number	Per cent	Number	Per cent	Number	Per cent	Number
Males							
55–59	178	86.8	9	4.4	18	8.8	205
60–64	143	87.2	12	7.3	9	5.5	164
65–69	180	84.5	6	2.8	27	12.7	213
70–74	91	79.8	7	6.1	16	14.0	114
Total	**592**	**85.1**	**34**	**4.9**	**70**	**10.1**	**696**
ASR(A)	. .	**85.0**	. .	**5.2**	. .	**9.8**	. .
95% CI	. .	**78.2–92.3**	. .	**3.6–7.2**	. .	**7.6–12.5**	. .
Females							
55–59	175	91.6	3	1.6	13	6.8	191
60–64	131	86.8	4	2.6	16	10.6	151
65–69	164	83.7	7	3.6	25	12.8	196
70–74	101	82.8	10	8.2	11	9.0	122
Total	**571**	**86.5**	**24**	**3.6**	**65**	**9.8**	**660**
ASR(A)	. .	**86.8**	. .	**3.6**	. .	**9.5**	. .
95% CI	. .	**80.0–94.1**	. .	**2.0–5.8**	. .	**7.3–12.2**	. .
Persons							
55–59	353	89.1	12	3.0	31	7.8	396
60–64	274	87.0	16	5.1	25	7.9	315
65–69	344	84.1	13	3.2	52	12.7	409
70–74	192	81.4	17	7.2	27	11.4	236
Total	**1,163**	**85.8**	**58**	**4.3**	**135**	**10.0**	**1,356**
ASR(A)	. .	**85.9**	. .	**4.4**	. .	**9.6**	. .
95% CI	. .	**81.0–91.1**	. .	**3.4–5.8**	. .	**8.1–11.5**	. .

Notes

1. Percentages equal the number of consultations following a positive FOBT who received/did not receive a referral for either colonoscopy or other examination as a proportion of the total number of consultations recorded following a positive FOBT result.
2. Age cohorts refer to the participant's age as at 1 January 2003.
3. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.

- Of the 1,356 primary health care practitioner consultations recorded following a positive FOBT result, 1,163 (85.8%) resulted in referral for colonoscopy, 58 (4.3%) in referral for other examination and 135 (10.0%) in no referral. Reasons for non-referral for colonoscopy by a primary health care practitioner may include previous diagnosis of bowel cancer; limited life expectancy of the patient; the patient having had a colonoscopy within the previous 18 months; patient declining a colonoscopy; or patient having significant co-morbidity or other medical conditions precluding them from undergoing a colonoscopy.

3.4 Colonoscopy, Pilot Program

Only Colonoscopy Report forms recorded in the Register at 30 June 2008 were included in this analysis.

Table 3.4.1: Colonoscopies recorded following a positive FOBT result, by Pilot site

	Mackay		Adelaide		Melbourne		All sites	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Males								
55–59	53	64.6	74	72.5	125	75.3	252	72.0
60–64	37	66.1	64	78.0	95	65.5	196	69.3
65–69	46	54.8	94	75.2	98	71.5	238	68.8
70–74	25	56.8	66	72.5	43	74.1	134	69.4
Total	**161**	**60.5**	**298**	**74.5**	**361**	**71.3**	**820**	**70.0**
ASR(A)	**. .**	**61.3**	**. .**	**74.6**	**. .**	**71.7**	**. .**	**70.1**
95% CI	**. .**	**52.0–71.8**	**. .**	**66.1–83.8**	**. .**	**64.2–79.8**	**. .**	**65.3–75.1**
Females								
55–59	38	63.3	71	88.8	125	77.2	234	77.5
60–64	24	52.2	63	82.9	79	68.1	166	69.7
65–69	32	68.1	74	72.5	105	69.1	211	70.1
70–74	21	46.7	78	68.4	34	81.0	133	66.2
Total	**115**	**58.1**	**286**	**76.9**	**343**	**72.7**	**744**	**71.4**
ASR(A)	**. .**	**58.1**	**. .**	**79.6**	**. .**	**73.8**	**. .**	**71.6**
95% CI	**. .**	**48.8–68.7**	**. .**	**71.1–88.9**	**. .**	**66.3–81.9**	**. .**	**66.8–76.6**
Persons								
55–59	91	64.1	145	79.7	250	76.2	486	74.5
60–64	61	59.8	127	80.4	174	66.7	362	69.5
65–69	78	59.5	168	74.0	203	70.2	449	69.4
70–74	46	51.7	144	70.2	77	77.0	267	67.8
Total	**276**	**59.5**	**584**	**75.6**	**704**	**72.0**	**1,564**	**70.6**
ASR(A)	**. .**	**59.5**	**. .**	**76.7**	**. .**	**72.6**	**. .**	**70.7**
95% CI	**. .**	**52.6–67.0**	**. .**	**70.4–83.5**	**. .**	**67.0–78.5**	**. .**	**67.2–74.4**

Notes

1. Percentages of colonoscopy follow-up equal the number of colonoscopies recorded following a positive FOBT as a proportion of the total number of positive FOBT results.
2. Age cohorts refer to the participant's age as at 1 January 2003.
3. ASR(A) refers to the age-standardised rate standardised to the Australian 2001 population.
4. Melbourne commenced the screening program for Pilot participants and invitees on 14 May 2007.

- There were 1,564 colonoscopies recorded following a positive FOBT result between 7 August 2006 and 30 June 2008 as part of the Pilot Program. This represented 59.5% of the number of positive FOBT results recorded for Mackay, 75.6% for Adelaide and 72.0% for Melbourne.

3.5 Overall outcomes, Pilot Program

This section presents the overall outcomes from the Pilot Program as at 30 June 2008 at a participant level, based on people who returned a positive FOBT result and who proceeded to colonoscopy. This section differs from the previous sections that covered FOBT, consultation and colonoscopy-level data.

Outcomes at key pathway points for the Pilot Program are summarised in Figure 3.5.1. Current screening outcomes for all people invited to participate in the Pilot Program are tabulated by Pilot site in Table 3.5.1 and by previous Pilot participation in Table 3.5.2.

For participants who returned more than one FOBT, the results were counted according to the following order of precedence: a positive result was selected over any other result, and a negative result was selected over an inconclusive result.

A person who has had a colonoscopy was classified as having confirmed cancer, suspected cancer, adenoma or neither cancer nor adenoma. For those people with more than one polyp or cancer found at colonoscopy the most serious result was counted.

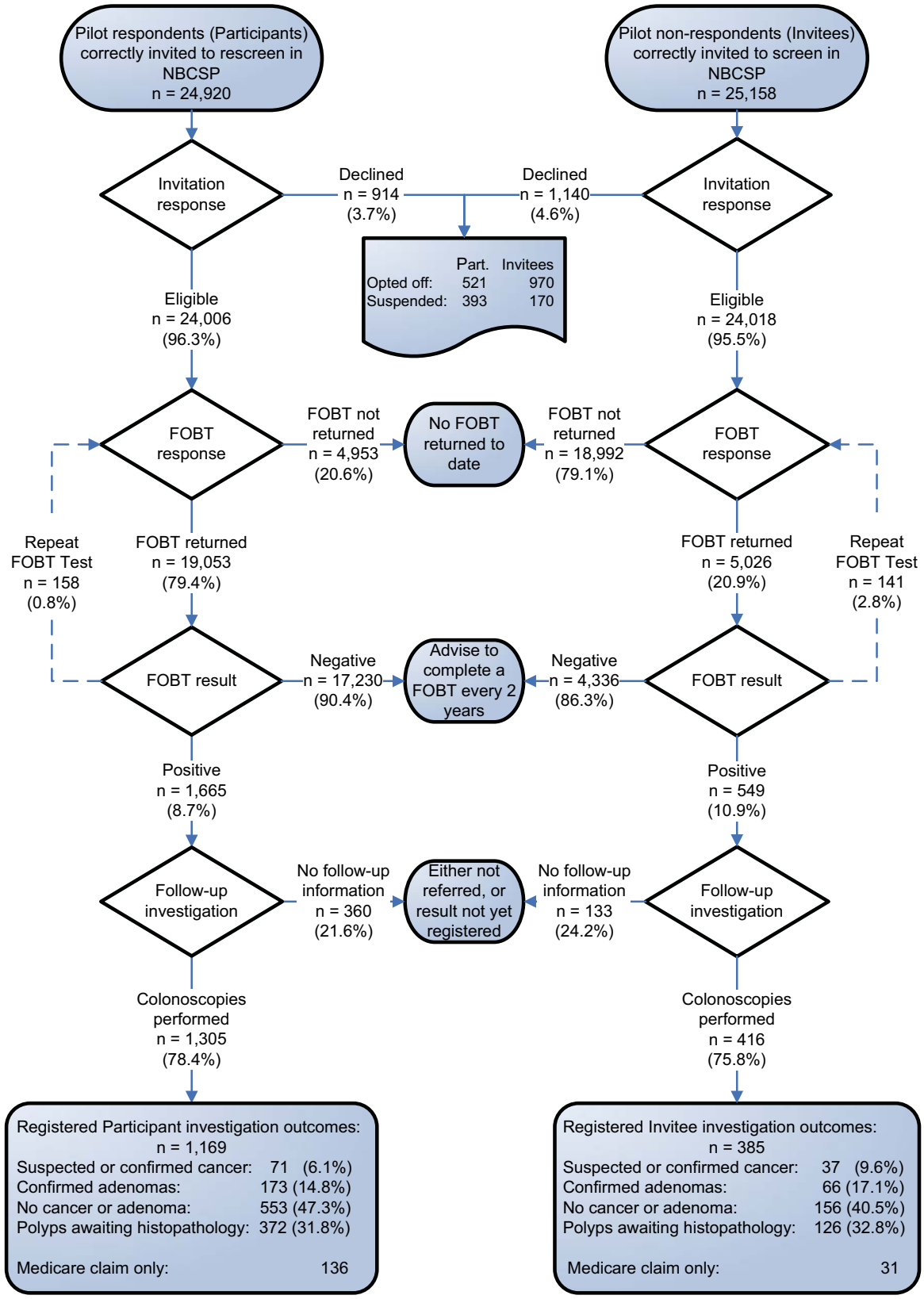
Data for colonoscopy outcomes were derived from information recorded on both the Colonoscopy Report form and the Histopathology Report form. As reporting by clinicians to the NBCSP is not mandatory, a person may have a Colonoscopy Report form, a Histopathology Report form or both recorded in the Register. Outcomes are classified as follows:

- Confirmed cancers were those cancers confirmed by histopathology with or without a corresponding Colonoscopy Report form. Confirmed cancers are given a higher priority than suspected cancer.
- Suspected cancers were abnormalities detected at colonoscopy that the colonoscopist suspects to be cancer but are not yet confirmed by histopathology.
- Where a person had a confirmed or suspected cancer, this was given higher priority than adenomas. Adenoma classifications are described in Appendix B.
- Polyps awaiting histopathology were those people with polyps detected at colonoscopy that had not yet had an associated Histopathology Report form recorded. It is possible that some of these may be found to be adenomas or cancers. Therefore, final outcome data for all colonoscopies is not possible until all tests awaiting histopathology have been completed and recorded.
- Participants recorded as having no cancer or adenoma were those that had no polyps or suspected cancers detected at colonoscopy, or had polyps detected at colonoscopy that were classified as non-adenomous by histopathology.

Tables 3.5.1 and 3.5.2 are interim tables only, as virtually all cancers must be ultimately confirmed by pathology. Due to time lags in the screening pathway, and lack of final outcome data, positive predictive values cannot be calculated. Data presented in Table 3.5.1 may be affected by the late commencement of the Pilot Program in Melbourne, and therefore should be interpreted with caution.

Summary

- There were 50,106 invitations to screen in the NBCSP sent to people involved in the Pilot Program, 28 of which were ineligible due to being sent to people outside the target age. Of the eligible invitations, 2,054 people opted off or suspended participation in the NBCSP for various reasons, including having been previously diagnosed with bowel cancer.
- Of the 24,006 invitations sent to eligible Pilot participants, 19,053 (79.4%) participated by returning a completed FOBT by 30 June 2008. However, only 5,026 (20.9%) of the 24,018 eligible Pilot invitees agreed to participate.
- Of those participants who returned FOBT kits, 8.7% had a positive result, whereas 10.9% of those invitees who returned FOBT kits had a positive result.
- Colonoscopies were recorded in the Register for 78.4% of Pilot participants and 75.8% of Pilot invitees with a positive FOBT result. This difference was not statistically significant.
- Of the 1,554 people with positive FOBT results who underwent a colonoscopy and had outcome results recorded in the Register, there were 4 confirmed cancers, 104 suspected cancers and 239 confirmed adenomas. Although the proportion of suspected or confirmed cancers detected was higher in invitees (9.6%) than participants (6.1%), this result was not statistically significant (Figure 3.5.1).



Note: The number of invitees screened was small; care should be exercised when interpreting proportions.

Source: National Bowel Cancer Screening Program Register.

Figure 3.5.1: NBCSP participant outcomes, Pilot Program, 7 August 2006 to 30 June 2008

Table 3.5.1: Preliminary overall participant summary outcomes, by Pilot site, Pilot Program, 7 August 2006 to 30 June 2008

					Colonoscopy outcomes						
Site	Invitations issued[(a)]	Number screened[(b)]	Total positive FOBT	Colonoscopies with outcome data registered	No cancer or adenoma[(c)]	Polyps awaiting histo-pathology[(d)]	Confirmed diminutive adenoma[(e)]	Confirmed small adenoma[(e)]	Confirmed advanced adenoma[(e)]	Suspected cancer[(f)]	Confirmed cancer[(g)]
Mackay	10,263	5,301	464	276	109	62	15	19	59	10	2
Adelaide	16,862	8,755	772	586	258	229	18	18	28	35	0
Melbourne	20,899	10,023	978	692	342	207	14	23	45	59	2
All sites	**48,024**	**24,079**	**2,214**	**1,554**	**709**	**498**	**47**	**60**	**132**	**104**	**4**

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.

(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the Register.

(c) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomous at histopathology.

(d) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report received by Register.

(e) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the Register.

(f) Cancer suspected at colonoscopy but not yet confirmed by histopathology.

(g) Cancer confirmed by histopathology.

Note: The Pilot Program commenced in Melbourne on 14 May 2007.

- There were 48,024 invitations to screen in the NBCSP issued to eligible people previously invited to participate in the Pilot Program. Of these 10,263 were to people from Mackay, 16,862 to people from Adelaide and 20,899 to people from Melbourne.
- As the screening program for Pilot participants and invitees in Melbourne commenced in May 2007, people from this Pilot site may not be as advanced on the screening pathway as people from Mackay and Adelaide.

Table 3.5.2: Preliminary overall participant summary outcomes by previous Pilot participation status, Pilot Program, 7 August 2006 to 30 June 2008

					Colonoscopy outcomes						
Status	**Invitations issued[a]**	**Number screened[b]**	**Total positive FOBT**	**Colonoscopies with outcome data registered**	**No cancer or adenoma[c]**	**Polyps awaiting histo-pathology[d]**	**Confirmed diminutive adenoma[e]**	**Confirmed small adenoma[e]**	**Confirmed advanced adenoma[e]**	**Suspected cancer[f]**	**Confirmed cancer[g]**
Participant[h]	24,006	19,053	1,665	1,169	553	372	38	46	89	70	1
Invitee[i]	24,018	5,026	549	385	156	126	9	14	43	34	3
Total	**48,024**	**24,079**	**2,214**	**1,554**	**709**	**498**	**47**	**60**	**132**	**104**	**4**

(a) 'Invitations issued' equals the number of eligible people who were issued an invitation to screen in the NBCSP.

(b) 'Number screened' equals the number of people who completed an FOBT kit and had results forwarded to the Register.

(c) No cancers were suspected at colonoscopy or confirmed non-cancerous by histopathology; no polyps identified at colonoscopy, or polyps confirmed as non-adenomous at histopathology.

(d) Polyps detected at colonoscopy and sent to histopathology for analysis. No Histopathology Report received by Register.

(e) Confirmed adenoma figures were based on a combination of the Colonoscopy and Histopathology Report forms for a person received by the Register.

(f) Cancer suspected at colonoscopy but not yet confirmed by histopathology.

(g) Cancer confirmed by histopathology.

(h) 'Participant' refers to participants in the Pilot Program who were invited to rescreen in the NBCSP

(i) 'Invitee' refers to invitees from the Pilot Program who did not participate, and were re-invited to screen in the NBCSP.

- There were 19,053 participants from the Pilot Program who rescreened in the NBCSP between 7 August 2006 and 30 June 2008 compared with 5,026 invitees from the Pilot Program who underwent initial screening.
- Positive FOBT results were returned for 8.7% of Pilot participants who rescreened in the NBCSP compared with 10.9% for Pilot invitees who underwent initial screening.
- There were 71 previous Pilot participants with suspected or confirmed cancer, representing 6.1% of those people who have had a positive FOBT result investigated by colonoscopy. There were 37 Pilot invitees who underwent initial screening that had suspected or confirmed cancer, representing 9.6% of the positive FOBT results for invitees investigated by colonoscopy.

4 Bowel cancer incidence and mortality

Introduction

Bowel cancer comprises cancer of the colon and cancer of the rectum, collectively known as colorectal cancer. This chapter provides bowel cancer incidence and mortality data, grouped and tabulated by age, sex and population subgroups. Detailed numbers and rates for bowel cancer in Australia over time can be found in the AIHW *Australian Cancer Incidence and Mortality* (ACIM) workbook for colorectal cancer, an interactive Excel™ workbook which includes incidence data from 1982 to 2005 and mortality data from 1968 to 2006. The ACIM workbooks are available at <www.aihw.gov.au/cancer/data/acim_books/index.cfm>.

Incidence

In 2005:

- There were 13,076 people diagnosed with bowel cancer (7,181 males; 5,895 females). Bowel cancer accounted for 13.0% of all invasive cancers diagnosed, making it the second most commonly diagnosed cancer in Australia.
- The age-standardised incidence rate for bowel cancer was 73 per 100,000 males, 51 per 100,000 females and 61 per 100,000 persons.
- The risk of being diagnosed with bowel cancer by age 85 years was 1 in 10 for males, 1 in 15 for females and 1 in 12 for persons.
- The average age of diagnosis was 68.7 years for males, 70.6 years for females and 69.6 years for persons.

