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.