Appendix C Data sources and classifications

Data sources

Multiple data sources were analysed to produce this report. These are summarised in Table C.1. All data used in this report were 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; 2006 Census of Population and Housing, ABS
Incidence (ICD-10 C18–20)	Australian Cancer Database (formerly the National Cancer Statistics Clearing House), AIHW
Mortality (ICD-9 153, 154.0–154.1, ICD-10 C18–20)	National Mortality Database, AIHW

National Bowel Cancer Screening Program data

As data items were collected from a variety of sources, not all may be recorded in the Register in sequence. Assessment, Colonoscopy and Histopathology Report 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 Assessment form, and histopathology results without a completed Colonoscopy Report form. The effect of this under-reporting is that the data on the actions resulting from a positive FOBT are significantly underestimated. Hence, the data on colonoscopies done and conditions found should be interpreted with great caution.

Population data

Participation denominators for Aboriginal and Torres Strait Islander status (Table 1.8), language spoken at home (Table 1.9) and disability level (Table 1.10) were estimated from the proportion of people in these groups in the 2006 Census of Population and Housing. See Table C.2 for age- and sex-specific percentages.

Table C.2: Age- and sex-specific population percentages

	Aboriginal and Torres Strait Islander	Language other than English spoken at home	Severe or profound activity limitation
Males			
50 years	1.57	16.04	3.07
55 years	1.21	14.87	4.08
65 years	0.87	17.11	6.78
Total	*1.27*	*16.56*	*4.32*
Females			
50 years	1.62	17.57	3.03
55 years	1.33	16.18	3.80
65 years	1.08	17.50	5.73
Total	*1.39*	*17.03*	*3.94*
Persons			
50 years	1.60	16.82	3.05
55 years	1.27	15.53	3.94
65 years	0.98	17.31	6.25
Total	**1.33**	**16.80**	**4.13**

Source: ABS 2006 Census of Population and Housing.

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

Incidence data

Incidence data in this report came from the Australian Cancer Database (ACD), maintained by 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 1992–2006, 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 were 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 because of late registrations.

All states and territories have provision for the identification of Aboriginal and Torres Strait Islander 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 about 60% of the Aboriginal and Torres Strait Islander population of Australia.

Data for Aboriginal and Torres Strait Islander deaths, state and territory and geographic location have been combined for the 5-year period 2002–2006 due to the small number of deaths from bowel cancer in each year.

Classifications

Geographic classification

Geographic location was classified according to the Australian Bureau of Statistics (ABS) Australian Standard Geographical Classification Remoteness Structure, which groups geographic areas into six categories. These categories, called Remoteness Areas, are based on Census Collection Districts 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 Remoteness Areas of the Australian Standard Geographical Classification Remoteness Structure are listed in Table C.3; the sixth *Migratory* area is not used in this publication.

Residential address postcodes of participants were mapped to 2006 Census Collection Districts and then classified to the five main Remoteness Areas, ranging from *Major cities* to *Very remote* areas. As some postcodes can span different Remoteness Areas, a weighting for each Remoteness Area is attributed to the postcode. This can result 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 were rounded to integer values. Where figures were rounded, discrepancies may occur between totals and sums of the component items.

Table C.3: Remoteness areas for the Australian Standard Geographical Classification

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

Socioeconomic classification

Socioeconomic classifications were 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 36 postal areas have been excluded.

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

NBCSP classifications

See Appendix B for classifications specific to the NBCSP.