Mortality

In 2006:

- There were 3,801 deaths from bowel cancer in Australia (2,126 males; 1,675 females). Bowel cancer accounted for 9.7% of all deaths from invasive cancers, second only to lung cancer.
- The age-standardised death rate was 22 per 100,000 males, 14 per 100,000 females and 17 per 100,000 persons.
- The risk of dying from bowel cancer by age 85 years was 1 in 35 for males, 1 in 53 for females and 1 in 43 for persons.
- There were 48,538 potential years of life lost by age 85 years due to bowel cancer (30,050 for males; 18,488 for females).

4.1 Incidence of bowel cancer

An objective of the NBCSP is to reduce the incidence of bowel cancer in Australia. Positive FOBTs and subsequent colonoscopies identify and treat polyps and adenomas which might develop into cancer.

Age profile

In 2005:

- Bowel cancer was relatively rare before age 45.
- The incidence rate of bowel cancer increases with age. The highest incidence rate was in people aged 80 years and over (more than 400 cases per 100,000 population).
- Around half of the new cases diagnosed were in people aged 55–74 years, the age group which was used for the Pilot Program.

Trends

From 1982 to 2005 the age-standardised incidence rate of bowel cancer:

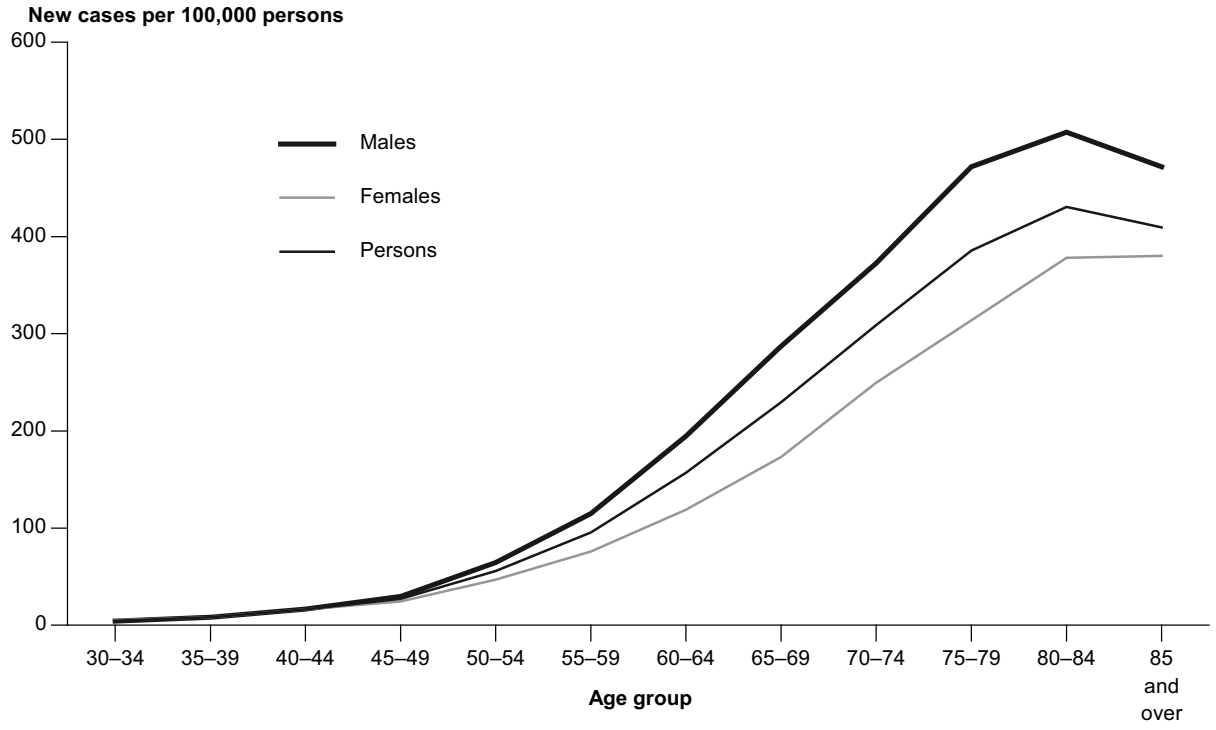
- increased by an average of 0.4% per year for males, from 66.7 per 100,000 in 1982 to 73.2 in 2005, with a peak of 79.6 in 2000.
- was relatively unchanged for females, with an average annual decrease of less than 0.1%, from 51.9 per 100,000 in 1982 to 50.8 in 2005, with a peak of 54.5 in 2001
- increased by an average of 0.2% per year for persons, from 58.1 per 100,000 in 1982 to 61.3 in 2005, with a peak of 65.4 in 2001.

State and territory comparisons

Incidence of bowel cancer varied by state and territory in the period 2001–05. Queensland (64.9 cases per 100,000), Victoria (64.6) and South Australia (64.5) had the highest age-standardised incidence rate of bowel cancer. The age-standardised incidence rate was significantly lower in the Northern Territory (46.8 per 100,000) than other jurisdictions.

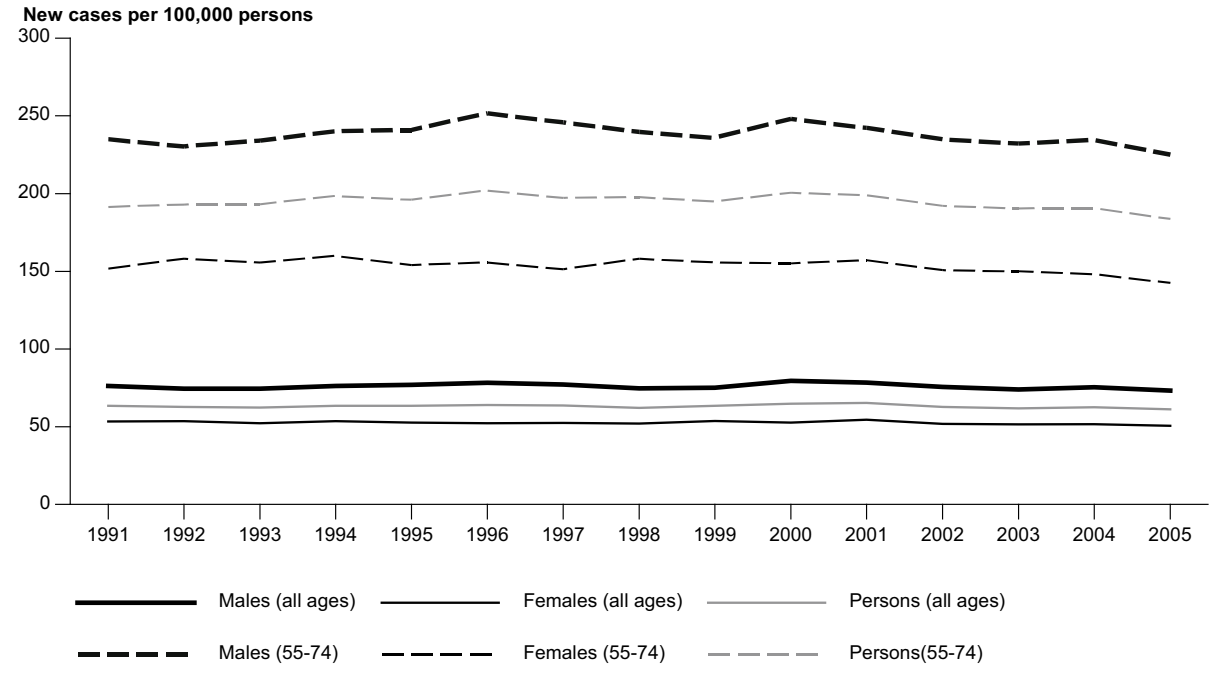
Regional comparisons

The age-standardised incidence rate of bowel cancer in 2001–05 was highest in the Outer regional areas (65.1 cases per 100,000) and Inner regional areas (65.0). Very remote areas had a significantly lower age-standardised incidence rate (46.9 per 100,000) than other regions.



Source: AIHW National Cancer Statistics Clearing House.

Figure 4.1.1: Age-specific incidence rates of bowel cancer, 2005



Note: Rates age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Figure 4.1.2: Age-standardised incidence rates of bowel cancer, 1991–2005

Table 4.1.1a: Number of new cases of bowel cancer, Australia, 1991–2005, males

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5–9	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
10–14	2	0	3	0	0	0	2	4	0	2	1	1	2	0	1
15–19	0	0	1	3	2	0	2	1	1	1	2	4	1	6	2
20–24	6	5	3	2	4	2	8	5	3	3	7	8	3	15	12
25–29	9	9	10	10	10	9	9	18	19	17	14	11	18	14	12
30–34	27	19	19	20	22	29	20	25	25	32	27	38	23	32	33
35–39	42	38	43	47	48	57	45	53	59	55	65	52	61	60	61
40–44	102	101	137	108	114	119	104	117	92	126	102	101	105	126	128
45–49	170	212	219	200	216	223	223	217	216	233	237	209	209	206	216
50–54	392	322	342	353	370	378	415	378	404	435	410	458	419	422	430
55–59	511	529	506	535	550	640	596	601	567	627	661	623	647	694	714
60–64	761	787	775	763	769	767	803	739	795	876	819	902	847	922	923
65–69	931	878	934	1,034	1,036	988	1035	1015	979	1001	1015	1029	1103	1082	1081
70–74	828	828	917	955	989	1,133	1081	1133	1163	1256	1261	1182	1172	1196	1118
75–79	739	694	761	729	826	799	862	856	998	1071	1139	1112	1141	1151	1178
80–84	426	443	408	486	485	554	579	531	538	627	702	703	700	807	811
85+	216	271	244	291	300	307	311	365	390	444	445	435	430	457	460
All ages	**5,162**	**5,136**	**5,322**	**5,536**	**5,741**	**6,005**	**6,095**	**6,058**	**6,249**	**6,806**	**6,907**	**6,869**	**6,881**	**7,190**	**7,181**
Ages 55–74	**3,031**	**3,022**	**3,132**	**3,287**	**3,344**	**3,528**	**3,515**	**3,488**	**3,504**	**3,760**	**3,756**	**3,736**	**3,769**	**3,894**	**3,836**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.1b: Number of new cases of bowel cancer, Australia, 1991–2005, females

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10–14	1	1	1	0	0	1	2	1	0	1	0	2	1	1	1
15–19	0	1	0	1	4	3	2	4	3	4	6	5	2	7	11
20–24	3	2	6	7	3	8	6	4	6	7	7	3	7	10	11
25–29	14	11	8	12	12	9	6	12	13	12	12	10	14	15	17
30–34	24	29	18	25	22	25	31	27	37	31	31	35	32	25	40
35–39	53	63	47	53	48	49	55	54	67	54	62	72	62	61	61
40–44	113	109	85	90	105	97	120	106	120	111	110	113	112	119	127
45–49	162	163	177	178	160	188	205	185	201	204	215	201	216	201	182
50–54	269	277	256	280	285	282	298	282	295	330	311	321	341	342	317
55–59	324	397	396	411	388	401	402	406	424	419	405	433	423	421	468
60–64	476	484	507	499	444	475	446	542	493	548	557	566	570	540	559
65–69	684	668	643	676	663	660	685	658	669	639	681	642	694	723	668
70–74	657	694	691	755	793	796	761	809	834	835	876	831	819	842	812
75–79	697	643	625	695	731	724	804	778	870	890	996	909	873	923	940
80–84	523	564	582	559	623	594	633	653	704	670	754	734	819	862	892
85+	432	437	494	504	504	559	569	580	687	685	773	746	717	746	789
All ages	**4,432**	**4,543**	**4,536**	**4,745**	**4,785**	**4,871**	**5,025**	**5,101**	**5,423**	**5,440**	**5,796**	**5,623**	**5,702**	**5,838**	**5,895**
Ages 55–74	**2,141**	**2,243**	**2,237**	**2,341**	**2,288**	**2,332**	**2,294**	**2,415**	**2,420**	**2,441**	**2,519**	**2,472**	**2,506**	**2,526**	**2,507**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.1c: Number of new cases of bowel cancer, Australia, 1991–2005, persons

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5–9	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
10–14	3	1	4	0	0	1	4	5	0	3	1	3	3	1	2
15–19	0	1	1	4	6	3	4	5	4	5	8	9	3	13	13
20–24	9	7	9	9	7	10	14	9	9	10	14	11	10	25	23
25–29	23	20	18	22	22	18	15	30	32	29	26	21	32	29	29
30–34	51	48	37	45	44	54	51	52	62	63	58	73	55	57	73
35–39	95	101	90	100	96	106	100	107	126	109	127	124	123	121	122
40–44	215	210	222	198	219	216	224	223	212	237	212	214	217	245	255
45–49	332	375	396	378	376	411	428	402	417	437	452	410	425	407	398
50–54	661	599	598	633	655	660	713	660	699	765	721	779	760	764	747
55–59	835	926	902	946	938	1041	998	1007	991	1046	1066	1056	1070	1115	1182
60–64	1237	1271	1282	1262	1213	1242	1249	1281	1288	1424	1376	1468	1417	1462	1482
65–69	1615	1546	1577	1710	1699	1648	1720	1673	1648	1640	1696	1671	1797	1805	1749
70–74	1485	1522	1608	1710	1782	1929	1842	1942	1997	2091	2137	2013	1991	2038	1930
75–79	1436	1337	1386	1424	1557	1523	1666	1634	1868	1961	2135	2021	2014	2074	2118
80–84	949	1007	990	1045	1108	1148	1212	1184	1242	1297	1456	1437	1519	1669	1703
85+	648	708	738	795	804	866	880	945	1,077	1,129	1,218	1,181	1,147	1,203	1,249
All ages	**9,594**	**9,679**	**9,858**	**10,281**	**10,526**	**10,876**	**11,120**	**11,159**	**11,672**	**12,246**	**12,703**	**12,492**	**12,583**	**13,028**	**13,076**
Ages 55–74	**5,172**	**5,265**	**5,369**	**5,628**	**5,632**	**5,860**	**5,809**	**5,903**	**5,924**	**6,201**	**6,275**	**6,208**	**6,275**	**6,420**	**6,343**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.2a: Age-specific and age-standardised incidence rates for bowel cancer, Australia, 1991–2005, males

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
10–14	0.3	0.0	0.5	0.0	0.0	0.0	0.3	0.6	0.0	0.3	0.1	0.1	0.3	0.0	0.1
15–19	0.0	0.0	0.2	0.5	0.3	0.0	0.3	0.2	0.2	0.1	0.3	0.6	0.1	0.8	0.3
20–24	0.8	0.7	0.4	0.3	0.6	0.3	1.2	0.7	0.5	0.5	1.1	1.2	0.4	2.1	1.6
25–29	1.3	1.3	1.5	1.5	1.4	1.3	1.2	2.5	2.6	2.4	2.0	1.6	2.6	2.0	1.7
30–34	3.8	2.6	2.6	2.7	3.0	4.0	2.8	3.6	3.6	4.5	3.7	5.1	3.0	4.2	4.4
35–39	6.3	5.6	6.3	6.8	6.8	7.8	6.1	7.1	7.9	7.3	8.8	7.1	8.4	8.3	8.3
40–44	15.6	15.5	21.0	16.4	17.1	17.6	15.2	16.8	13.0	17.5	13.9	13.5	13.8	16.4	16.7
45–49	32.3	37.7	36.8	32.4	34.0	34.1	34.3	33.1	32.6	34.9	35.1	30.5	29.9	28.9	29.7
50–54	90.4	72.2	75.0	74.3	74.6	73.0	74.4	63.8	65.8	68.6	62.8	70.5	64.2	64.1	64.6
55–59	139.1	141.4	131.9	135.8	135.2	152.4	137.1	133.8	120.9	127.9	128.9	113.3	111.0	115.0	114.8
60–64	207.5	217.0	216.5	214.8	217.5	216.8	222.1	198.7	206.5	218.6	197.8	211.6	193.6	202.8	194.7
65–69	290.8	270.2	283.1	311.0	309.1	292.8	306.7	302.6	293.3	301.5	302.5	299.2	312.0	296.9	287.0
70–74	362.4	346.1	366.0	362.0	366.3	410.4	383.4	393.0	394.8	419.2	415.4	389.2	388.5	398.1	372.7
75–79	464.8	428.2	466.0	446.5	487.3	444.9	453.6	426.5	470.3	487.7	501.0	477.2	476.4	469.4	471.9
80–84	504.7	501.3	437.8	493.2	472.7	523.4	532.5	479.3	477.7	527.0	547.4	514.2	482.4	525.8	507.4
85+	488.5	572.4	484.6	546.2	528.5	509.1	486.7	535.1	535.7	572.8	543.2	509.7	488.9	504.2	472.0
All ages															
Crude rate	59.9	58.9	60.5	62.3	63.8	65.9	66.2	65.2	66.5	71.6	71.7	70.4	69.7	72.0	70.9
ASR(A)	76.3	74.6	74.6	76.2	77.0	78.3	77.2	74.8	75.1	79.6	78.4	75.7	73.9	75.4	73.2
95% CI	74.1–78.5	72.5–76.8	72.5–76.7	74.1–78.3	75.0–79.1	76.3–80.3	75.2–79.2	72.9–76.7	73.2–77.0	77.7–81.6	76.6–80.3	73.9–77.5	72.2–75.7	73.6–77.1	71.5–74.9
Ages 55–74															
Crude rate	236.3	232.3	236.9	244.3	244.9	254.3	248.3	241.4	236.4	246.9	239.8	230.1	224.9	226.0	216.4
ASR(A)	235.0	230.5	234.1	240.2	241.1	251.8	245.9	239.8	236.0	248.1	242.5	235.1	232.3	234.7	225.2
95% CI	226.7–243.6	222.3–238.9	226.0–242.5	232.0–248.6	233.0–249.5	243.6–260.3	237.8–254.2	231.9–247.9	228.3–244.0	240.3–256.2	234.8–250.4	227.6–242.7	224.9–239.8	227.3–242.2	218.1–232.5

