

**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**

**Australian Institute of Health and Welfare and  
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.

