

1 Introduction

The Australian Institute of Health and Welfare (AIHW) produces monitoring reports for the Australian Government Department of Health and Ageing on a six-monthly basis 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. Each subsequent report builds on the previous report, covering all data collected since the commencement of the NBCSP. This report is the first annual report covering participation, FOBT results, follow-up investigations, colonoscopy quality and outcomes relating to the period 7 August 2006 to 31 July 2007.

The first section outlines the aims and broad structure of the report. Subsequent sections present analyses covering successive key points on the screening pathway. Data on incidence of bowel cancer to 2004 and mortality due to bowel cancer to 2005 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 2004 the risk of being diagnosed with bowel cancer by the age of 85 years was 1 in 10 for males and 1 in 14 for females with the risk increasing sharply from the age of 45. Since 1982 incidence of bowel cancer has been increasing slightly each year with 12,973 new cases diagnosed in 2004. Bowel cancer accounts for 10.6% of all deaths from invasive cancers with 4,113 deaths in 2005, making bowel cancer the second most common cause of cancer-related death after lung cancer. 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 significantly improve in cases where the disease is detected and treated early. Evidence from clinical trials has shown that regular screening using faecal occult blood testing can reduce mortality from bowel cancer by 15–33% (DoHA 2005).

Screening involves testing for 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.

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 the Pilot Program and as part of its

Strengthening Cancer Care initiative in the 2005–2006 Budget, the Australian Government allocated \$43.4 million over three years to phase in a national bowel cancer screening program. 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.

The NBCSP commenced in Queensland on 7 August 2006 and was progressively rolled out to the remaining states and territories over the next 7 months. Invitation packs, including a faecal occult blood test (FOBT), were sent directly to participants by Medicare Australia. The method of distributing invitations and FOBT kits based on either geographic location or date of birth may vary 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.

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 a higher sensitivity and specificity, does not require dietary restrictions and can be easily used at home, making it suitable to use with biennial screening.

Participants are requested to post their completed FOBT to the pathology laboratory for analysis. Results of this analysis are sent to the participant, the participant's nominated general practitioner and the Register. Participants with a positive result, indicating blood in their bowel motion, are advised to consult their general practitioner to discuss further testing – in most cases this will be a colonoscopy. Refer to Appendix A for a complete representation of the screening pathway from invitation to diagnosis. 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 2007).

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 questionnaires completed by participants, general practitioners, colonoscopists, pathologists and other specialists.

As completion of NBCSP forms by practitioners is not mandatory there is the possibility of inconsistent reporting. For example, GP, colonoscopy and histopathology reports 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 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 31 July 2007. Because of both time lags in reporting and under-reporting by clinicians, data on primary health care consultations, colonoscopies and colonoscopy outcomes in this report under-state the true performance of the NBCSP in this period and should be interpreted with caution.

As the NBCSP commenced at different times with differing rollout 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); and
- 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 because of a recent colonoscopy or previous diagnosis of bowel cancer.

The term 'participation' is used in this report to refer to participation in the screening test. Hence the participation rate is the proportion of the eligible people invited to participate in the NBCSP who agreed to participate by returning either a completed FOBT and/or Participant Details form. The proportion of people who were sent a positive FOBT result and who subsequently visited a GP is referred to as the GP attendance rate. The proportion of people with a positive FOBT who had a colonoscopy is referred to as the colonoscopy follow-up rate.

Crude rates, proportions and positivity rates are presented in this report. 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.

Identification of participants as Aboriginal and Torres Strait Islander, South Sea Islander, having a disability or preferred correspondence language other than English is by self-

identification to Medicare Australia through this or other programs. The denominator for initial participation rates stratified by these characteristics is estimated from ABS population estimates from the 2006 Census and cannot be calculated until the end of the first phase of the Program when all invitations have been sent. Hence, tables reporting participation rates for these groups will display 'n.a.' in the rates columns. Calculations of rates of subsequent points on the screening pathway are not affected.

Due to the early stage and the staggered rollout of the Program confidence intervals and conclusions regarding statistical significance have not been presented in the analysis of the National Program, but are presented for the Pilot Program. Subsequent reports will include calculation of confidence intervals for the National Program. See Appendix C for further explanation of analytical methods.