Note: Rates are the number of cases of bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.2b: Age-specific and age-standardised incidence rates for bowel cancer, Australia, 1991–2005, females

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.2	0.2	0.2	0.0	0.0	0.2	0.3	0.2	0.0	0.2	0.0	0.3	0.1	0.1	0.1
15–19	0.0	0.2	0.0	0.2	0.6	0.5	0.3	0.6	0.5	0.6	0.9	0.7	0.3	1.0	1.6
20–24	0.4	0.3	0.8	1.0	0.4	1.2	0.9	0.6	0.9	1.1	1.1	0.5	1.0	1.5	1.6
25–29	2.0	1.6	1.2	1.8	1.7	1.3	0.8	1.6	1.8	1.7	1.7	1.5	2.1	2.2	2.5
30–34	3.4	4.0	2.5	3.4	3.0	3.5	4.3	3.8	5.2	4.3	4.2	4.6	4.2	3.3	5.2
35–39	8.0	9.3	6.8	7.6	6.7	6.7	7.4	7.2	8.8	7.1	8.3	9.7	8.4	8.3	8.2
40–44	17.7	17.0	13.1	13.7	15.7	14.3	17.3	15.1	16.8	15.2	14.8	14.9	14.5	15.3	16.3
45–49	32.2	30.3	30.9	29.9	26.0	29.4	31.9	28.3	30.2	30.3	31.5	28.9	30.5	27.8	24.6
50–54	65.1	65.3	59.0	61.8	59.9	56.7	55.5	49.2	49.3	53.0	48.0	49.5	52.0	51.5	47.1
55–59	90.3	108.4	105.4	106.6	98.1	98.4	95.4	93.7	93.7	88.5	81.7	80.8	74.1	70.8	75.9
60–64	128.6	132.5	141.0	139.8	124.4	133.2	122.6	145.5	128.3	138.1	136.5	135.0	132.3	120.3	118.8
65–69	194.7	189.3	180.9	190.7	187.2	186.1	194.5	188.5	193.3	185.2	196.3	181.0	190.7	192.8	173.2
70–74	232.8	237.2	227.6	237.9	245.5	243.4	231.6	244.4	250.2	250.3	261.6	250.2	249.2	258.4	249.7
75–79	309.1	280.7	271.7	305.1	313.2	297.0	313.5	289.4	309.8	309.3	341.1	308.9	293.8	308.5	313.8
80–84	359.7	372.4	367.7	334.4	361.3	336.3	351.9	358.7	384.6	352.6	373.6	347.9	371.5	375.6	378.2
85+	392.6	377.9	405.4	395.3	375.2	394.8	381.0	370.0	413.6	391.1	421.7	393.9	369.7	376.3	380.0
All ages															
Crude rate	51.1	51.8	51.1	52.9	52.7	52.9	53.9	54.2	56.9	56.4	59.2	56.8	56.9	57.6	57.4
ASR(A)	53.4	53.7	52.3	53.6	52.6	52.3	52.5	52.1	53.8	52.7	54.5	51.8	51.5	51.6	50.8
95% CI	51.8–55.0	52.1–55.3	50.8–53.9	52.0–55.1	51.2–54.2	50.8–53.8	51.1–54.0	50.6–53.5	52.4–55.3	51.3–54.2	53.1–55.9	50.5–53.2	50.2–52.9	50.3–53.0	49.5–52.2
Ages 55–74															
Crude rate	157.2	162.9	160.4	165.5	160.1	161.3	156.5	162.5	159.6	157.6	158.9	150.5	147.9	144.8	139.4
ASR(A)	151.8	158.3	155.8	160.1	154.1	155.8	151.6	158.3	156.0	155.1	157.2	150.9	150.0	148.1	143.4
95% CI	145.4–158.4	151.7–165.0	149.4–162.4	153.6–166.7	147.8–160.6	149.5–162.3	145.4–157.9	152.0–164.7	149.8–162.3	149.0–161.4	151.2–163.5	145.0–157.0	144.2–156.0	142.4–154.0	137.8–149.1

Note: Rates are the number of cases of bowel cancer per 100,000 females. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.2c: Age-specific and age-standardised incidence rates for bowel cancer, Australia, 1991–2005, persons

Age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
10–14	0.1	0.2	0.1	0.3	0.0	0.0	0.1	0.3	0.4	0.0	0.2	0.1	0.2	0.2	0.1
15–19	0.2	0.0	0.1	0.1	0.3	0.5	0.2	0.3	0.4	0.3	0.4	0.6	0.7	0.2	0.9
20–24	0.6	0.6	0.5	0.6	0.6	0.5	0.7	1.0	0.7	0.7	0.8	1.1	0.8	0.7	1.8
25–29	1.3	1.6	1.4	1.3	1.6	1.6	1.3	1.0	2.0	2.2	2.0	1.8	1.5	2.3	2.1
30–34	3.4	3.6	3.3	2.5	3.1	3.0	3.7	3.6	3.7	4.4	4.4	4.0	4.9	3.6	3.7
35–39	6.9	7.2	7.5	6.6	7.2	6.7	7.3	6.8	7.1	8.4	7.2	8.5	8.4	8.4	8.3
40–44	16.6	16.6	16.2	17.1	15.0	16.4	15.9	16.3	16.0	14.9	16.4	14.3	14.2	14.2	15.9
45–49	35.7	32.3	34.1	33.9	31.2	30.0	31.8	33.1	30.7	31.4	32.6	33.3	29.7	30.2	28.3
50–54	71.7	78.0	68.8	67.2	68.2	67.4	65.0	65.1	56.7	57.7	60.8	55.4	60.0	58.1	57.8
55–59	113.5	115.0	125.0	118.8	121.4	116.9	125.8	116.6	114.1	107.5	108.5	105.7	97.2	92.7	93.1
60–64	158.0	167.9	174.6	178.6	177.2	170.8	174.8	172.2	172.1	167.4	178.5	167.4	173.6	163.2	161.8
65–69	215.9	240.5	228.0	230.1	248.9	246.5	238.1	249.4	244.4	242.4	242.2	248.5	239.2	250.4	244.1
70–74	279.0	290.7	286.2	290.2	294.3	300.5	319.8	301.7	313.5	318.0	330.2	334.8	316.6	315.9	325.4
75–79	334.7	373.5	341.8	352.4	364.1	386.4	359.7	373.1	348.0	378.9	386.5	411.1	383.3	375.3	381.0
80–84	388.9	412.9	419.9	393.6	393.3	402.9	406.4	420.0	404.3	420.0	419.8	441.1	413.3	415.5	435.8
85+	419.9	420.1	434.4	428.6	439.7	420.7	428.9	412.6	420.1	450.8	446.8	459.2	429.9	406.9	416.5
All ages															
Crude rate	51.7	55.5	55.3	55.8	57.6	58.2	59.4	60.1	59.6	61.7	63.9	65.4	63.6	63.2	64.7
ASR(A)	60.2	63.6	62.7	62.4	63.5	63.6	64.0	63.7	62.3	63.5	64.9	65.4	62.8	61.8	62.6
95% CI	58.9–61.5	62.3–64.9	61.5–64.0	61.1–63.6	62.3–64.8	62.4–64.8	62.8–65.2	62.5–64.9	61.1–63.4	62.3–64.7	63.7–66.0	64.3–66.6	61.7–63.9	60.8–62.9	61.5–63.7
Ages 55–74															
Crude rate	182.9	195.5	196.6	197.7	203.9	201.5	206.8	201.6	201.4	197.5	201.9	199.1	190.1	186.2	185.2
ASR(A)	180.8	191.6	192.9	193.2	198.6	196.2	202.2	197.3	197.8	195.0	200.6	199.1	192.3	190.5	190.8
95% CI	175.7–186.0	186.4–196.9	187.7–198.2	188.1–198.5	193.4–203.9	191.1–201.4	197.0–207.5	192.3–202.5	192.8–203.0	190.1–200.0	195.7–205.7	194.2–204.1	187.6–197.2	185.8–195.2	186.1–195.5

Note: Rates are the number of cases of bowel cancer per 100,000 persons. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.3a: Number of new cases of bowel cancer, by state and territory, 2001–2005, males

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	1	0	0	1
5–9	1	0	0	0	0	0	0	0	1
10–14	2	0	0	1	1	0	0	1	5
15–19	5	4	3	1	2	0	0	0	15
20–24	14	7	12	6	2	2	1	1	45
25–29	22	15	12	9	6	2	2	1	69
30–34	54	32	32	12	13	5	2	3	153
35–39	101	73	59	31	23	4	4	4	299
40–44	178	139	120	49	34	15	15	12	562
45–49	340	264	221	104	93	23	12	20	1,077
50–54	668	518	409	225	204	55	41	19	2,139
55–59	1,099	819	673	316	264	73	63	32	3,339
60–64	1,519	1,051	898	365	374	119	64	23	4,413
65–69	1,783	1,343	1,047	433	453	149	82	20	5,310
70–74	1,987	1,584	1,112	490	536	137	69	14	5,929
75–79	1,881	1,597	1,055	448	522	154	54	10	5,721
80–84	1,257	1,040	656	294	332	99	39	6	3,723
85+	709	605	391	209	227	67	16	3	2,227
All ages	**11,620**	**9,091**	**6,700**	**2,993**	**3,086**	**905**	**464**	**169**	**35,028**
Ages 55–74	**6,388**	**4,797**	**3,730**	**1,604**	**1,627**	**478**	**278**	**89**	**18,991**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.3b: Number of new cases of bowel cancer, by state and territory, 2001–2005, females

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	1	1	0	2	1	0	0	0	5
15–19	10	5	6	1	3	1	5	0	31
20–24	12	9	7	6	3	0	0	1	38
25–29	19	21	10	7	7	1	2	1	68
30–34	43	53	34	15	11	1	4	2	163
35–39	100	89	65	26	21	6	3	8	318
40–44	175	166	107	60	44	10	12	7	581
45–49	330	265	199	83	76	32	23	7	1,015
50–54	542	405	316	159	135	46	19	10	1,632
55–59	726	518	444	169	184	57	39	13	2,150
60–64	1,017	671	503	253	215	76	43	14	2,792
65–69	1,190	848	691	257	280	98	31	13	3,408
70–74	1,406	1,111	763	333	406	103	54	4	4,180
75–79	1,546	1,213	851	389	436	150	48	8	4,641
80–84	1,368	1,113	690	332	411	103	39	5	4,061
85+	1,262	1,024	635	313	397	109	30	1	3,771
All ages	**9,747**	**7,512**	**5,321**	**2,405**	**2,630**	**793**	**352**	**94**	**28,854**
Ages 55–74	**4,339**	**3,148**	**2,401**	**1,012**	**1,085**	**334**	**167**	**44**	**12,530**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.3c: Number of new cases of bowel cancer, by state and territory, 2001–2005, persons

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	1	0	0	1
5–9	1	0	0	0	0	0	0	0	1
10–14	3	1	0	3	2	0	0	1	10
15–19	15	9	9	2	5	1	5	0	46
20–24	26	16	19	12	5	2	1	2	83
25–29	41	36	22	16	13	3	4	2	137
30–34	97	85	66	27	24	6	6	5	316
35–39	201	162	124	57	44	10	7	12	617
40–44	353	305	227	109	78	25	27	19	1,143
45–49	670	529	420	187	169	55	35	27	2,092
50–54	1,210	923	725	384	339	101	60	29	3,771
55–59	1,825	1,337	1,117	485	448	130	102	45	5,489
60–64	2,536	1,722	1,401	618	589	195	107	37	7,205
65–69	2,973	2,191	1,738	690	733	247	113	33	8,718
70–74	3,393	2,695	1,875	823	942	240	123	18	10,109
75–79	3,427	2,810	1,906	837	958	304	102	18	10,362
80–84	2,625	2,153	1,346	626	743	202	78	11	7,784
85+	1,971	1,629	1,026	522	624	176	46	4	5,998
All ages	**21,367**	**16,603**	**12,021**	**5,398**	**5,716**	**1,698**	**816**	**263**	**63,882**
Ages 55–74	**10,727**	**7,945**	**6,131**	**2,616**	**2,712**	**812**	**445**	**133**	**31,521**

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.4a: Age-specific and age-standardised incidence rates for bowel cancer, by state and territory, 2001–2005, males

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0
5–9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.2	0.0	0.0	0.3	0.4	0.0	0.0	2.3	0.1
15–19	0.4	0.5	0.4	0.3	0.8	0.0	0.0	0.0	0.4
20–24	1.2	0.8	1.8	1.7	0.8	2.7	1.4	2.4	1.3
25–29	1.9	1.7	1.8	2.6	2.4	2.9	3.1	2.2	2.0
30–34	4.3	3.4	4.5	3.2	4.8	6.5	3.1	6.4	4.1
35–39	8.2	8.0	8.6	8.4	8.3	5.0	6.6	9.1	8.2
40–44	14.0	15.0	16.8	12.8	11.7	16.6	24.6	28.6	14.9
45–49	29.2	30.9	33.2	28.9	34.0	26.5	21.0	54.7	30.8
50–54	61.6	65.6	64.4	66.9	78.6	66.6	73.6	56.5	65.3
55–59	114.8	118.7	119.0	111.2	115.5	99.1	137.4	125.3	116.3
60–64	204.7	195.2	208.3	171.7	212.8	201.8	211.0	134.9	200.0
65–69	293.7	304.5	312.5	261.7	309.0	313.2	376.3	211.9	299.3
70–74	379.3	414.7	405.9	362.2	409.7	340.6	401.2	239.2	392.8
75–79	451.6	524.1	496.7	434.7	476.4	487.2	405.5	287.4	478.9
80–84	494.5	567.5	505.0	487.7	491.8	529.2	486.2	405.4	514.7
85+	463.6	528.1	490.2	553.7	547.7	580.9	377.3	283.0	502.4
All ages									
Crude rate	70.3	74.9	70.6	61.0	81.6	76.8	57.8	32.2	70.9
ASR(A)	72.7	78.4	77.1	70.4	77.8	74.8	76.1	57.4	75.2
95% CI	71.4–74.1	76.8–80.1	75.3–79.0	67.8–73.0	75.0–80.6	70.0–79.9	69.1–83.6	47.0–69.2	74.5–76.0
Ages 55–74									
Crude rate	225.7	233.9	232.3	201.2	238.6	216.8	241.4	153.8	227.1
ASR(A)	230.6	238.9	242.3	210.4	242.3	221.2	261.8	169.6	233.8
95% CI	225.0–236.3	232.1–245.7	234.6–250.3	200.2–221.0	230.7–254.4	201.7–241.9	231.4–294.9	133.5–211.9	230.5–237.1

Note: Rates are the number of cases of bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.4b: Age-specific and age-standardised incidence rates for bowel cancer, by state and territory, 2001–2005, females

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.1	0.1	0.0	0.6	0.4	0.0	0.0	0.0	0.1
15–19	0.9	0.6	0.9	0.3	1.2	1.2	8.3	0.0	0.9
20–24	1.1	1.1	1.1	1.8	1.2	0.0	0.0	2.6	1.1
25–29	1.6	2.4	1.5	2.1	3.0	1.4	3.1	2.3	2.0
30–34	3.4	5.4	4.7	4.1	4.1	1.2	6.1	4.4	4.3
35–39	8.1	9.5	9.2	7.1	7.6	7.1	4.8	19.6	8.6
40–44	13.7	17.5	14.6	15.7	15.0	10.7	18.6	18.3	15.2
45–49	28.1	30.3	29.4	23.0	27.2	36.3	37.2	20.5	28.6
50–54	50.1	50.0	50.1	48.4	50.7	55.3	32.5	34.3	49.6
55–59	77.5	74.7	81.5	63.3	79.1	77.7	85.0	64.9	76.4
60–64	138.0	124.0	121.6	123.8	119.5	130.1	140.0	112.4	128.2
65–69	189.0	182.2	210.0	153.4	180.1	201.1	134.3	180.9	186.6
70–74	243.6	261.7	265.3	231.3	278.0	236.1	286.9	82.8	253.8
75–79	296.1	314.6	336.3	315.5	313.6	385.3	283.7	244.0	313.1
80–84	352.2	392.9	367.1	368.3	392.3	346.1	321.5	233.9	369.6
85+	369.9	404.6	387.3	375.8	424.8	415.9	306.9	64.2	387.8
All ages									
Crude rate	58.0	60.2	55.7	49.4	67.9	65.4	42.8	19.5	57.6
ASR(A)	51.0	53.0	53.9	48.6	53.3	54.1	49.6	35.9	52.0
95% CI	50.0–52.0	51.8–54.2	52.4–55.3	46.7–50.6	51.2–55.4	50.4–58.1	44.5–55.1	28.0–45.2	51.4–52.6
Ages 55–74									
Crude rate	150.6	148.2	152.4	129.3	151.9	149.0	140.9	98.9	148.0
ASR(A)	151.1	148.7	157.0	132.6	151.8	150.2	150.9	106.0	149.7
95% CI	146.6–155.6	143.6–154.0	150.8–163.4	124.6–141.1	142.9–161.1	134.5–167.2	128.6–175.9	75.5–144.2	147.1–152.4

Note: Rates are the number of cases of bowel cancer per 100,000 females. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.4c: Age-specific and age-standardised incidence rates for bowel cancer, by state and territory, 2001–2005, persons

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.1	0.1	0.0	0.4	0.4	0.0	0.0	1.2	0.1
15–19	0.7	0.5	0.7	0.3	1.0	0.6	4.1	0.0	0.7
20–24	1.2	0.9	1.4	1.8	1.0	1.4	0.7	2.5	1.2
25–29	1.8	2.1	1.7	2.4	2.7	2.2	3.1	2.3	2.0
30–34	3.8	4.4	4.6	3.7	4.5	3.8	4.6	5.4	4.2
35–39	8.2	8.7	8.9	7.7	7.9	6.1	5.7	14.2	8.4
40–44	13.9	16.3	15.7	14.3	13.3	13.6	21.6	23.7	15.0
45–49	28.6	30.6	31.3	26.0	30.6	31.4	29.4	38.2	29.7
50–54	55.8	57.7	57.3	57.7	64.5	60.9	52.5	46.2	57.4
55–59	96.4	96.7	100.6	88.0	97.1	88.4	111.1	98.8	96.6
60–64	171.5	159.5	165.9	148.3	165.6	166.1	175.3	125.4	164.4
65–69	240.4	241.7	261.7	207.2	242.6	256.5	251.8	198.5	242.1
70–74	308.1	334.2	333.9	294.7	340.2	286.2	341.5	168.5	320.3
75–79	365.1	407.1	409.5	369.8	385.3	431.0	337.4	266.3	387.1
80–84	408.5	461.5	423.4	416.2	431.3	416.8	387.1	304.0	427.2
85+	398.9	443.1	421.0	431.2	462.6	466.3	328.2	152.8	423.6
All ages									
Crude rate	64.1	67.4	63.1	55.2	74.6	71.0	50.2	26.2	64.2
ASR(A)	61.0	64.6	64.9	58.7	64.5	63.5	61.9	46.8	62.7
95% CI	60.2–61.8	63.6–65.6	63.7–66.0	57.1–60.3	62.9–66.2	60.5–66.5	57.7–66.4	40.3–54.0	62.3–63.2
Ages 55–74									
Crude rate	187.9	190.3	192.7	165.5	194.3	182.6	190.4	129.9	187.3
ASR(A)	190.0	192.6	199.7	171.4	195.7	185.1	205.0	141.4	191.1
95% CI	186.5–193.7	188.4–196.9	194.8–204.8	164.9–178.1	188.4–203.2	172.6–198.3	186.1–225.2	116.8–169.4	189.0–193.2

Note: Rates are the number of cases of bowel cancer per 100,000 persons. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.5a: Number of new cases of bowel cancer, by region, 2001–2005, males

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	1	0	0	0	1
5–9	1	0	0	0	0	1
10–14	4	0	0	0	1	5
15–19	12	2	1	0	0	15
20–24	27	10	6	1	1	45
25–29	43	14	8	0	4	69
30–34	105	28	12	6	2	153
35–39	208	53	29	6	3	299
40–44	360	119	62	18	3	562
45–49	677	235	128	25	11	1,077
50–54	1,364	457	273	32	13	2,139
55–59	2,105	757	405	51	21	3,339
60–64	2,667	1,120	531	66	28	4,413
65–69	3,170	1,356	670	93	21	5,310
70–74	3,642	1,478	704	88	17	5,929
75–79	3,586	1,400	639	77	19	5,721
80–84	2,438	891	354	32	7	3,723
85+	1,479	506	210	25	7	2,227
All ages	**21,887**	**8,427**	**4,034**	**521**	**158**	**35,028**
Ages 55–74	**11,584**	**4,711**	**2,311**	**299**	**87**	**18,991**

Note: Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.5b: Number of new cases of bowel cancer, by region, 2001–2005, females

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	3	1	0	1	0	5
15–19	21	8	2	0	0	31
20–24	25	8	3	0	2	38
25–29	55	10	2	0	1	68
30–34	114	24	21	1	2	163
35–39	213	60	34	8	3	318
40–44	376	131	51	17	6	581
45–49	674	218	107	10	6	1,015
50–54	1,059	362	179	21	11	1,632
55–59	1,392	481	244	25	8	2,150
60–64	1,729	681	339	32	11	2,792
65–69	2,062	886	411	37	12	3,408
70–74	2,645	1,047	432	46	10	4,180
75–79	2,996	1,128	459	49	10	4,641
80–84	2,752	881	386	32	9	4,061
85+	2,500	906	325	30	9	3,771
All ages	**18,615**	**6,833**	**2,996**	**309**	**100**	**28,854**
Ages 55–74	**7,828**	**3,095**	**1,426**	**140**	**41**	**12,530**

Note: Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.5c: Number of new cases of bowel cancer, by region, 2001–2005, persons

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	1	0	0	0	1
5–9	1	0	0	0	0	1
10–14	7	1	0	1	1	10
15–19	33	10	3	0	0	46
20–24	52	18	9	1	3	83
25–29	98	24	10	0	5	137
30–34	219	52	33	7	4	316
35–39	420	113	63	14	6	617
40–44	736	250	113	35	9	1,143
45–49	1,351	454	235	35	17	2,092
50–54	2,422	819	453	53	24	3,771
55–59	3,496	1,238	650	76	29	5,489
60–64	4,396	1,801	870	98	39	7,205
65–69	5,232	2,242	1,081	130	33	8,718
70–74	6,287	2,525	1,136	134	27	10,109
75–79	6,582	2,528	1,098	126	29	10,362
80–84	5,191	1,773	741	64	16	7,784
85+	3,979	1,412	535	55	16	5,998
All ages	**40,503**	**15,261**	**7,030**	**830**	**258**	**63,882**
Ages 55–74	**19,412**	**7,806**	**3,737**	**439**	**128**	**31,521**

Note: Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.6a: Age-specific and age-standardised incidence rates for bowel cancer, by region, 2001–2005, males

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.1	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.2	0.0	0.0	0.0	2.6	0.1
15–19	0.5	0.3	0.3	0.0	0.0	0.4
20–24	1.1	1.7	2.1	2.0	2.7	1.3
25–29	1.7	2.5	2.6	0.0	9.9	2.0
30–34	4.0	4.3	3.4	8.7	4.8	4.1
35–39	8.4	7.6	7.9	8.6	7.9	8.2
40–44	14.4	15.2	15.4	25.6	8.4	14.9
45–49	29.8	31.4	33.8	39.8	35.0	30.8
50–54	64.1	64.5	75.9	55.5	47.2	65.3
55–59	113.6	118.9	126.7	105.5	93.6	116.3
60–64	192.5	217.3	203.7	179.5	170.2	200.0
65–69	287.3	313.9	313.0	344.0	196.4	299.3
70–74	386.7	401.1	404.2	417.8	221.8	392.8
75–79	469.9	484.7	492.9	530.6	370.7	478.9
80–84	514.0	526.4	483.4	411.7	245.8	514.7
85+	503.3	483.7	447.9	473.4	338.1	502.4
All ages						
Crude rate	67.3	81.7	77.7	60.7	33.1	70.9
ASR(A)	73.7	77.0	76.9	76.5	53.3	75.2
95% CI	72.8–74.7	75.4–78.7	74.5–79.3	69.8–83.6	44.6–62.9	74.5–76.0
Ages 55–74						
Crude rate	219.3	241.3	238.4	223.7	152.0	227.1
ASR(A)	227.1	244.0	243.3	239.7	161.8	233.8
95% CI	223.0–231.3	237.1–251.1	233.5–253.5	212.9–268.7	128.4–200.2	230.5–237.1

Notes

1. Rates are the number of cases of bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.6b: Age-specific and age-standardised incidence rates for bowel cancer, by region, 2001–2005, females

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.1	0.1	0.0	1.6	0.0	0.1
15–19	1.0	1.1	0.6	0.0	0.0	0.9
20–24	1.0	1.4	1.1	0.0	6.1	1.1
25–29	2.2	1.8	0.7	0.0	2.7	2.0
30–34	4.3	3.5	6.1	1.6	5.4	4.3
35–39	8.5	8.1	9.3	13.0	9.2	8.6
40–44	14.9	16.1	13.1	28.1	20.1	15.2
45–49	28.7	28.8	29.9	18.6	23.6	28.6
50–54	48.4	51.5	53.8	44.1	49.2	49.6
55–59	75.7	76.5	82.7	63.7	47.1	76.4
60–64	125.0	133.4	141.4	108.4	90.7	128.2
65–69	176.2	202.7	208.4	163.9	140.2	186.6
70–74	247.2	269.4	255.7	255.3	152.1	253.8
75–79	303.4	331.9	319.5	354.2	210.2	313.1
80–84	371.7	358.0	374.6	324.2	275.0	369.6
85+	376.8	418.9	350.5	339.5	324.2	387.8
All ages						
Crude rate	55.9	65.2	59.8	40.5	24.0	57.6
ASR(A)	50.8	54.2	53.8	49.3	39.2	52.0
95% CI	50.1–51.5	52.9–55.5	51.8–55.7	43.9–55.2	31.5–47.9	51.4–52.6
Ages 55–74						
Crude rate	143.3	157.5	158.2	128.0	92.7	148.0
ASR(A)	145.0	157.7	160.3	135.9	99.9	149.7
95% CI	141.8–148.3	152.2–163.4	152.0–168.8	114.0–160.3	71.2–135.9	147.1–152.4

Notes

1. Rates are the number of cases of bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

Table 4.1.6c: Age-specific and age-standardised incidence rates for bowel cancer, by region, 2001–2005, persons

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.1	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.2	0.1	0.0	0.8	1.3	0.1
15–19	0.7	0.7	0.4	0.0	0.0	0.7
20–24	1.0	1.6	1.6	1.1	4.3	1.2
25–29	2.0	2.1	1.7	0.0	6.5	2.0
30–34	4.2	3.9	4.7	5.3	5.1	4.2
35–39	8.4	7.9	8.6	10.7	8.5	8.4
40–44	14.6	15.7	14.2	26.8	13.7	15.0
45–49	29.3	30.1	31.9	30.0	29.9	29.7
50–54	56.2	58.0	65.3	50.4	48.1	57.4
55–59	94.7	97.8	105.5	86.7	73.6	96.6
60–64	158.8	175.6	173.9	147.9	136.5	164.4
65–69	230.1	258.0	262.8	262.1	171.4	242.1
70–74	312.5	333.5	331.1	342.8	189.6	320.3
75–79	376.0	402.1	401.8	444.5	293.5	387.1
80–84	427.3	426.6	419.8	362.8	261.4	427.2
85+	415.6	440.0	383.2	389.6	330.1	423.6
All ages						
Crude rate	61.5	73.4	68.9	51.2	28.9	64.2
ASR(A)	61.2	65.0	65.1	63.5	46.9	62.7
95% CI	60.6–61.8	64.0–66.0	63.6–66.6	59.2–68.0	41.0–53.3	62.3–63.2
Ages 55–74						
Crude rate	180.6	199.3	199.8	180.6	126.1	187.3
ASR(A)	184.8	200.5	203.1	192.5	134.7	191.1
95% CI	182.3–187.5	196.1–205.0	196.6–209.7	174.8–211.6	111.7–160.4	189.0–193.2

Notes

1. Rates are the number of cases of bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Cancer Statistics Clearing House.

4.2 Mortality from bowel cancer

A major objective of the NBCSP is to reduce mortality from bowel cancer in Australia through early detection and treatment of bowel cancers and by identifying and treating polyps and adenomas which might develop into cancer.

Age profile

In 2006:

- Death from bowel cancer was relatively rare before age 50 years.
- The highest age-standardised death rates were in people aged 80–84 years (148 per 100,000 population) and 85 years and over (214 per 100,000).
- There were 1,569 deaths in the 55–74 year age group, 41% of all bowel cancer deaths.

Trends

Between 1992 and 2006 the age-standardised death rate from bowel cancer fell by an average of 3.4% per year for males, 3.7% per year for females, and 3.4% per year for persons. The expected effect of the NBCSP in time will be to accelerate this decline in the death rate.

State and territory comparisons

Tasmania experienced the highest age-standardised rate of deaths from bowel cancer for 2002–06 (23.8 deaths per 100,000 population) followed by Victoria (22.1). The Northern Territory (17.2) and New South Wales (18.3) had significantly lower age-standardised mortality rates for 2002–06.

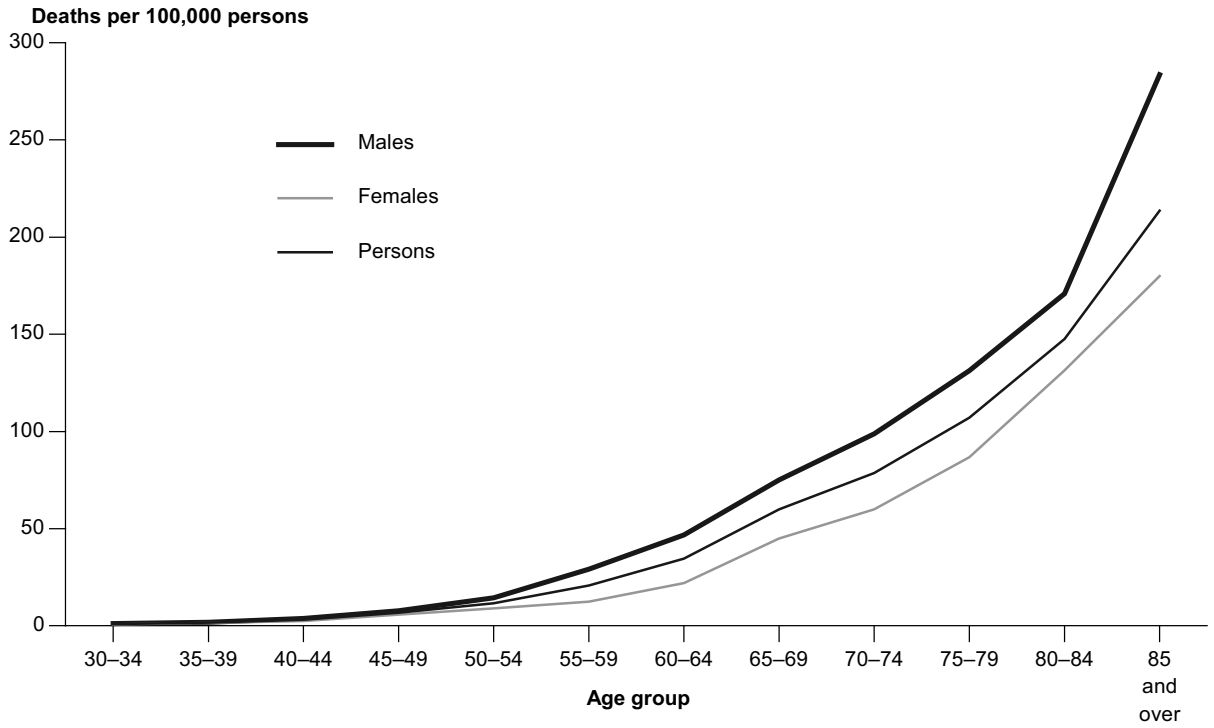
Regional comparisons

Age-standardised deaths from bowel cancer were highest in Outer regional (21.5 deaths per 100,000) and Inner regional (21.3) areas of Australia in 2002–06. Age-standardised death rates were significantly lower in Very remote areas (12.6 deaths per 100,000), Remote areas (17.1) and Major cities (19.3).

Mortality of Aboriginal and Torres Strait Islander people

Only Queensland, Western Australia, South Australia and the Northern Territory have Aboriginal and Torres Strait Islander death registration data considered to be of a publishable standard; therefore, data from these jurisdictions only are included in the analysis by Aboriginal and Torres Strait Islander status.

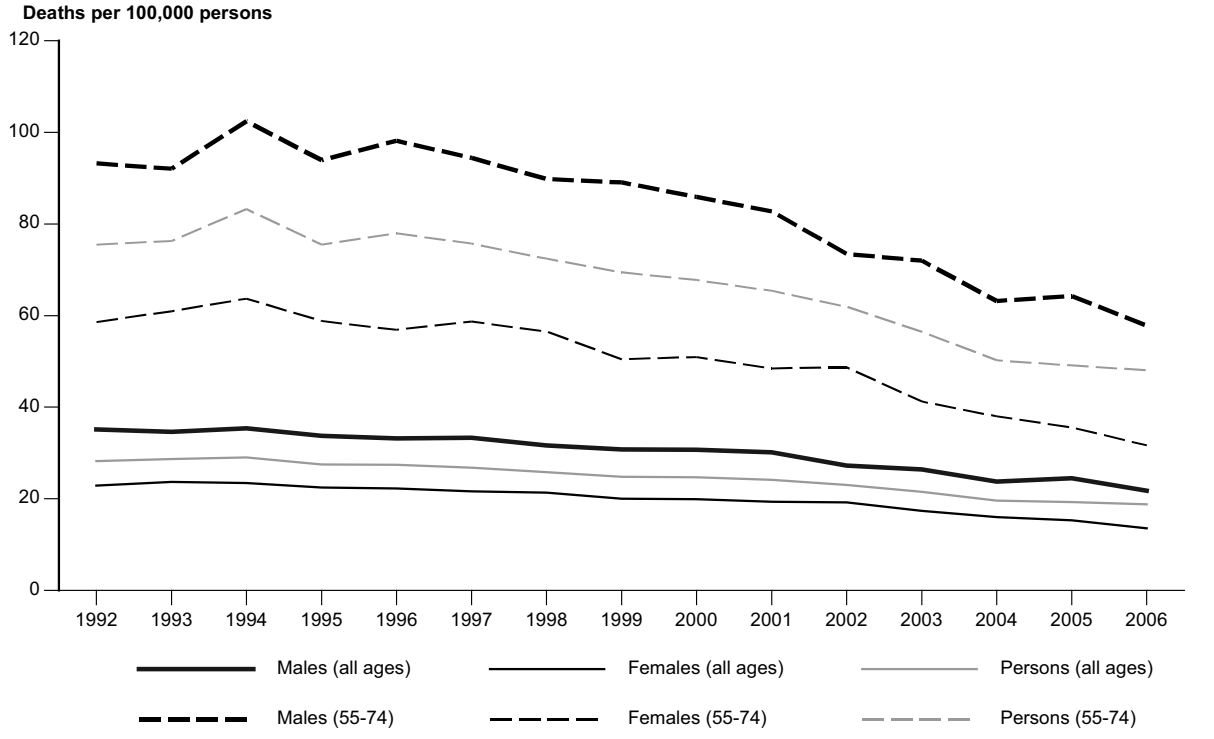
In Queensland, Western Australia, South Australia and the Northern Territory in 2002–06, the age-standardised rate of deaths from bowel cancer was lower in Aboriginal and Torres Strait Islander people (14.0 deaths per 100,000) than in non-Indigenous people (19.9).



Note: Rates age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

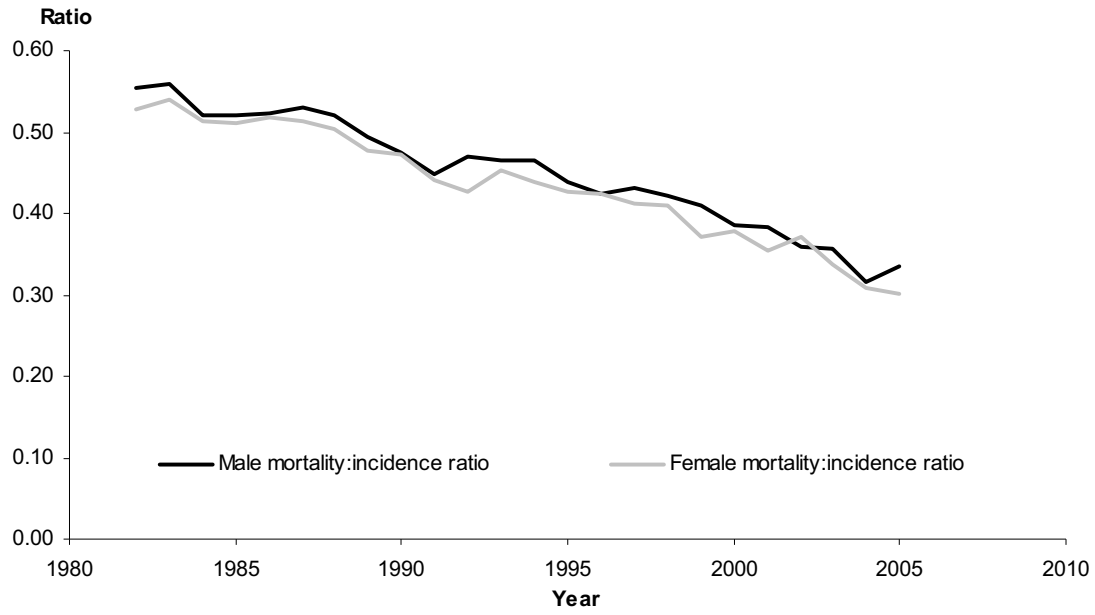
Figure 4.2.1: Age-specific mortality rates for bowel cancer (ICD-10 C18–C20), Australia, 2006



Note: Rates age-standardised to the Australian 2001 population.

Source: AIHW National Mortality Database.

Figure 4.2.2: Age-standardised mortality rates for bowel cancer, 1992–2006



Note: Ratios calculated from rates, age-standardised to the Australian 2001 population.

Source: AIHW National Cancer Statistics Clearing House.

Figure 4.2.3: Trends in mortality:incidence ratios for bowel cancer (ICD-10 C18–C20), Australia, 1982–2005

Table 4.2.1a: Number of deaths from bowel cancer, Australia, 1992–2006, males

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10–14	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
20–24	0	0	3	1	1	2	1	3	1	1	2	1	1	2	0
25–29	2	3	2	1	3	4	4	4	2	2	3	0	5	4	1
30–34	7	7	6	6	5	5	12	4	10	5	10	6	9	6	9
35–39	10	15	14	11	13	13	18	11	21	19	10	6	11	15	14
40–44	34	33	44	31	29	31	37	19	33	19	17	31	27	21	29
45–49	60	77	69	77	62	76	68	47	61	70	58	65	50	55	57
50–54	137	115	127	118	119	126	105	114	126	111	106	101	99	122	97
55–59	195	192	238	185	196	204	213	205	195	196	193	200	176	157	185
60–64	284	288	306	283	286	297	276	271	304	287	239	264	216	257	232
65–69	369	393	424	388	422	378	365	351	357	337	321	317	291	311	290
70–74	373	362	430	446	478	470	452	494	446	460	412	386	359	358	300
75–79	355	374	346	345	338	413	366	403	424	454	455	432	411	417	332
80–84	260	252	282	289	289	273	322	272	312	333	297	311	303	323	284
85+	198	211	188	219	212	233	225	265	251	275	263	262	238	274	296
All ages	**2,284**	**2,322**	**2,480**	**2,400**	**2,453**	**2,526**	**2,465**	**2,463**	**2,543**	**2,570**	**2,386**	**2,382**	**2,197**	**2,322**	**2,126**
Ages 55–74	**1,221**	**1,235**	**1,398**	**1,302**	**1,382**	**1,349**	**1,306**	**1,321**	**1,302**	**1,280**	**1,165**	**1,167**	**1,042**	**1,083**	**1,007**

Source: AIHW National Mortality Database.

Table 4.2.1b: Number of deaths from bowel cancer, Australia, 1992–2006, females

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
15–19	0	1	0	0	0	0	2	0	0	0	2	0	0	0	2
20–24	0	3	0	2	1	2	0	1	3	1	2	1	1	1	1
25–29	4	1	4	1	4	3	1	0	1	3	4	2	4	3	1
30–34	5	5	7	7	10	6	7	9	9	10	7	11	4	4	5
35–39	15	17	12	16	11	14	13	20	13	21	16	15	10	14	12
40–44	36	29	28	35	29	23	33	32	19	29	24	34	35	23	19
45–49	64	56	56	48	63	52	70	52	58	45	57	55	49	43	44
50–54	91	83	78	90	94	96	91	80	76	101	79	85	80	76	62
55–59	124	142	149	135	136	148	125	132	138	125	112	103	113	91	79
60–64	174	175	197	175	173	184	177	158	175	146	166	149	122	131	109
65–69	233	245	262	250	227	237	244	198	203	211	225	183	177	170	178
70–74	304	318	328	316	319	320	323	296	286	296	295	252	235	225	196
75–79	290	317	298	322	307	307	364	336	359	325	344	314	303	297	260
80–84	287	303	303	310	330	314	271	327	307	347	347	337	299	317	315
85+	322	381	385	361	402	397	413	423	469	457	471	449	441	447	392
Not stated	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
All ages	**1,949**	**2,076**	**2,107**	**2,068**	**2,106**	**2,104**	**2,134**	**2,064**	**2,116**	**2,117**	**2,152**	**1,990**	**1,873**	**1,842**	**1,675**
Ages 55–74	**835**	**880**	**936**	**876**	**855**	**889**	**869**	**784**	**802**	**778**	**798**	**687**	**647**	**617**	**562**

Source: AIHW National Mortality Database.

Table 4.2.1c: Number of deaths from bowel cancer, Australia, 1992–2006, persons

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10–14	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
15–19	0	1	0	0	0	0	2	0	0	1	2	0	1	0	2
20–24	0	3	3	3	2	4	1	4	4	2	4	2	2	3	1
25–29	6	4	6	2	7	7	5	4	3	5	7	2	9	7	2
30–34	12	12	13	13	15	11	19	13	19	15	17	17	13	10	14
35–39	25	32	26	27	24	27	31	31	34	40	26	21	21	29	26
40–44	70	62	72	66	58	54	70	51	52	48	41	65	62	44	48
45–49	124	133	125	125	125	128	138	99	119	115	115	120	99	98	101
50–54	228	198	205	208	213	222	196	194	202	212	185	186	179	198	159
55–59	319	334	387	320	332	352	338	337	333	321	305	303	289	248	264
60–64	458	463	503	458	459	481	453	429	479	433	405	413	338	388	341
65–69	602	638	686	638	649	615	609	549	560	548	546	500	468	481	468
70–74	677	680	758	762	797	790	775	790	732	756	707	638	594	583	496
75–79	645	691	644	667	645	720	730	739	783	779	799	746	714	714	592
80–84	547	555	585	599	619	587	593	599	619	680	644	648	602	640	599
85+	520	592	573	580	614	630	638	688	720	732	734	711	679	721	688
Not stated	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
All ages	**4,233**	**4,398**	**4,587**	**4,468**	**4,559**	**4,630**	**4,599**	**4,527**	**4,659**	**4,687**	**4,538**	**4,372**	**4,070**	**4,165**	**3,801**
Ages 55–74	**2,056**	**2,115**	**2,334**	**2,178**	**2,237**	**2,238**	**2,175**	**2,105**	**2,104**	**2,058**	**1,963**	**1,854**	**1,689**	**1,700**	**1,569**

Source: AIHW National Mortality Database.

Table 4.2.2a: Age-specific and age-standardised mortality rates for bowel cancer, Australia, 1992–2006, males

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
20–24	0.0	0.0	0.4	0.1	0.1	0.3	0.1	0.5	0.2	0.2	0.3	0.1	0.1	0.3	0.0
25–29	0.3	0.4	0.3	0.1	0.4	0.6	0.5	0.5	0.3	0.3	0.4	0.0	0.7	0.6	0.1
30–34	1.0	1.0	0.8	0.8	0.7	0.7	1.7	0.6	1.4	0.7	1.3	0.8	1.2	0.8	1.2
35–39	1.5	2.2	2.0	1.5	1.8	1.8	2.4	1.5	2.8	2.6	1.4	0.8	1.5	2.0	1.8
40–44	5.2	5.1	6.7	4.7	4.3	4.5	5.3	2.7	4.6	2.6	2.3	4.1	3.5	2.7	3.8
45–49	10.7	12.9	11.2	12.1	9.5	11.7	10.4	7.1	9.1	10.4	8.5	9.3	7.0	7.6	7.7
50–54	30.7	25.2	26.7	23.8	23.0	22.6	17.7	18.6	19.9	17.0	16.3	15.5	15.0	18.3	14.3
55–59	52.1	50.1	60.4	45.5	46.7	46.9	47.4	43.7	39.8	38.2	35.1	34.3	29.2	25.3	29.1
60–64	78.3	80.4	86.1	80.1	80.8	82.1	74.2	70.4	75.8	69.3	56.1	60.3	47.5	54.2	46.8
65–69	113.5	119.1	127.5	115.8	125.1	112.0	108.8	105.2	107.5	100.4	93.3	89.7	79.9	82.6	75.1
70–74	155.9	144.5	163.0	165.2	173.1	166.7	156.8	167.7	148.9	151.5	135.7	128.0	119.5	119.3	98.8
75–79	219.0	229.0	211.9	203.5	188.2	217.3	182.3	189.9	193.1	199.7	195.3	180.4	167.6	167.0	131.4
80–84	294.2	270.4	286.2	281.7	273.0	251.1	290.7	241.5	262.3	259.6	217.2	214.3	197.4	202.1	170.9
85+	418.2	419.1	352.8	385.8	351.6	364.6	329.8	364.0	323.8	335.7	308.2	297.9	262.6	281.1	283.6
All ages															
Crude rate	26.2	26.4	27.9	26.7	26.9	27.4	26.5	26.2	26.8	26.7	24.5	24.1	22.0	22.9	20.7
ASR(A)	35.1	34.6	35.3	33.8	33.2	33.3	31.6	30.8	30.7	30.1	27.2	26.4	23.7	24.4	21.7
95% CI	33.7–36.6	33.3–36.1	34.0–36.7	32.5–35.1	31.9–34.5	32.1–34.6	30.4–32.8	29.6–32.0	29.5–31.8	29.0–31.3	26.2–28.2	25.4–27.4	22.8–24.7	23.5–25.4	20.8–22.6
Ages 55–74															
Crude rate	93.8	93.4	103.9	95.4	99.6	95.3	90.4	89.1	85.5	81.7	71.7	69.6	60.5	61.1	55.3
ASR(A)	93.3	92.1	102.4	94.0	98.2	94.5	89.8	89.1	86.0	82.8	73.5	72.1	63.2	64.3	57.8
95% CI	88.3–98.5	87.1–97.2	97.3–107.8	89.1–99.0	93.3–103.3	89.7–99.5	85.2–94.7	84.6–93.8	81.5–90.6	78.5–87.2	69.6–77.7	68.2–76.1	59.6–67.0	60.7–68.0	54.4–61.3

Note: Rates are the number of deaths from bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Mortality Database.

Table 4.2.2b: Age-specific and age-standardised mortality rates for bowel cancer, Australia, 1992–2006, females

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
20–24	0.0	0.4	0.0	0.3	0.1	0.3	0.0	0.2	0.5	0.2	0.3	0.1	0.1	0.1	0.1
25–29	0.6	0.1	0.6	0.1	0.6	0.4	0.1	0.0	0.1	0.4	0.6	0.3	0.6	0.4	0.1
30–34	0.7	0.7	1.0	1.0	1.4	0.8	1.0	1.3	1.3	1.4	0.9	1.4	0.5	0.5	0.7
35–39	2.2	2.5	1.7	2.2	1.5	1.9	1.7	2.6	1.7	2.8	2.2	2.0	1.4	1.9	1.6
40–44	5.6	4.5	4.3	5.2	4.3	3.3	4.7	4.5	2.6	3.9	3.2	4.4	4.5	3.0	2.5
45–49	11.9	9.8	9.4	7.8	9.8	8.1	10.7	7.8	8.6	6.6	8.2	7.8	6.8	5.8	5.8
50–54	21.5	19.1	17.2	18.9	18.9	17.9	15.9	13.4	12.2	15.6	12.2	13.0	12.1	11.3	9.1
55–59	33.8	37.8	38.6	34.1	33.4	35.1	28.8	29.2	29.1	25.2	20.9	18.0	19.0	14.8	12.4
60–64	47.6	48.7	55.2	49.0	48.5	50.6	47.5	41.1	44.1	35.8	39.6	34.6	27.2	27.8	22.1
65–69	66.0	68.9	73.9	70.6	64.0	67.3	69.9	57.2	58.8	60.8	63.4	50.3	47.2	44.1	45.0
70–74	103.9	104.8	103.4	97.8	97.5	97.4	97.6	88.8	85.7	88.4	88.8	76.7	72.1	69.2	59.9
75–79	126.6	137.8	130.8	138.0	125.9	119.7	135.4	119.6	124.8	111.3	116.9	105.7	101.3	99.2	86.7
80–84	189.5	191.4	181.3	179.8	186.9	174.6	148.9	178.6	161.6	172.0	164.5	152.9	130.3	134.4	131.5
85+	278.5	312.7	301.9	268.7	283.9	265.8	263.5	254.7	267.8	249.3	248.7	231.5	222.5	215.3	180.0
All ages															
Crude rate	22.2	23.4	23.5	22.8	22.9	22.6	22.7	21.7	21.9	21.6	21.7	19.9	18.5	18.0	16.1
ASR(A)	22.9	23.7	23.4	22.5	22.2	21.6	21.3	20.0	19.9	19.3	19.2	17.3	16.0	15.3	13.6
95% CI	21.9–23.9	22.7–24.8	22.4–24.5	21.5–23.4	21.3–23.2	20.7–22.6	20.4–22.3	19.1–20.9	19.1–20.8	18.5–20.2	18.4–20.0	16.6–18.1	15.2–16.7	14.6–16.0	12.9–14.2
Ages 55–74															
Crude rate	60.6	63.1	66.2	61.3	59.1	60.7	58.5	51.7	51.8	49.1	48.6	40.6	37.1	34.3	30.4
ASR(A)	58.6	60.9	63.7	58.8	56.9	58.7	56.5	50.4	50.9	48.5	48.7	41.2	38.0	35.5	31.6
95% CI	54.7–62.7	57.0–65.1	59.7–67.9	55.0–62.9	53.2–60.9	54.9–62.7	52.8–60.4	47.0–54.1	47.5–54.6	45.1–52.0	45.4–52.2	38.2–44.4	35.1–41.0	32.8–38.5	29.1–34.4

Note: Rates are the number of deaths from bowel cancer per 100,000 females. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Mortality Database.

Table 4.2.2c: Age-specific and age-standardised mortality rates for bowel cancer, Australia, 1992–2006, persons

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1
20–24	0.0	0.2	0.2	0.2	0.1	0.3	0.1	0.3	0.3	0.2	0.3	0.1	0.1	0.2	0.1
25–29	0.4	0.3	0.4	0.1	0.5	0.5	0.3	0.3	0.2	0.4	0.5	0.1	0.7	0.5	0.1
30–34	0.8	0.8	0.9	0.9	1.0	0.8	1.3	0.9	1.3	1.0	1.1	1.1	0.9	0.7	0.9
35–39	1.8	2.3	1.9	1.9	1.6	1.8	2.1	2.1	2.3	2.7	1.8	1.4	1.4	2.0	1.7
40–44	5.4	4.8	5.5	5.0	4.3	3.9	5.0	3.6	3.6	3.2	2.7	4.2	4.0	2.9	3.1
45–49	11.3	11.4	10.3	10.0	9.7	9.9	10.5	7.5	8.9	8.5	8.3	8.5	6.9	6.7	6.8
50–54	26.2	22.2	22.1	21.4	21.0	20.3	16.8	16.0	16.1	16.3	14.3	14.2	13.5	14.8	11.7
55–59	43.1	44.0	49.6	39.9	40.1	41.1	38.3	36.6	34.6	31.8	28.1	26.3	24.1	20.0	20.8
60–64	62.9	64.5	70.6	64.5	64.6	66.3	60.8	55.8	60.1	52.7	47.9	47.6	37.4	41.1	34.5
65–69	88.8	93.1	99.9	92.5	93.8	89.2	89.0	80.7	82.7	80.3	78.1	69.7	63.3	63.1	59.9
70–74	127.3	122.7	130.4	128.5	132.1	129.4	125.1	125.8	115.6	118.4	111.2	101.2	94.8	93.3	78.6
75–79	164.9	175.7	164.7	165.5	152.3	161.3	155.5	149.9	154.3	150.0	151.5	139.0	131.2	130.0	107.1
80–84	228.1	220.7	220.2	217.8	219.1	203.4	202.5	202.6	200.3	206.0	185.2	177.3	157.2	161.7	147.6
85+	319.1	343.8	316.9	303.5	304.1	295.4	283.6	288.0	285.0	276.0	267.2	252.3	235.1	236.3	213.6
All ages															
Crude rate	24.2	24.9	25.7	24.7	24.9	25.0	24.6	23.9	24.3	24.1	23.1	22.0	20.2	20.4	18.4
ASR(A)	28.1	28.4	28.7	27.3	27.1	26.8	25.8	24.8	24.8	24.1	22.8	21.4	19.5	19.4	17.2
95% CI	27.2–28.9	27.6–29.3	27.9–29.6	26.5–28.1	26.3–27.9	26.0–27.5	25.1–26.6	24.0–25.5	24.1–25.5	23.5–24.8	22.1–23.4	20.8–22.1	18.9–20.1	18.9–20.1	16.7–17.8
Ages 55–74															
Crude rate	76.8	77.9	84.6	77.9	79.0	77.7	74.2	70.2	68.5	65.3	60.1	55.0	48.7	47.6	42.7
ASR(A)	75.2	75.9	82.4	75.7	76.8	76.0	72.7	69.2	68.0	65.3	60.9	56.4	50.4	49.7	44.5
95% CI	72.0–78.6	72.7–79.2	79.0–85.8	72.5–78.9	73.6–80.0	72.9–79.2	69.7–75.9	66.3–72.2	65.2–71.0	62.5–68.2	58.3–63.7	53.9–59.0	48.0–52.9	47.3–52.1	42.3–46.8

Note: Rates are the number of deaths from bowel cancer per 100,000 persons. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Mortality Database.

Table 4.2.3a: Number of deaths from bowel cancer, by state and territory, 2002–2006, males

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	1	0	0	0	0	0	0	0	1
20–24	2	1	2	1	0	0	0	0	6
25–29	2	6	2	1	0	1	0	0	12
30–34	9	8	8	5	6	1	2	1	40
35–39	20	12	13	4	7	0	0	2	58
40–44	35	37	23	12	9	5	3	1	125
45–49	78	76	52	35	24	11	8	4	288
50–54	141	140	84	59	62	15	15	10	526
55–59	280	243	189	69	82	21	17	10	911
60–64	371	292	253	124	93	48	23	6	1210
65–69	508	386	300	131	147	42	13	9	1536
70–74	609	515	344	144	118	58	19	3	1810
75–79	648	621	352	164	184	63	25	4	2061
80–84	466	444	286	147	119	35	15	3	1515
85+	418	401	229	114	116	42	7	2	1329
All ages	**3,588**	**3,182**	**2,137**	**1,010**	**967**	**342**	**147**	**55**	**11,428**
Ages 55–74	**1,768**	**1,436**	**1,086**	**468**	**440**	**169**	**72**	**28**	**5,467**

Note: State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.3b: Number of deaths from bowel cancer, by state and territory, 2002–2006, females

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	1	0	1	0	0	1	1	0	4
20–24	1	3	1	1	0	0	0	0	6
25–29	4	4	2	2	1	1	0	0	14
30–34	4	14	4	2	4	3	0	1	32
35–39	24	19	11	6	5	2	0	0	67
40–44	45	34	21	16	10	5	2	3	136
45–49	71	65	47	27	28	4	5	1	248
50–54	128	101	77	30	29	10	5	3	383
55–59	161	122	109	37	47	21	5	1	503
60–64	231	168	118	49	61	27	13	5	672
65–69	309	258	187	77	62	23	10	6	932
70–74	372	349	252	99	92	28	20	3	1215
75–79	472	426	274	131	139	53	20	4	1519
80–84	495	483	268	139	160	45	16	2	1608
85+	674	623	376	192	217	88	25	2	2197
All ages	**2,992**	**2,669**	**1,748**	**808**	**855**	**311**	**122**	**31**	**9,536**
Ages 55–74	**1,073**	**897**	**666**	**262**	**262**	**99**	**48**	**15**	**3,322**

Note: State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.3c: Number of deaths from bowel cancer, by state and territory, 2002–2006, persons

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	2	0	1	0	0	1	1	0	5
20–24	3	4	3	2	0	0	0	0	12
25–29	6	10	4	3	1	2	0	0	26
30–34	13	22	12	7	10	4	2	2	72
35–39	44	31	24	10	12	2	0	2	125
40–44	80	71	44	28	19	10	5	4	261
45–49	149	141	99	62	52	15	13	5	536
50–54	269	241	161	89	91	25	20	13	909
55–59	441	365	298	106	129	42	22	11	1414
60–64	602	460	371	173	154	75	36	11	1882
65–69	817	644	487	208	209	65	23	15	2468
70–74	981	864	596	243	210	86	39	6	3025
75–79	1120	1047	626	295	323	116	45	8	3580
80–84	961	927	554	286	279	80	31	5	3123
85+	1,092	1,024	605	306	333	130	32	4	3526
All ages	**6,580**	**5,851**	**3,885**	**1,818**	**1,822**	**653**	**269**	**86**	**20,964**
Ages 55–74	**2,841**	**2,333**	**1,752**	**730**	**702**	**268**	**120**	**43**	**8,789**

Note: State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.4a: Age-specific and age-standardised mortality rates for bowel cancer, by state and territory, 2002–2006, males

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.2	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.2
25–29	0.2	0.7	0.3	0.3	0.0	1.5	0.0	0.0	0.3
30–34	0.7	0.8	1.1	1.3	2.2	1.3	3.1	2.1	1.1
35–39	1.6	1.3	1.9	1.1	2.5	0.0	0.0	4.5	1.6
40–44	2.8	4.0	3.2	3.1	3.1	5.6	4.9	2.4	3.3
45–49	6.6	8.7	7.6	9.5	8.6	12.5	13.9	10.7	8.1
50–54	13.0	17.5	13.0	17.3	23.8	18.0	27.2	29.3	15.9
55–59	28.3	33.8	31.8	23.0	34.4	27.2	35.5	36.8	30.4
60–64	48.6	52.5	55.7	55.8	51.2	78.5	72.4	33.2	52.9
65–69	82.1	85.4	85.6	76.0	98.5	85.7	57.5	87.3	84.2
70–74	117.1	135.1	123.8	105.1	91.3	144.0	109.2	50.5	119.9
75–79	153.2	199.3	161.2	153.9	165.5	196.4	184.1	107.0	168.9
80–84	175.2	229.1	209.1	228.7	168.5	177.5	174.9	188.0	199.0
85+	260.2	334.8	270.5	288.6	266.3	350.6	151.4	198.4	285.3
All ages									
Crude rate	21.6	25.8	22.0	20.2	25.4	28.8	18.1	10.4	22.8
ASR(A)	22.6	27.5	24.6	23.9	24.2	28.3	23.9	20.2	24.6
95% CI	21.9–23.4	26.6–28.5	23.5–25.6	22.4–25.5	22.7–25.7	25.3–31.5	20.0–28.2	13.8–28.1	24.2–25.1
Ages 55–74									
Crude rate	61.1	68.2	64.7	56.3	63.0	74.3	60.1	45.5	63.5
ASR(A)	63.2	70.4	68.3	59.7	64.2	76.9	64.8	49.6	66.1
95% CI	60.3–66.2	66.8–74.2	64.3–72.5	54.4–65.4	58.3–70.5	65.7–89.5	50.4–82.0	31.7–73.2	64.3–67.8

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.4b: Age-specific and age-standardised mortality rates for bowel cancer, by state and territory, 2002–2006, females

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.1	0.0	0.0	1.2	1.7	0.0	0.1
20–24	0.1	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.2
25–29	0.3	0.5	0.3	0.6	0.4	1.5	0.0	0.0	0.4
30–34	0.3	1.4	0.5	0.5	1.5	3.7	0.0	2.2	0.8
35–39	2.0	2.0	1.5	1.6	1.8	2.4	0.0	0.0	1.8
40–44	3.5	3.6	2.8	4.1	3.4	5.4	3.1	7.8	3.5
45–49	5.9	7.3	6.7	7.4	9.9	4.4	8.0	2.9	6.9
50–54	11.7	12.4	12.0	9.0	10.9	11.9	8.6	10.0	11.5
55–59	16.5	16.8	18.9	13.0	19.3	27.2	10.3	4.6	17.0
60–64	30.4	30.0	27.0	23.1	32.7	44.6	40.2	37.1	29.7
65–69	48.2	54.3	54.4	44.4	39.0	45.9	41.7	77.3	49.7
70–74	65.1	82.7	87.1	68.2	63.9	64.3	104.8	59.8	74.1
75–79	90.3	110.0	106.7	104.5	100.2	136.2	118.3	115.2	101.9
80–84	123.8	164.4	137.5	148.4	147.6	146.9	125.0	91.0	141.5
85+	191.2	238.5	219.0	223.4	224.6	324.3	243.7	125.2	218.2
All ages									
Crude rate	17.7	21.1	17.9	16.4	21.9	25.5	14.7	6.4	18.8
ASR(A)	14.8	17.7	16.8	15.5	16.1	19.8	17.3	14.5	16.2
95% CI	14.3–15.3	17.0–18.4	16.0–17.6	14.4–16.6	15.0–17.2	17.6–22.1	14.3–20.6	9.3–21.2	15.9–16.5
Ages 55–74									
Crude rate	36.4	41.1	40.4	32.2	35.8	42.8	38.7	31.3	38.1
ASR(A)	36.8	41.7	42.5	33.6	36.1	43.3	44.0	40.0	39.0
95% CI	34.7–39.1	39.0–44.5	39.3–45.9	29.7–38.0	31.9–40.8	35.2–52.7	32.3–58.6	21.6–67.1	37.7–40.3

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 females. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.4c: Age-specific and age-standardised mortality rates for bowel cancer, by state and territory, 2002–2006, persons

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.1	0.0	0.0	0.6	0.8	0.0	0.1
20–24	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.2
25–29	0.3	0.6	0.3	0.4	0.2	1.5	0.0	0.0	0.4
30–34	0.5	1.1	0.8	0.9	1.9	2.5	1.5	2.2	1.0
35–39	1.8	1.7	1.7	1.3	2.2	1.2	0.0	2.3	1.7
40–44	3.1	3.8	3.0	3.6	3.2	5.5	4.0	4.9	3.4
45–49	6.3	8.0	7.2	8.5	9.3	8.4	10.9	6.9	7.5
50–54	12.4	14.9	12.5	13.2	17.3	14.9	17.6	20.2	13.7
55–59	22.5	25.2	25.4	18.2	26.8	27.2	22.8	22.6	23.8
60–64	39.5	41.2	41.6	39.8	41.8	61.6	56.2	34.8	41.4
65–69	64.8	69.5	70.1	60.2	67.8	65.6	49.4	83.0	66.7
70–74	89.9	107.6	105.1	86.1	76.9	102.6	106.9	54.7	96.1
75–79	118.5	149.8	131.8	127.2	129.3	163.4	147.6	110.9	132.1
80–84	144.3	190.1	167.0	181.1	155.9	158.8	145.0	131.8	164.6
85+	212.8	268.8	236.0	243.9	237.6	332.4	215.0	153.5	239.4
All ages									
Crude rate	19.6	23.5	19.9	18.3	23.6	27.1	16.4	8.4	20.8
ASR(A)	18.3	22.1	20.4	19.4	19.8	23.8	20.6	17.2	20.0
95% CI	17.9–18.8	21.5–22.6	19.8–21.0	18.5–20.3	18.9–20.7	22.0–25.7	18.2–23.2	13.1–22.1	19.8–20.3
Ages 55–74									
Crude rate	48.7	54.4	52.7	44.3	49.1	58.4	49.3	39.3	50.7
ASR(A)	49.7	55.7	55.5	46.7	49.7	59.8	54.3	45.4	52.3
95% CI	47.9–51.6	53.4–58.0	52.9–58.1	43.3–50.2	46.1–53.6	52.8–67.4	44.9–65.1	32.0–62.1	51.2–53.4

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 persons. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. State and territory refers to the state or territory of usual residence.

Source: AIHW National Mortality Database.

Table 4.2.5a: Number of deaths from bowel cancer, by region, 2002–2006, males

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	1	0	0	0	0	1
20–24	3	3	0	0	0	6
25–29	5	6	1	0	0	12
30–34	33	5	1	0	1	40
35–39	36	14	7	0	1	58
40–44	75	21	23	5	0	125
45–49	170	74	35	6	1	286
50–54	339	102	77	8	1	526
55–59	567	215	117	6	5	910
60–64	718	305	163	14	6	1207
65–69	910	395	196	29	5	1535
70–74	1106	494	187	16	3	1807
75–79	1304	486	237	30	5	2061
80–84	972	384	148	8	3	1515
85+	833	325	158	8	3	1328
Not stated	0	0	0	0	0	0
All ages	**7,073**	**2,829**	**1,350**	**130**	**35**	**11,417**
Ages 55–74	**3,302**	**1,409**	**664**	**65**	**19**	**5,459**

Notes

1. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.
2. There were 11 deaths excluded from these data because the respective postcodes were not able to be matched to the coding used for this analysis or postcodes were not provided.

Source: AIHW National Mortality Database.

Table 4.2.5b: Number of deaths from bowel cancer, by region, 2002–2006, females

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	2	2	0	0	0	4
20–24	3	2	0	0	1	6
25–29	12	1	1	0	0	14
30–34	16	8	8	0	0	32
35–39	48	13	4	1	0	67
40–44	93	20	17	5	1	136
45–49	169	47	28	2	2	248
50–54	244	89	39	9	1	383
55–59	327	119	51	4	0	502
60–64	407	171	86	7	1	672
65–69	584	221	109	12	4	930
70–74	758	310	130	11	3	1211
75–79	960	390	153	14	1	1518
80–84	1082	351	157	10	6	1607
85+	1434	544	196	15	5	2193
All ages	**6,139**	**2,289**	**979**	**89**	**26**	**9,523**
Ages 55–74	**2,076**	**820**	**376**	**34**	**8**	**3,315**

Notes

1. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.
2. There were 13 deaths excluded from these data because the respective postcodes were not able to be matched to the coding used for this analysis or postcodes were not provided.

Source: AIHW National Mortality Database.

Table 4.2.5c: Number of deaths from bowel cancer, by region, 2002–2006, persons

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	3	2	0	0	0	5
20–24	6	5	0	0	1	12
25–29	17	8	2	0	0	26
30–34	49	13	9	0	1	72
35–39	84	27	12	1	1	125
40–44	168	41	40	10	1	261
45–49	339	121	63	8	3	534
50–54	583	191	116	17	2	909
55–59	894	334	169	10	5	1412
60–64	1125	476	249	21	8	1879
65–69	1495	615	305	41	9	2465
70–74	1864	804	317	27	6	3018
75–79	2264	876	389	43	6	3579
80–84	2055	735	305	18	10	3122
85+	2267	870	354	23	8	3521
All ages	**13,212**	**5,118**	**2,329**	**220**	**61**	**20,940**
Ages 55–74	**5,378**	**2,229**	**1,040**	**99**	**28**	**8,774**

Notes

1. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.
2. There were 24 deaths excluded from these data because the respective postcodes were not able to be matched to the coding used for this analysis or postcodes were not provided.

Source: AIHW National Mortality Database.

Table 4.2.6a: Age-specific and age-standardised mortality rates for bowel cancer, by region, 2002–2006, males

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.1	0.5	0.1	0.0	0.0	0.2
25–29	0.2	1.2	0.2	0.0	0.0	0.3
30–34	1.2	0.8	0.3	0.0	2.5	1.1
35–39	1.4	2.0	2.1	0.0	2.7	1.6
40–44	3.0	2.7	5.9	7.1	0.6	3.3
45–49	7.3	9.8	9.2	10.1	3.2	8.0
50–54	15.8	14.3	21.3	13.9	4.2	15.9
55–59	29.3	32.5	35.5	12.0	20.6	30.4
60–64	49.7	57.4	61.3	37.0	38.3	52.7
65–69	80.0	89.2	90.1	104.0	41.2	84.1
70–74	117.1	134.8	108.2	77.7	45.7	119.7
75–79	167.1	165.5	179.8	197.2	96.2	168.9
80–84	193.8	217.4	194.1	97.3	116.5	199.0
85+	267.8	299.6	328.6	156.7	169.3	285.1
All ages						
Crude rate	21.3	27.3	26.1	15.2	7.5	22.8
ASR(A)	23.7	26.1	26.5	19.7	13.4	24.6
95% CI	23.2–24.3	25.1–27.1	25.1–28.0	16.3–23.5	8.9–18.9	24.2–25.1
Ages 55–74						
Crude rate	60.4	70.4	67.2	47.7	32.8	63.4
ASR(A)	63.4	72.0	68.8	51.8	34.7	66.0
95% CI	61.2–65.6	68.3–75.9	63.7–74.3	39.8–66.0	20.3–54.2	64.2–67.7

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 males. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Mortality Database.

Table 4.2.6b: Age-specific and age-standardised mortality rates for bowel cancer, by region, 2002–2006, females

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.3	0.0	0.0	0.0	0.1
20–24	0.1	0.4	0.0	0.0	3.0	0.2
25–29	0.5	0.2	0.3	0.0	0.0	0.4
30–34	0.6	1.2	2.3	0.0	0.0	0.8
35–39	1.9	1.8	1.2	1.6	0.3	1.8
40–44	3.6	2.5	4.5	7.7	4.0	3.5
45–49	7.0	6.1	7.7	3.6	7.8	6.9
50–54	11.0	12.6	11.8	18.6	5.4	11.5
55–59	16.9	18.2	16.7	9.5	2.7	17.0
60–64	28.2	32.5	35.0	24.5	8.8	29.7
65–69	48.5	49.4	54.3	53.1	47.8	49.6
70–74	71.0	80.4	78.1	59.9	39.8	73.9
75–79	96.6	114.5	106.5	97.9	27.1	101.9
80–84	140.6	139.0	150.0	102.2	195.8	141.4
85+	207.9	244.1	207.6	162.4	167.9	217.8
All ages						
Crude rate	18.1	21.8	19.7	11.7	6.5	18.8
ASR(A)	15.7	17.2	17.0	14.1	11.3	16.2
95% CI	15.3–16.1	16.5–17.9	16.0–18.1	11.3–17.4	7.2–16.7	15.9–16.5
Ages 55–74						
Crude rate	36.7	40.8	41.0	30.6	18.4	38.0
ASR(A)	37.6	41.3	42.1	33.1	21.6	38.9
95% CI	36.0–39.3	38.5–44.2	37.9–46.5	22.6–45.9	8.8–41.0	37.6–40.2

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 females. All-age totals and 55–74 totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Mortality Database.

Table 4.2.6c: Age-specific and age-standardised mortality rates for bowel cancer, by region, 2002–2006, persons

Age group	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.1	0.0	0.0	0.0	0.1
20–24	0.1	0.4	0.0	0.0	1.4	0.2
25–29	0.3	0.7	0.3	0.0	0.0	0.4
30–34	0.9	1.0	1.3	0.0	1.3	1.0
35–39	1.7	1.9	1.6	0.7	1.5	1.7
40–44	3.3	2.6	5.2	7.4	2.2	3.4
45–49	7.2	8.0	8.5	7.1	5.3	7.4
50–54	13.4	13.4	16.7	16.1	4.7	13.7
55–59	23.1	25.4	26.5	10.9	12.8	23.7
60–64	38.9	45.0	48.7	31.4	25.7	41.3
65–69	63.8	69.3	72.9	81.0	44.1	66.6
70–74	92.7	106.9	93.4	69.4	43.0	95.9
75–79	127.6	138.1	141.6	149.3	63.2	132.1
80–84	161.6	171.3	168.6	100.0	158.5	164.5
85+	226.5	262.3	248.4	160.3	168.5	239.1
All ages						
Crude rate	19.7	24.6	23.0	13.6	7.0	20.8
ASR(A)	19.3	21.3	21.5	17.1	12.6	20.0
95% CI	18.9–19.6	20.8–21.9	20.6–22.4	14.9–19.6	9.4–16.2	19.7–20.3
Ages 55–74						
Crude rate	48.3	55.5	54.6	40.0	26.5	50.6
ASR(A)	50.1	56.5	55.9	43.3	29.1	52.2
95% CI	48.8–51.5	54.2–58.9	52.6–59.4	35.0–52.6	19.0–42.4	51.1–53.3

Notes

1. Rates are the number of deaths from bowel cancer per 100,000 persons. All-age totals and 55–74 totals are age-standardised to the Australian 2001 population.
2. Regions are classified using the Australian Standard Geographical Classification (ASGC). Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Mortality Database.

Table 4.2.7: Number of deaths from bowel cancer, by age and Aboriginal and Torres Strait Islander status, Queensland, Western Australia, South Australia, Northern Territory, 2002–2006

	Aboriginal and Torres Strait Islander			Non-Indigenous			Total		
Age group	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	1	1	0	1	1
20–24	0	0	0	3	2	5	3	2	5
25–29	0	0	0	3	5	8	3	5	8
30–34	n.p.	n.p.	3	19	9	28	20	11	31
35–39	n.p.	n.p.	2	24	20	44	26	22	48
40–44	n.p.	n.p.	4	43	47	90	45	50	95
45–49	n.p.	n.p.	7	110	100	210	115	103	218
50–54	n.p.	n.p.	9	207	134	341	215	139	354
55–59	n.p.	n.p.	8	341	193	534	350	194	544
60–64	n.p.	n.p.	10	467	224	691	476	233	709
65–69	n.p.	n.p.	13	577	320	897	587	332	919
70–74	n.p.	n.p.	1	604	441	1,045	609	446	1,055
75+	n.p.	n.p.	12	1,702	1,881	3,583	1,720	1,904	3,624
Not stated	n.p.	n.p.	1	0	0	0	0	1	1
All ages	**37**	**33**	**70**	**4,100**	**3,377**	**7,477**	**4,169**	**3,443**	**7,612**
Ages 55–74	**16**	**16**	**32**	**1,989**	**1,178**	**3,167**	**2,022**	**1,205**	**3,227**

Notes

1. Only Queensland, Western Australia, South Australia and the Northern Territory have Aboriginal and Torres Strait Islander death registration data considered to be of a publishable standard; therefore, data from these jurisdictions only are included in the analysis by Aboriginal and Torres Strait Islander status.
2. Deaths where Aboriginal and Torres Strait Islander status was not recorded or was unknown were included in the Total column, but they are not included in the other columns; there were 65 deaths where Aboriginal and Torres Strait Islander status was not recorded or was unknown.
3. n.p. Not available for publication due to small numbers.

Source: AIHW National Mortality Database.

Table 4.2.8: Age-standardised and age-specific mortality rates for bowel cancer, by Aboriginal and Torres Strait Islander status, Queensland, Western Australia, South Australia, Northern Territory, 2002–2006

	Aboriginal and Torres Strait Islander			Non-Indigenous			Total		
Age group	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
20–24	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
25–29	0.0	0.0	0.0	0.2	0.4	0.3	0.2	0.4	0.3
30–34	1.8	3.4	2.6	1.4	0.7	1.0	1.4	0.8	1.1
35–39	2.2	1.9	2.0	1.8	1.5	1.6	1.9	1.6	1.7
40–44	5.0	4.5	4.8	3.1	3.3	3.2	3.1	3.4	3.3
45–49	16.2	5.9	10.8	8.2	7.4	7.8	8.4	7.5	7.9
50–54	20.5	14.8	17.5	16.5	10.7	13.6	16.8	10.9	13.9
55–59	41.6	5.4	22.6	29.8	17.4	23.7	30.2	17.2	23.8
60–64	36.4	45.2	41.2	54.0	26.8	40.6	54.4	27.4	41.1
65–69	68.0	86.0	78.1	85.5	47.5	66.5	86.0	48.6	67.3
70–74	0.0	16.4	9.1	110.8	76.4	93.1	110.7	76.4	93.1
75+	133.4	65.4	93.1	194.2	147.9	166.8	195.1	148.8	167.7
All ages									
Crude rate	5.2	4.5	4.8	22.3	18.4	20.4	21.9	18.0	19.9
ASR(A)	16.9	11.7	14.0	23.8	16.4	19.9	24.0	16.6	20.0
95% CI	0.0–65.1	0.0–44.9	0.0–40.5	19.3–28.4	13.0–19.9	17.1–22.7	19.5–28.6	13.2–20.0	17.3–22.8
Ages 55–74									
Crude rate	40.0	33.9	36.7	61.6	36.9	49.3	61.9	37.2	49.6
ASR(A)	37.5	35.5	36.8	64.6	38.3	51.4	64.9	38.7	51.7
95% CI	21.2–61.4	20.1–57.8	25.0–52.1	61.7–67.5	36.1–40.6	49.6–53.3	62.1–67.8	36.5–40.9	50.0–53.6

Notes

1. Only Queensland, Western Australia, South Australia and the Northern Territory have Aboriginal and Torres Strait Islander death registration data considered to be of a publishable standard; therefore, data from these jurisdictions only are included in the analysis by Aboriginal and Torres Strait Islander status.
2. Deaths where Aboriginal and Torres Strait Islander status was not recorded or was unknown were included in the Total column, but they are not included in the other columns; there were 65 deaths where Aboriginal and Torres Strait Islander status was not recorded or was unknown.
3. Rates equal the number of deaths from bowel cancer per 100,000 males, females and persons. All-age totals and 55–74 year totals are age-standardised to the Australian 2001 population.

Source: AIHW National Mortality Database.

Appendix A: The screening pathway

The participant's screening pathway for the first phase of the program (Figure A.1) has been taken from the Australian Government Department of Health and Ageing website. The screening pathway and other information about the NBCSP and Pilot Program can be found at <www.cancerscreening.gov.au>.

The total number of people invited to participate in the NBCSP and their progression through the screening pathway is given in Figure A.2.

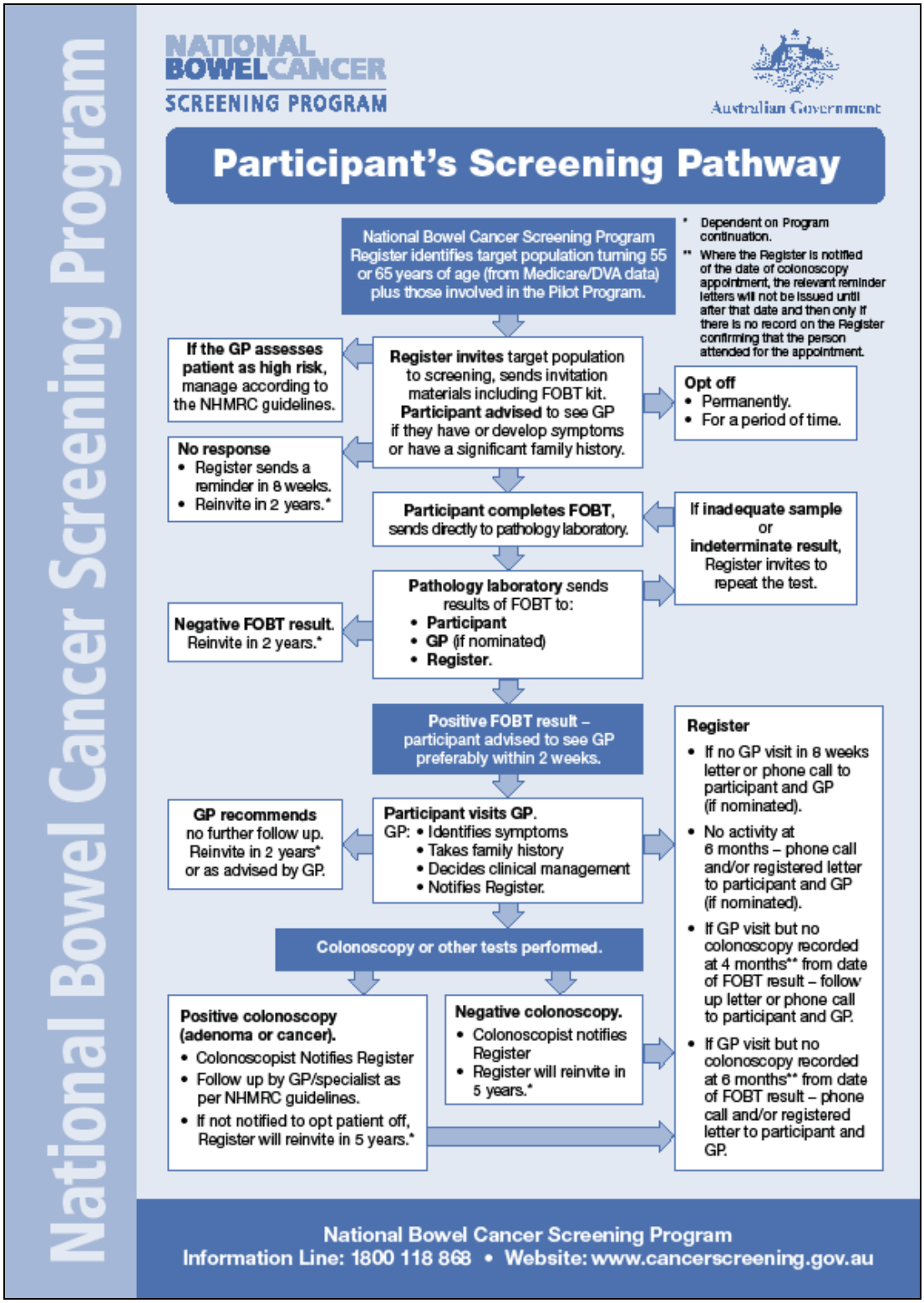
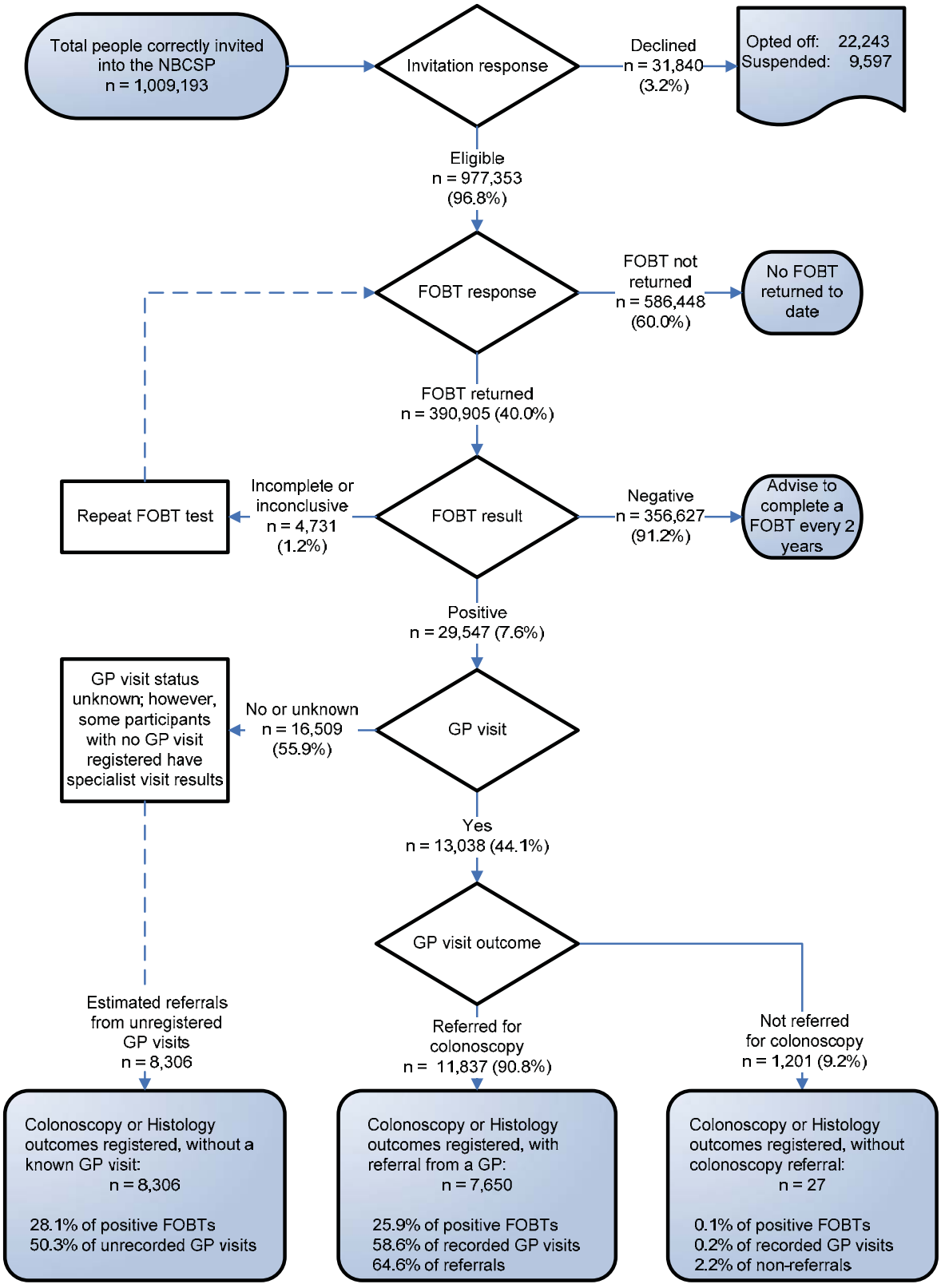


Figure A.1: Participant's screening pathway



Source: National Bowel Cancer Screening Program Register.

Figure A.2: Total number of people invited to participate in the NBCSP at key pathway points, 7 August 2006 to 30 June 2008

Appendix B: Definitions

Target population

Phase one of the NBCSP defines the eligible population as:

- Australians turning 55 or 65 years of age between 1 May 2006 and 30 June 2008; and
- those who were invited to participate in the Bowel Cancer Screening Pilot Program regardless of whether or not they participated in the Pilot Program.

Eligible population

National Program invitees who turned 55 or 65 years before 1 May 2006 or after 30 June 2008 or Pilot Program participants and invitees who were outside the ages of 55–74 years as at 1 January 2003 are ineligible to participate and are excluded from the analyses.

In addition, a person may choose to opt off or suspend participation in the NBCSP, or their GP may recommend they opt off or suspend participation in the NBCSP (for example, because of a recent colonoscopy or previous diagnosis of bowel cancer). A person can opt off or suspend participation at various points along the screening pathway, for example, before completing an FOBT, or when following up a FOBT result with their doctor. People choosing to opt off or suspend participation are classified as ineligible and excluded from further analysis.

Geographic location classifications

Geographic location was classified according to the Australian Bureau of Statistics (ABS) Australian Standard Geographical Classification (ASGC) Remoteness Structure, which groups geographic areas into six categories. These categories, called Remoteness Areas (RAs), are based on Census Collection Districts (CDs) and defined using the Accessibility/Remoteness Index for Australia (ARIA). ARIA is a measure of the remoteness of a location from the services provided by large towns or cities. Accessibility is judged purely on distance to one of the metropolitan centres. A higher ARIA score denotes a more remote location. The six RAs of the ASGC Remoteness Structure are listed in Table B.1; the sixth 'Migratory' area is not used in this publication.

Residential address postcodes of participants were mapped to Census Collection Districts (CDs) in 2006 and then classified to the five main RAs, ranging from Major cities to Very remote areas. As some postcodes can span different RAs, a weighting for each RA is attributed to the postcode.

Table B.1: Remoteness areas for the ASGC

Region	Collection districts within region
Major cities of Australia	CDs with an average ARIA index value of 0 to 0.2
Inner regional Australia	CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
Outer regional Australia	CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
Remote Australia	CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
Very remote Australia	CDs with an average ARIA index value greater than 10.53
Migratory	Areas composed of off-shore, shipping and migratory CDs (not included in this report)

Socioeconomic classifications

Socioeconomic classifications are based on the ABS Index of Relative Socioeconomic Disadvantage (IRSD). Geographic areas are assigned a score based on attributes such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations. It does not refer to the socioeconomic situation of a particular individual but instead refers to the area in which a person lives. A low score means an area has many low income families, people with little training and high unemployment, and may be considered disadvantaged relative to other areas. Areas with high index scores may be considered less disadvantaged relative to other areas. Geographic areas may be excluded where no score is determined due to low populations or high levels of non-response in the underlying census. In the 2006 Socio-Economic Index for Areas (SEIFA) 36 Postal Areas have been excluded.

In this report, a participant's socioeconomic status is classified using the participant's residential postcode according to the IRSD for 2006. Quintiles based on the level of the index are used for analysis where quintile 1 represents the least disadvantaged fifth of the population and quintile 5 the most disadvantaged fifth.

Aboriginal and Torres Strait Islander status

Identification of an individual as Aboriginal and Torres Strait Islander is based on self-identification to Medicare Australia through this or other programs. The denominator for initial participation rates for Aboriginal and Torres Strait Islander people is estimated from the 2006 Census. See Appendix C for a description of the method of estimation.

Preferred correspondence language

Identification of an individual as preferring to correspond in a language other than English is based on self-identification to Medicare Australia through this or other programs. However, if no preference was indicated by an individual, English is assumed. The denominator for initial participation rates stratified by preferred correspondence language is estimated from the 2006 Census. See Appendix C for a description of the method of estimation.

Disability status

A severe of profound disability status refers to those people who returned a completed FOBT kit and identified a need for assistance due to a disability in questions 6–9 in the Participant Details form. These questions relate to need for assistance with self-care, movement and communication and are directly comparable to questions on need for assistance due to a disability from the 2006 Census. The denominator for initial participation rates stratified by disability level is estimated from the 2006 Census. See Appendix C for a description of the method of estimation.

Polyps

Colorectal polyps are small growths of colon tissue that protrude into the colonic or rectal lumen. They are usually asymptomatic, but sometimes cause rectal bleeding, and rarely, other symptoms. Polyps may occur individually but it is not uncommon for a person to have multiple polyps. They occur more commonly in later life, and hereditary and dietary (lifestyle) factors are also implicated in their occurrence. Polyps may become cancerous and are generally defined as two main types:

- Hyperplastic: A type of polyp that has a low risk, if any, of developing into a cancer. However, people with multiple hyperplastic polyps are associated with an increased risk of bowel cancer.
- Adenoma (Adenomatous): A polyp that has a higher chance of becoming cancerous as they contain molecular characteristics that are common with adenocarcinoma. See Adenoma classifications (below).

Polyp number, size and microscopic features may also predict the likelihood of the polyp becoming cancerous, with larger and flatter (non-stalked) polyps having the higher risk. During a colonoscopy polyps are removed, thus lowering the risk of bowel cancer developing in the person.

Adenoma classifications

An adenoma (adenomatous polyp) is a benign tumour that arises from epithelial cells that line the inside surface of an organ. All adenomas have malignant potential. Adenomas in the rectum or colon have a higher chance of developing into cancer (adenocarcinoma) than adenomas in most other organs.

Although nearly all cancers in the colon (adenocarcinoma) arise from adenomas, only a small minority of adenomas (1 in 20 or less) actually progress to cancer (Ahnen & Macrae 2008). While most small tubular adenomas have a low risk of progressing to cancer, the risk is much higher in advanced adenomas.

Adenoma classifications are derived from information reported by colonoscopists and pathologists and are classified as listed below from highest risk (advanced) to lowest risk (diminutive). Where a person has multiple adenomas, he or she is classified according to the adenoma having the highest risk.

Advanced adenoma

If any of the indicators of higher risk listed below are present, the adenoma is classified as advanced.

Indicators of higher risk

- Adenoma multiplicity—three or more adenomas present at examination, regardless of histopathology or size.
- Adenoma size—a size of 10 mm or greater. The measurement of size is subject to certain problems with accuracy. Where colonoscopy and pathology reports differ in their recording of size, the larger size has been used.
- High-grade dysplasia.
- Significant villous change or serrated—adenomas recorded as serrated, tubulovillous or villous on pathology reports.

Small adenoma

A tubular or mixed adenoma between 5 mm and 9 mm in size.

Diminutive adenoma

A tubular or mixed adenoma smaller than 5 mm.

Appendix C: Data and statistical methods

Data sources

Multiple data sources were analysed to produce this report. These are summarised in Table C.1. All data used in this report are based on calendar years.

Table C.1: Sources for data presented in this report

Description	Data source
Participation	National Bowel Cancer Screening Program Register
Cancer detection	National Bowel Cancer Screening Program Register
Population data	Australian 2001 standard population and 2006 census, ABS
Incidence (ICD-10 C18–20)	National Cancer Statistics Clearing House, AIHW
Mortality (ICD-9 153, 154.0–154.1, ICD-10 C18–20)	National Mortality Database, AIHW

NBCSP data

As data items are collected from a variety of sources, not all data items may be recorded in the Register in sequence. GP, colonoscopy and histopathology forms are received from different sources and there are both time lags in submitting forms, and failure of clinicians to complete and submit forms to the Register. Hence there are data for colonoscopies without an associated GP Assessment form, and histopathology results without a completed Colonoscopy Report form. The effect of this under-reporting and lags in reporting is that the data on the actions resulting from a positive FOBT are significantly underestimated. Hence the data on colonoscopies undertaken and conditions found should be interpreted with great caution.

In those states using geographic rollout, Outer regional, Remote and Very remote locations may be relatively more under-reported than Major cities and Inner regional areas. Hence, the tables in this report by geographic location and socioeconomic status should be interpreted with caution.

Population data

National Program participation denominators for Aboriginal and Torres Strait Islander status (Table 2.1.4), preferred correspondence language (Table 2.1.5) and disability level (Table 2.1.6), were estimated from the proportion of people in these groups in the 2006 Census.

ABS Australian 2001 standard population data were used to calculate age-standardised rates for the Pilot program, and bowel cancer incidence and mortality.

Incidence data

Incidence data in this report came from the National Cancer Statistics Clearing House (NCSCH), a national collection of cancer statistics held and operated by the AIHW. The NCSCH receives data from individual state and territory cancer registries on cancers diagnosed in residents of Australia, and produces reports on national incidence.

Incidence of bowel cancer in this report is given for 1991–2005, the latest year for which national incidence data is available.

Mortality data

Data for this measure came from the AIHW's National Mortality Database. The National Mortality Database is a national collection of de-identified information for all deaths in Australia and is maintained by the AIHW. Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the ABS. Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year.

Mortality data in this report are given for 1992–2006. During this time, changes have been made to the coding and processing of mortality data that affect comparability of the data. Data for holdings for 1987–1996 were manually coded using the ninth revision of the International Classification of Diseases (ICD-9). Data holdings for 1997 onwards were coded using ICD-10, using an automated system with slightly different coding rules.

The change to the coding and processing of mortality data introduced a break in the data time series. The ABS has developed comparability factors, which are applied to pre-1997 data, so that a single time series may still be derived (ABS 2006). For bowel cancer, the comparability factor is close to 1 (0.98).

Data were analysed using the year of occurrence of death for the period 1992–2005 and year of registration of death for 2006. This is because mortality data by year of occurrence of death is a more accurate reflection of mortality during a particular year than year of registration data; however, year of occurrence data for 2006 are still incomplete owing to late registrations.

All states and territories have provision for the identification of Indigenous deaths on their death registration forms. However, the coverage of deaths identified as Indigenous varies across states and territories and over time. While the identification of Indigenous deaths is incomplete in all state and territory registration systems, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. These four jurisdictions represent approximately 60% of the Indigenous population of Australia.

Data for Indigenous deaths, state and territory and geographic location have been combined for the 5-year period 2002–06 due to the small number of deaths from bowel cancer in each year.

Geographic classification

The approach taken in this report to classify participants as belonging to a specific geographic location is based upon the postcode of the participant's residential address. Postcodes do not map directly to the ARIA classification system (see Appendix B for explanation of the ARIA system). ARIA classifications for postal areas (similar to postcodes)

are determined by amalgamating component Collection Districts (CDs). Where postal areas have component CDs belonging to more than one remoteness area, the ARIA classification is apportioned. Participants with a postcode that spans ARIA classifications must be likewise apportioned. This results in non-integer counts for remoteness classifications. For example, the Northern Territory postal area 0822 is classified as 70.54% Very remote, 6.64% Remote and 22.82% Outer regional. Participants with postcode 0822 have their counts apportioned accordingly.

Tables in this report based on geographical location are rounded to integer values. Where figures are rounded, discrepancies may occur between totals and sums of the component items.

Comparisons and tests of statistical significance

This report includes statistical tests of the significance of comparisons of rates between population groups. Any statistical comparison applied to one variable must take account of any other potentially relevant variables. For example, any comparison of participation by state must also take account of differences in the distribution of age and sex between the states. These other variables are known as 'confounding' variables.

Crude rates

A crude rate is defined as the number of events over a specified period of time divided by the total population. The crude rate (for participation, attendance and follow-up) is the proportion of people who have proceeded to a key point on the screening pathway (at the date of the data download) out of those eligible to proceed to that point. For example, the crude FOBT participation is the proportion of the eligible people who return a completed FOBT kit by 30 June 2008. The crude colonoscopy follow-up is the proportion of people with a positive FOBT result who proceeded to colonoscopy by 30 June 2008.

The crude proportions will generally underestimate the true proportions of the population who participated in the NBCSP. This is because at any point in time there are members of the population who are eligible to proceed to the next point on the screening pathway but who have not yet had time to do so. For example, a person who has just received an invitation to screen may intend to participate in screening but may not have had time to do so. They will be counted in the denominator of the crude FOBT participation but not in the numerator. Similarly, there is a time lag between when a person with a positive FOBT result is referred for colonoscopy and when they can actually have the colonoscopy. A colonoscopy follow-up calculated during this lag includes them in the denominator but not in the numerator.

Kaplan-Meier estimates of participation and follow-up

The Bowel Cancer Screening Pilot Program employed the use of Kaplan-Meier estimates of participation, attendance and follow-up. This statistical method calculates a modelled rate based on the time it takes each individual invited for screening to move between points on the screening pathway. For example, FOBT participation is calculated by following each invited person and, for those who respond, recording the time it takes them to respond. This allows the calculation of a response rate over time from the date of invitation. Kaplan-Meier methods are standard methods used to model the time to an event and the changes in the rates of an event over time. In this case, the event is a person's response (by returning a completed FOBT kit) and the time to the event is measured in weeks from the date the

invitation was sent. These Kaplan-Meier estimates represent valid estimates of the true FOBT participation. The use of Kaplan-Meier estimates in the NBCSP was endorsed by the Implementation Advisory Group and allows direct comparison of participation, attendance and follow-up rates with the Bowel Cancer Screening Pilot Program.

In principle, the Kaplan-Meier estimate only gives a result at a specific point in time. The estimate is likely to grow for later points in time. However, inspection of these estimates shows that they reach a plateau after which they have only a negligible increase. Kaplan-Meier estimates in this report were calculated for participation at 38 weeks and colonoscopy follow-up at 52 weeks. Further, preliminary analyses based on modelling the survival time with both a Weibull and an exponential distribution shows that the latest observed Kaplan-Meier estimate differs from the long-term modelled estimate by less than 1 percentage point. Hence the latest Kaplan-Meier estimate can be taken as an approximate estimate of the overall rate.

The Kaplan-Meier estimates require that classifying variables be known for the population. Hence they can be calculated for FOBT participation classified by age, sex and state. However, they cannot be used for FOBT participation classified by Aboriginal and Torres Strait Islander status or language group which are not known for all the invited population. These variables are only known for those participants who identify themselves as a member of these groups on their returned Participant Details form. In these cases, a crude participation can be calculated by using known population counts (from the Australian Bureau of Statistics Census data) in the denominator. However, the Kaplan-Meier estimates cannot be applied in this situation. In these cases, all analyses will be based solely on the crude participation. Therefore, the FOBT participation presented in this report for Aboriginal and Torres Strait Islander people, people with a disability and people with a language other than English may represent underestimates of the true proportions.

Aboriginal and Torres Strait Islander and disability status and language group will be known for all people completing FOBT kits (at least to the extent that people self-identify as members of these groups). Hence in principle Kaplan-Meier estimates can be calculated for these groups for participation at subsequent points on the screening pathway. In practice, these calculations depend on sufficient numbers of people self-identifying as group members to allow the calculation of reliable estimates.

Age-specific rates

Age-specific rates are calculated by dividing the number of cases occurring in each specified age group by the corresponding population in the same age group, expressed as per 100,000 persons.

Age-standardised rates (ASRs)

Rates are adjusted for age to facilitate comparisons between populations that have different age structures, for example, between youthful and ageing communities. There are two different methods commonly used to adjust for age. In this publication direct standardisation is used, in which age-specific rates are multiplied against a constant population (the Australian 2001 population). This effectively removes the influence of age structure on the summary rate and is described as the age-standardised rate.

The method used for this calculation comprises three steps:

- Calculate the age-specific rate for each age group.
- Calculate the expected number of cases in each 5-year age group by multiplying the age-specific rates by the corresponding standard population and dividing by 100,000, giving you the expected number of cases.
- To give the age-standardised rate, sum the expected number of cases in each age group. Divide this sum by the total of the standard population used in the calculation and multiply by 100,000.

Confidence intervals (CI)

The crude rates in the National program and the age-standardised rates presented in the Pilot program also show 95% confidence intervals. These confidence intervals indicate the variation that might be expected in such estimates purely by chance. The confidence intervals for age-standardised rates in the Pilot program and Incidence and Mortality chapter are calculated using the methods presented by Holman et al. (1987).

A relatively simple approximation of the confidence intervals that readers might use when examining age-standardised rates is:

$$95\%\ \text{CI approximation} = \text{AS rate} \pm 1.96 \times \frac{\text{AS rate}}{\sqrt{\text{Number of cases}}}$$

Confidence intervals for crude proportions (p) were calculated using the basic confidence interval formula for binomial proportions:

$$95\%\ \text{CI for proportions} = p \pm 1.96 \times \sqrt{\frac{p \times (1-p)}{\text{Number of cases}}}$$

Glossary

Age-standardised rate: see Appendix C for definition.

Bowel cancer: Comprises cancer of the colon and cancer of the rectum, collectively known as colorectal cancer.

Confidence interval: see Appendix C for definition.

Colonoscopy: procedure to examine the bowel using a special scope (colonoscope) usually carried out in a hospital or day clinic.

Colonoscopy depth of insertion: abbreviations for depth of insertion of colonoscope are:

TI	terminal ileum
CAEC	caecum
ASC	ascending colon
HEP	hepatic flexure
TRAN	transverse colon
SPLN	splenic flexure
DESC	descending colon
SIG	sigmoid colon
RECT	rectum

Colonoscopy follow-up rate: the proportion of people with a positive FOBT who subsequently had a colonoscopy.

Dysplasia: Abnormal growth of cells or organs. For example, the abnormal growth of colon cells with colon cancer.

Eligible population: Australians turning 55 and 65 years of age between 1 May 2006 and 30 June 2008, and those invited to participate in the Bowel Cancer Screening Pilot Program who have not opted off or suspended participation in the Program.

FOBT: immunochemical faecal occult blood test—a self-administered test to detect blood in bowel motions, but not bowel cancer itself. The FOBT is analysed by a pathology laboratory and results forwarded to the Register, participant and primary health care practitioner (if nominated). Pathologists categorise the returned FOBT into one of three groups:

1. correctly completed
2. incorrectly completed
3. unsatisfactory.

Participants are provided with specific instructions on how to complete the FOBT. Any tests not completed according to these instructions are classified as incorrectly completed. Unsatisfactory tests refer to those tests that could not be processed due to a problem with the kit (for example, an expired kit, kit samples that have been taken more than two weeks apart, or a kit that has taken over one month in transit to arrive). Participants with FOBTs that are not correctly completed are requested to complete a subsequent FOBT. See Appendix A for details of the participant screening pathway.

FOBT result: FOBT results are classified by pathologists as either:

1. Positive (blood is detected in at least one of two samples)
2. Negative (blood is not detected)
3. Inconclusive (the participant is asked to complete another kit).

GP attendance rate: the proportion of people who were sent a positive FOBT result and who subsequently visit a GP.

Invitee: a person who has been invited to participate in the National Bowel Cancer Screening Program.

National Program: participants in the NBCSP aged 55 or 65 years. Excludes participants and invitees from the Pilot Program.

NBCSP: National Bowel Cancer Screening Program, including both National Program participants and Pilot Program participants and invitees.

Opt off: invitees who do not wish to participate in the National Bowel Cancer Screening Program now or in the future. Invitees will not be contacted again. Invitees may elect to opt back on at a later date.

Participant: a person who has agreed to participate in the National Bowel Cancer Screening Program by returning either a completed FOBT kit and/or a Participant Details form.

Pilot Invitee: invitees from the Pilot Program who did not participate in the Pilot Program but were re-invited to participate in the NBCSP.

Pilot Participant: participants from the Pilot Program who were re-invited to participate in the NBCSP.

Pilot Program: participants and invitees from the Bowel Cancer Screening Pilot Program (a study by the Australian Government from November 2002 to June 2004 in Mackay, Adelaide and Melbourne to assess the effectiveness of a National Bowel Cancer Screening Program) re-invited to participate in the NBCSP.

Positivity rate: number of positive FOBT results as a percentage of the total number of valid FOBT results.

Primary health care practitioner: classified by Medicare Australia as a general practitioner (GP) or other primary health care provider. This may include remote health clinics or other specialists providing GP services.

Register: National Bowel Cancer Screening Program Register maintained by Medicare Australia.

Rescreening: the repeated performance of screening tests on eligible people at regular intervals.

Screening: the performance of tests on apparently well people in order to detect a medical condition at an earlier stage than would otherwise be the case.

Socioeconomic status: see Appendix B for details.

Suspend: invitees who would like to participate in the National Bowel Cancer Screening Program but are unable to do so at this time. Invitees will be contacted once the nominated suspension period has elapsed.

Target population: Australians turning 55 and 65 years of age between 1 May 2006 and 30 June 2008, and those invited to participate in the Bowel Cancer Screening Pilot Program.

Valid results: only FOBT results that are either positive or negative are classified as valid results. Inconclusive results are excluded.

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